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ENTREPRENEURIAL PRACTICES OF CUSTOMER  
ACQUISITION: THE CASE OF RUSSIAN  
STARTUPS ON MOBILE GAMES MARKET

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Concentration – general track, CEMS

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**ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ  
ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ**

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## АННОТАЦИЯ

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Описание цели, задач и основных результатов	В этой работе автор исследует факторы влияющие на поведение клиента на рынке мобильных игр и определяет как маленькие стартапы в области разработки мобильных игр могут использовать исследуемые факторы для привлечения клиентов к их мобильным играм. Анализ академических статей, а также интервью с представителями отрасли позволил выявить 6 групп наиболее важных факторов и 14 бизнес-практик используемых для привлечения клиентов. Как показывают результаты исследования, ввиду того, что платная реклама редко доступна для маленьких компаний, входящий маркетинг играет ключевую роль в продвижении игр. В частности оптимизация для мобильных приложений (ASO) становится главным инструментом продвижения игр и заслуживает особого внимания в этой работе. В конце автор дает некоторые рекомендации по применению исследуемых практик и по измерению их эффективности
Ключевые слова	Рынок мобильных игр, входящий маркетинг, привлечение клиентов, стартапы, бизнес практики

## ABSTRACT

Master Student's Name	Vladimir V. Zhiron
Master Thesis Title	Entrepreneurial Practices of Customer Acquisition: the Case of Russian Startups on Mobile Games Market
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Description of the goal, tasks, and main results	In this paper, the author determines the factors that influence the customer behavior on the market of mobile games and investigates how small game developing startups can use those factors to attract customers to their mobile games. In total 6 groups of the most important factors and 14 business practices aimed at customer acquisition were collected from academic papers, web resources and interviews with industry practitioners. The results show that, since advertising of mobile games is rarely affordable for small companies, in-bound marketing plays for them the critical role in promotion of games. That is why App Store Optimization becomes the main promotional tool for small startups on this market and deserves a special attention in this paper. In the end, some recommendations are provided on how to apply the discovered factors and how to measure their effectiveness.
Keywords	Mobile games market, in-bound digital marketing, customer acquisition, startups, business practices

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## INTRODUCTION

For the last 10 years a market of video games has undergone a significant change in its structure. Mobile phone together with tablets have become the biggest segment of video games followed by consoles with the total size of \$36.9Bn in year 2016. (NEWZOO, 2016) Nevertheless, there is still little research conducted in this field, most of which is devoted to apps as a promotional tool in advertising, as it was noted by Ailie Tang. (Ailie Tang, 2016) Under the conditions of spread of smartphones, development of mobile Internet as well as shift of customers' preferences towards mobilization the demand for mobile games is also growing, making this industry very attractive for newcomers and as a result very competitive.

Every year hundreds thousands mobile games are published in both App Store and Google Play making the task of game promotion extremely difficult in this huge flow of competing applications. The key issue for a game developer is to make the game visible for the customer and to make this customer to choose this particular game out of hundreds applications appearing in the stores every day in addition to myriads of already existing apps. In general, companies allocate millions of dollars on promotion of their games via AdWords and other tools. However, the close view on the market of mobile games shows that there are plenty of small players who are limited in financing and can not conduct significant marketing campaign to attract customers, but who still operate on the mobile game market and even prosper on it.

With the creation of centralized app stores such as Google Play and Apple App Store this industry became a good example of perfect competition, where tens thousands game developers compete in one place for the customers from around the world. How small startups can survive on this highly competitive market is a good question for research. While success of the business depends on how successful it is in attraction of the customers and their retention, in this paper the author focuses on the business practices used by small startups and entrepreneurs to *attract customers*, leaving the area of customer retention to the further research. In general, it means that in this research two areas of startups' activities will be covered: practices aimed to make the game visible for the final customer and practices that help to persuade that customer to download the app. The term "entrepreneurial practices of customer acquisition" is used to describe the business practices employed by entrepreneurs in small startups on the market of mobile games that increase the number of the games' installs.

Despite the rapid growth of the market of mobile applications and video game industry in general there is still a significant *knowledge gap* in this field.

First of all, the customer behavior on this market is still not fully explored. Many of the articles devoted to the analysis of the factors, influencing the customer choice of the game, restrict their research only by one area such as business operation or positioning of the game in app store. In this research the author tries to combine a comprehensive list of factors based on the existing literature and practitioners' insights.

The next drawback of the existing research is the lack of attention to small business on this market. Most of the existing articles build their analysis on the most successful games ranked in the top categories. As the result, some of the inferences and recommendations are not applicable for the startups or can even harm. This paper tries to shed the light on those companies and applications that are rarely fall into the top rankings but still effectively operate in this business.

Therefore, the main **objective of the paper** is to determine the factors that affect the customer choice of mobile games and give recommendations on which business practices a small game developing company can use to increase the number of downloads of their games.

**Research object** of this paper is mobile game developing startups on the global market of mobile games.

**Research subject** of this paper is the business practices used by mobile game developing startups and aimed at customer acquisition.

**Qualitative methods** of analysis are used in this paper.

**In-depth interviews** are deployed to collect practitioners' insights and customer responds on the factors affecting the customer choice of the games.

In the second chapter mostly two methods are used: **direct observations** and **content analysis** of the game platforms. They help to describe the current state of the market and trends that characterize the market.

The last method is the **case study**, that is applied to analyze the business strategy that allows small companies to survive on this market.

The process of investigation will go along in collaboration with 3 small mobile game producing companies. All of them have relatively long history (6, 3 and 1 years of operation) and deep expertise in the industry. These three companies share the same business model but have some differences in deployed practices. All together these three firms give the job to more then 100 people and have in total more then 200 million downloads of their apps.

Managers of all three companies took part in several in-depth interviews to answer the questions on the customer behavior and business practices used. Managers of one company agreed to provide data on their applications and suggested to conduct experiments with their application based on the findings of the research.

In addition to the *primary data* collected from the partnering companies, *secondary data* was collected from Google Play and several specialized applications industry services such as AppAnnie, Adjust, AppTweak and others.

In the end, this paper has to give the answers on the following *research questions*:

- 1) *What factors influence the customer decision to download mobile games?*
- 2) *How a small company without advertising budget can survive in mobile games industry?*
- 3) *Which practices allow game developing startups to manipulate the determined factors?*

The final research outcome will be a set of practical initiatives that might be used by startups on this market, so the result of this paper will be of a high *importance* for the following two groups of stakeholders:

- Entrepreneurs who consider to enter the market of mobile games.
- Small game developing companies.

Advertisers, big game developing companies and platform providers might also find useful the inferences of this research. Besides the mobile gaming industry stakeholders, companies operating on the adjacent fields such as PC and console games industries can also be interested in the identified business practices. In the time when mobile games are absorbing a huge portion of the overall entertaining industry, competitors have to know what makes mobile games so attractive and try to adopt the most beneficial practices if possible.

As for the research structure, this paper will be divided into 3 parts.

In the first chapter the exhaustive list of factors influencing the customer choice of mobile games will be collected. Besides the academic articles some additional factors might be added out of the interviews with users and game developers.

In the second chapter the overview of current global market of mobile games will be given. Main players and trends will be described and the typical customer way of searching and downloading apps will be constructed.



The final chapter will be devoted to the case study of 3 startups. The insights will be collected on how a small startup can survive on this market and which practices help those companies use the explored factors to increase the number of downloads of their games.

## CHAPTER 1. OVERVIEW OF THE FACTORS OF CUSTOMER ATTRACTION ON THE MOBILE GAMES MARKET

### Academic literature review

No matter how big the game developing company or its advertising budget, the first thing that should be taking into consideration is a customer and its preferences. Understanding which factors influence the customer behavior and its choice of the game can decrease the marketing expenditures and make the advertising campaign more effective. For small startups, who can not afford advertising, knowledge of those factors determine the company's success: whether its games will be downloaded or not.

First of all, there is no universal list of factors that make any game successful. All the features bellow can improve an application and make it more attractive for users, but in any case it is the customer decision whether to acquire an application or not. And the only truly right way to make application desired by people is to ask them what they actually want, give them a try and observe their reaction.

Nevertheless, even the most promising games can remain unnoticed among 1 million other games on the same platform if the game positioning contradicts the customer behavior. To avoid this, it is critically important to know what things customers pay attention to, when they choose and download an application. After this knowledge is collected, business strategies and practices can be designed to use those factors and to organically increase the downloads.

As long as this industry is rather young, a lack of comprehensive analysis on the factors of success of mobile games still can be observed. However, this industry continues to attract more and more attention of academicians, as the number of publications multiplied during the last 5 years in comparison to the previous periods.

These papers look at this issue from different perspectives: for some researches game performance is a result of organization's behavior, other try to find dependency between number of downloads of a particular game and its dynamics and position on the apps market. In this paper the author collects the majority of those approaches and figures out what factors are considered as the most vital for game success by most of the authors.

The first two pieces of research were designed to combine a list of game features that might improve the game performance. Peter Askelöf started this catalog in "Monetization of Social Network if Social Network Games" and this list was later continued by Átila V. M. Moreira et al.

in the article “Which features matter to make a successful mobile game?”. (Askelöf, 2013, Moreira, 2013) All in all, 37 features were collected as factors of success. In this broad variety of features, most of the factors are aimed on the retention of the customers only and do not affect the purchase decision. So, for the purpose of this paper only those features are listed here that directly influence the decision to download the game.

- **Social networks.** No matter, whether it is single or a multiplayer game, players want to have a chance to share their gaming experience, boast his high score and have a platform for discussion. Nowadays, all this can be done through networks. So, access to such platforms as Facebook, Steam and Mobage can boost the spread of a game and thereby increase its visibility;
- **Social interaction.** A possibility to request friends’ help or invite someone to join the game can result in better impressions from a game, because of a joint gaming, that is considered to enhance the joy of the players in comparison to single play. Another important thing here is the provision of rankings or leaderboards, so that people can make friends to download a game by challenging them with their high results. As the authors state it increases the game acquisition rates significantly;
- **Size.** With the development of mobile Internet this became less important factor than it used to be, but there are still some limitations on the size of the game that can be downloaded via mobile network in app stores. Moreover, people tend to download small apps with a greater degree of readiness than the big ones and to delete big application first if there is a lack of space on their smartphones.

When the factors were determined by Moriera a regression was build on the data collected from 100 top games both on top downloaded and top grossing rankings. According to the results of this analysis, not all the features bring positive effect on a game performance. Among the most important features authors named linkage to social networks. While the rest of the list showed limited correlation with the game performance.

At the same time possibility to invite friends turned out to harm the game’s performance. The outcome was unexpected for the authors, but they explained it with the customer irritation, which might be arisen when this invitation is done in a rude way and disturbs the game process. It can make an impression on the customers that game producers have got an advantage of them.

Another empirical research that discovers factors influencing digital game performance was conducted by Saiqa Aleem. The article “Empirical investigation of key business factors for

digital game performance” focuses on interrelationship among business factors and game performance on the market of digital games regardless of the platform. (Aleem et al, 2015)

Authors took 7 factors in business organization considered by previous researches as the most important for the game success on the market and tested 7 hypotheses whether each of those factors positively affects the game performance. Those factors included:

1. **Customer satisfaction.** Many researchers argue that there is a strong correlation between customer satisfaction and organization’s performance in many industries. But the extent at which this is important for the mobile game industry was not covered sufficiently well;
2. **Market orientation.** The industry of game developers is highly competitive and detailed study of trends in demand and competition is needed to attract customers effectively;
3. **Innovation.** Customer might be attentive to innovations on the technical side of games, as well as in management and production;
4. **Relationship management.** Engaging and involving of customers into the process of the game development became widely spread among game developers;
5. **Time to market.** The position of the company, whether it is a pioneer or late mover, plays a substantial role on organization performance and performance of its product on almost any market;
6. **Monetization strategy.** The way how company make people to pay for the game or additional features also influences the game performance;
7. **Brand name strategy.** One of the factors determining the success of company’s product is the brand under which this product is developed.

In their work Saiqa Aleem and his colleagues tried to answer the questions “*What is the impact of business factors on overall game performance in the DGI (digital game industry)?*” With this goal they built a model with seven independent variables listed previously and one dependent variable: the business performance of the digital game.

Summing up, this research demonstrated the empirical evidence that organization performance on the DGI market in many ways similar to the traditional markets and such key factors as brand name, monetization, time to market, market orientation and customer satisfaction are important for the performance. At the same time no significant correlation was found between innovation and relationship with companies’ results.

Hyun Jung Park et al. provides their own framework for game performance determinants that is in many things very similar to that of Saiqa's one. (Park et al, 2012) The authors separated 4 dimensions of variables that are critical for the game:

- **Product.** This category includes all the aesthetic parameters of the game such as the quality of graphic, animation, sound, scenario as well as its perceived ease of use, innovativeness and enjoyment;
- **Marketing.** This group includes three factors such as targeting (how well the targeted customer is defined), awareness of the brand and timeliness (how the game is connected to the current market trends);
- **Consumer.** First impression of test users, acceptance and the willingness to pay of the target market compile the consumer group of factors;
- **Competition.** This group is represented only by one factor such as competency of the game developer against competitors.

The authors applied Bayesian network approach to analyze the data collected from 40 industry representative in Republic of Korea. The respondents filled the completed questionnaires about their the most successful and unsuccessful games. Overall, data about 124 games was collected. The overall goal of the research was to determine which factors influence the game success (measured and defined by respondents by themselves with the 3-point Likert scale).

The result of the paper showed that while most of the variable turned out to be insignificant, all three parameters that have the highest impact on the game's success are targeting, awareness and the willingness to pay. The product itself turns out to be much less important for the games success than its marketing or consumers.

Another dimension that should be mentioned when the factors influencing the consumer choice of the game is the position of the game on the platform. Like the hardest task of any business is to get first followers and customers, getting into top rankings on any platform is the most desirable thing for any game producer. Once the game reached this result further attraction of customers might become a much easier task, as 50% of people choose games in app stores looking at the rankings and in many cases they limit their search area by only top 100 most downloadable games on the platform.

Factors related to the game's position on the platform is well described in the article written by Euy-Young Jung, Chulwoo Baek and Jeong-Dong Lee "Product survival analysis for the App Store". (Jung et al, 2016) As it follows from the title this article was devoted to the analysis of the factors determining the success of the mobile apps in App Store. In this empirical research authors

tried to test several hypotheses in order to learn which factors affect consumer decision whether to acquire a new application or not.

Thus, for example, the authors cite the article of Kardes «The role of selective information processing in price-quality inference» who states that in case of free applications key determinants will be customer ratings and content size as such factor as price falls out from the consideration in assessment of application's quality. (Kardes, 2004) According to the article of Krishnan et al bandwagon effect will be one of the most influencing factors by choosing the application. (Krishnan, 2000) At the same time paid applications always take closer look and are exposed to more attentive analysis prior to purchase. All in all, authors consider twelve parameters that result in the success of the application among customers.

For the analysis Jung and his co-authors determined the following parameters as the variables

- *App age* – the number of days an application is in the market;
- *Number of reentries* – the number of times an application comes back to the ranking;
- *Sales* – the number of purchases the day before the reviewed one;
- *Ranking* – the place of the application in the App Store;
- *Price* – the price of the app;
- *In-app purchase* – dummy variable, describing the presence of in-app purchases;
- *Rating* – the average mark received from the customers;
- *Size* – the size of content measured in bytes;
- *Age limit* – dummy variable describing the age limit (from 0 to 3).

As it was forecasted by the authors the key factors that are most valued by customers are rankings and ratings for free applications. For the priced applications the effectiveness of other parameters other than price significantly decline. In conclusion some recommendations were given about how to make application more viable. Among such recommendations are advertising, coverage in media and especially overviews of experts. These measures are extremely effective in case of paid apps.

Several other factors that influence the decision process of customer were determined in researched conducted by Nicholas Bowman in the article “The app market has been candy crushed: Observed and rationalized processes for selecting smartphone games.” (Bowman et al, 2015) Dozens of people were asked to find and download a game that they would like to play, after that

they took part in the survey answering what were the common search rules and what influences their choice of application.

In the search rules the majority of people noted that their choice of an application was determined by their previous ownership or familiarity with an application. Thus 17 people started looking for Candy Crush or Tetris just because they already had an experience with those games. Another big group of people admitted that their decision was justified by the cost of application. It is notably that while 11 of those people selected a free games one person highlighted that in his opinion only paid application deserves any attention while free games in most cases are not qualitative enough.

Among other factors, by which people were guided during the search, were mentioned the genre of the game, aesthetic feelings, low commitment, top ranking, brand and novelty.

The list of download rules looks rather similar to the searching one. Here familiarity plays the most important role with 34% of respondents choosing this variant. Low commitment and aesthetics appeared to be 2<sup>nd</sup> and 3<sup>rd</sup> important things here. Then with a big margin comes top ranking, user reviews, playability, novelty, genre and finally educational purposes.

The topic of commitment appears in several papers, and “Demographic Breakdown of Casual, Mid-Core and Hard-Core Mobile Gamers” is among them. (Mason, 2017) It provides good data on how the level of game difficulty (in this case hard-core means time consuming and attention requiring games) influences the age-sex composition of their audience.

The fact is that female gamer prefer casual games like *Bejeweled Blitz*, while male players tend to play mid-core and high-core games. At the same time, with the growing difficulty of the games the average age of gamers goes down.

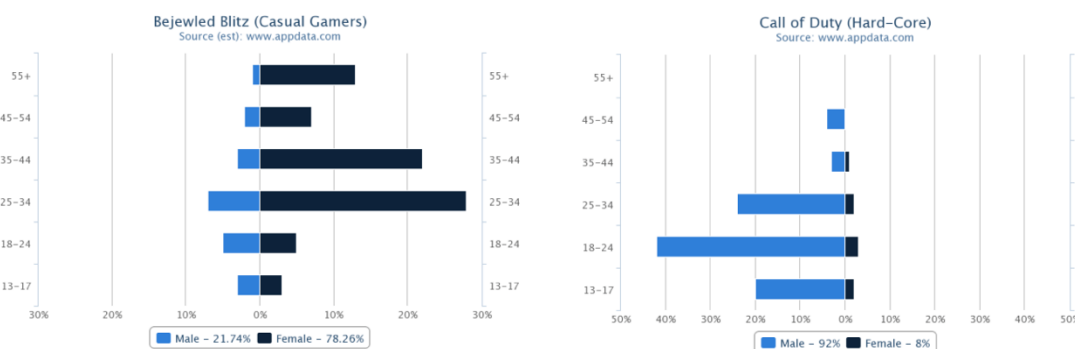


Figure 1 Customer demographic distribution in games of two different types (casual and hard-core)

The line between casual and mid-core games is vague, but the group to which a game is referred has a great chance to influence its success on the market. At least developers of hard-core and mid-core games can miss such a huge segment as female gamers. (See figure 1)

Moreover, it is more common for casual games to go viral than for more difficult apps. None of the top 5 viral games according to the site yourstory.com can be considered as casual. (Dwivedi, 2014) Moreover, then author names 5 mandatory conditions that have to be fulfilled in order to have a chance to make the game viral.

- **Can be played by a five-year old.** It refers to the simplicity of control. All viral games require only one hand to play, mostly even one finger. It leads to the conclusion that it is unlikely that hard-core games have chances to become viral, simply because it is difficult to play;
- **Never ending.** All of the viral games are infinite. Those who play such games try to improve their personal score hoping to get to the leaderboards;
- **Simple scoring mechanism** is also very important factor, as people want to understand for what they are getting points and what they have to improve to successfully compete with testers;
- **Barely missed it phenomenon.** All these games keep a gamer in tension. Every time when player is losing he knows where is his mistake and he clearly knows what to make differently in order to achieve a better result. This makes them play more and more.
- **Social proof.** If everyone is playing the game and practically everywhere people discuss this game, it is just the matter of time when people who still do not play it will start to do so.

Summing up, while many of the authors cover only one side of the multi-faced system, all together these articles provide a comprehensive overview of the factors influencing the attractiveness of applications and therefore can be used to increase the number of games' downloads and their overall success.

The main criticism of the considered academic papers lies in the selective nature of the sample games, as in the range of papers the analysis of the games was limited to only top ranked games. The fact that those games are listed in the top ranking speaks that these games are extraordinary and successful. While the practical need requires to understand what distinguishes those games not from each other but from the games that remain unnoticed and have downloads measured in units rather than millions of downloads.



## Practitioner Perspective.

In order to make the research more holistic, in this paper were also considered the opinions of the industry practitioners, who shared their vision over the factors of customer attraction on the market of mobile games. For this purpose, more than 12 hours of video interviews with experts were viewed and 3 unstructured interviews were held with the heads of 3 game developing companies who have in total more than 200 million downloads of their applications. During the interview those people tried to give an answer from their perspective on the following questions:

- *What factors affect most the customer choice of the game?*
- *What a game developing startup can do in order to attract new customers?*

Here are the main inferences out of those interviews supplemented by comments and examples taken from articles and other sources.

### ***Position in ranking is the most important factor by customer acquisition.***

Many tools provided by Google Play for searching new apps remain unused by the majority of people, who prefer to download games among top ranked games or other rankings. Significantly less people dig deeper and try to find new games by searching keywords. The exact share of such people is unknown, but applying the diffusion of innovation model (Rogers, 1983) allows to assume that only up to 16% of all population are actively looking for new applications.

That is why it is so important for game developers to push their games to the rankings. Being in the ranking results in good downloads because an application becomes visible for millions of people who consider rankings as the only source of good applications. Figure 2 illustrates the common performance of the game that managed to get to the rankings. The number of daily downloads of the game *Spore Monsters.io* by Coon Games Studio jumped during the period when this game found itself in the top new games in the end of March. As soon as it fell out from the ranking the downloads also sharply went down.



*Figure 2 Daily downloads of the game Spore Monsters.io in Google Play.*

So, the first obvious factor that influence the customer choice is the position in ranking. For significant amount of people this parameter dominates all others and sometimes appears to be the only one that really matters.

Even though this parameter is so important, it is rather a consequence of a good application that can not be used for the game improvement. A game developer can push the game in the ranking: a short ad campaign aimed to attract first users can be held or artificial downloads might be purchased. While first users will cost money to the developer the augmentation of organic customers after getting to the ranking can pay back. However, for the reasons, that will be discussed later, advertising sometimes can be not a good option for small game developing companies. As for the letter option, on the May 18, 2017 Google Play significantly tightened the regulation in the area of game promotion (Google Support, 2017), so that now purchase of artificial downloads and some other “black hat practices” can lead to application removal or developing account suspension. (Galazzo, 2015)

### ***Most of the users are very conservative***

People tend to download applications that are already known to them. That results in a huge number of clones – games that are similar to a very popular game or somehow try to provide a reference to that game. Very bright examples are *Snake* and *Tetris*. The search of those titles in Google Play will give hundreds of matches. The fact is that customers are very skeptical to new games especially with the unknown gameplays. From the practitioners’ experience most of the attempts to create new game concepts and mechanics failed. Customers just refused to learn new game rules giving preference to the games that do not require time for tutorial.

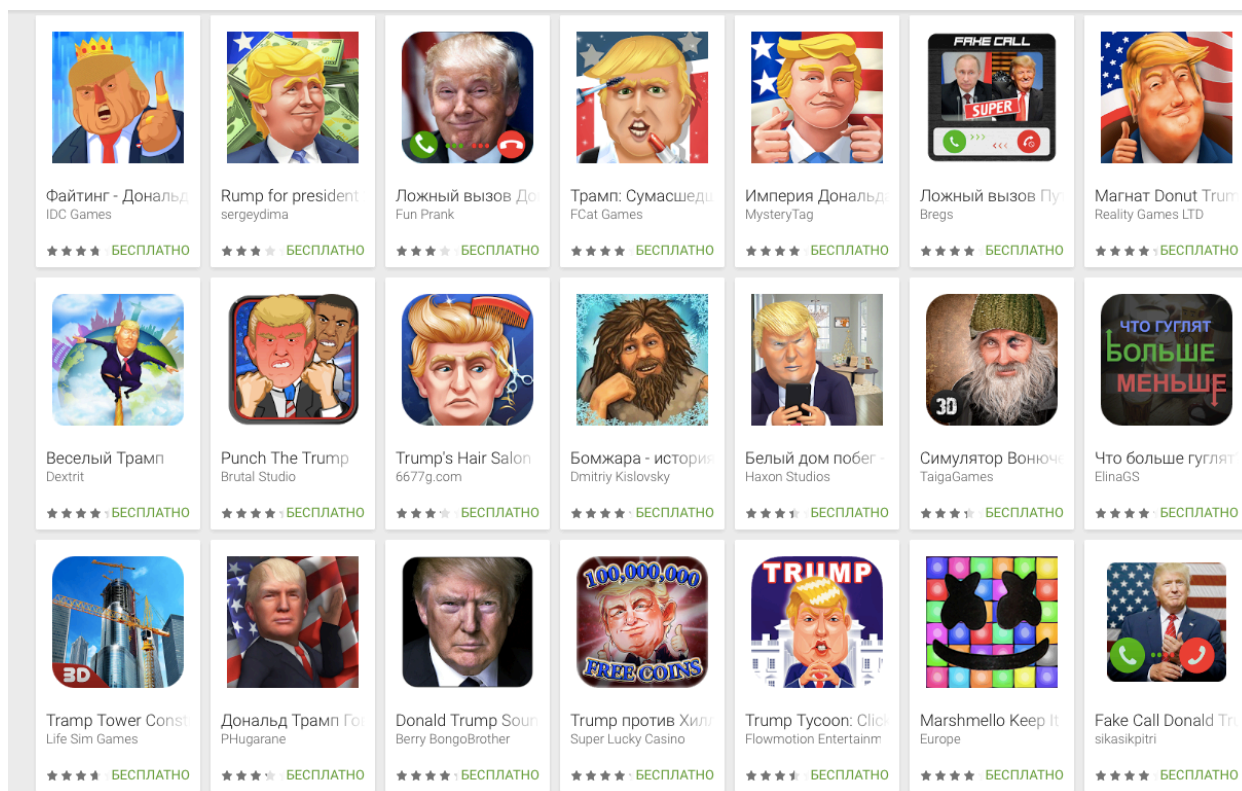
The references in games can be linked not only to other mobile games, but also to PC or console games, films, movies and so on. There is very little original content published in app stores, while most of the games are replicate already existing products.

The fact that every day hundreds of such games are published and many of them are getting to the top rankings shows that there is a demand for such games. All this gives a signal to game developers that development and promotion of original characters or game mechanics is not interesting to consumers. So, it is not recommended for a small startup to try producing new concept as chances to fail in this case are higher than if it would produce games that are currently in demand.

### *People follow the market trends*

App stores are susceptible to various trends. Frequently some games appear or events occur that lead to the mass inflow of customers looking for those things in search engine.

Many social and political trends find their reflection on the mobile games market. A good example here would be the last US president elections. Candidacy and consequent presidency of Donald Trump resulted in hundreds or even thousands of mobile games devoted to his personality.



*Figure 3 Search result for the word “Trump” in Google Play on May, 3*

One remarkable thing here that many of such games are of the poor quality and are cheap in production while the outcome can reach hundreds thousands downloads and bring their owners dozens thousands US dollars. Simplicity of mobile game developing, possibility of viral growth and the nature of customer behavior make this “hype hunt” very profitable. Mobile games became a channel for distribution of caricatures on the hot topics. But instead of static pictures of classical caricatures in mobile games players receive an interactive entertainment where user can feel the hype from the inside.

### ***Graphic should stand out***

As the practice shows the content of the game is not as important to make people download an application. The fact is that if the game does not catch a customer attention there is just no chance to demonstrate him the content of the game. On average, after the customer comes to the application page, in one out of eight cases he will download the game. But the hardest task is to lead people to the application page firstly. Any mobile game in Google Play or in App Store is always surrounded by hundreds of similar games. Even the right choice of the topic, the right title with the popular keywords does not save an application from the competition on the aesthetic level. There is only one way remains how to distinguish an app from its neighbors. It should have outstanding icon, header, screenshots and promo video.

### **Combined list of factors**

As a result of literature review and interviews with industry representatives the combined list of the factors of customer attraction on the mobile game market can be compiled. Besides those articles that were amply discussed in this chapter a number of more works were considered, that in many cases either cover the same ideas or focus on a bit different parameters that do not completely aimed at customer attraction.

While the complete list of parameters that mention in their papers has passed the mark of 50 units, many of them are overlapping or bear different names of the same features. In addition to that another group of factors as the game size, game commitment or genre were not selected into the final list of factors. Even though people pay attention to those factors, game developing companies can hardly influence these parameters. If the game requires 100 megabytes of memory on the device, game developer should not cut the functionality of the game if all other options to decrease the size are taken. Even though the arcade games are better downloaded by customers, it also does not mean that all game developers should focus on this genre. What is more important here is the knowledge of the target customer and matching his need.

The factors considered in this paper can be applied to practically all types of games and allow game developers to tune their games to get advantage of those factors. All in all, 6 groups of independent factors can be distinguished. The positive impact on the game performance of each of those factors was proven in the numerous scientific articles, but the degree at which those factors influence the game performance can vary.

- 1) **Social Approval.** In many cases the decision of a customer to download a game is guided by the fact that “people say that this game is good”. It is a complex group and there are actually many parameters how customers can get to know the attitude of majority towards a particular game. It may be opinions of friends about it, or just the fact that people around play this game. The main indicators of social approval in app stores are application rating, number of downloads and customers’ comments.
- 2) **Aesthetic Feelings.** The game should attract the customer by its appearance. In App Store there is 3 ways how a game developer can show the quality of art, design and animation. In Google Play the fourth element is added (header):
  - **Main icon.** The only thing that is visible beyond the game page;
  - **Header.** The picture above the game description in the game page;
  - **Video.** Small clip aimed to demonstrate the game process and the general look of the game;
  - **Screenshots.** Several pictures taken from the game to give the customer an impression how the game actually looks inside.
- 3) **Social Interaction.** It was proven that a possibility to interact with other players is a very important factor that significantly increases the perceived joy of the game and leads to bigger amount of downloads and consequently higher revenues. The manifestation of this social interaction can be different: multiplayer game regimes, scoreboards, system of gifts for the friends and so on.
- 4) **Reference to Former Experience.** According to the results of several researches, people tend to download those games that are already known to them or similar to what they already played previously. While every day developers launch many original games with new game mechanics, at the same time one can see dozens of games in top rankings that copy Tetris, Mahjong, Candy Crash and other popular games with the classical gameplay. Novelty of the game is marked as one of the least important factors influencing the customer decision to download a game.
- 5) **Brand Name.** It is also rather broad parameter. First of all, experts found clear linkage with the game developer brand and game performance. If the producer managed to prove the quality of his game and build a customer loyalty it will be much easier to him to make people promote his new games. But actually addiction to brands works not only in this way. People like to acquire everything that is somehow associated with the favorite brand. In Google Play it can be seen in the number of games in Top New ranking that are somehow give reference to well-known brands and characters.

**6) Market trends.** The fact is that sometimes people start searching for some words (games, movies, books) more frequently than other ones. So, it is important to feel this trend and to facilitate the game promotion with the organic growth by just giving the name to the game containing trendy keywords, or at list provide it with the good selling description. Catching the hypes is the extreme example of this following the trend strategy

Now, when it is clear to which factors customers pay attention by the search of mobile games. It the further research it will be explored how small game developing companies can manage those factors and which practices they use to increase the attractiveness of their game.

## CHAPTER 2. OVERVIEW OF THE MOBILE GAMES MARKET

### Market history and its current state

The analysis of the business practices of customer acquisition used by mobile game developing startups should be started from the overview of the mobile game market by itself, exploration of the platforms on which all these applications are sold, monetization strategies and main digital marketing tools used in app stores.

Today mobile game market represents not only the leading video games segment of \$36.9Bn in size, but a significant portion of the entertainment market at all. According to the Vision Mobile report in year 2015 over 5,6 million people globally worked in this industry. (Vision Mobile, 2016) For the period of Google Play existence more than 2.800.000 applications were published in this platform 45% of which are marked as games with comparable figures in Apple App Store. (Statista, 2017) On average every day around 860 new games appear in both App Store and Google Play and this value continues to grow. (Statista, 2017)

The quality of the games also skyrocketed, while the overwhelming majority of the games are being created for several days and attract a little number downloads bringing their creators practically nothing, games on top of the rankings such as *Clash Royal* consumes investments and labor hours corresponding to the most prominent PC and console games such as *Grand Theft Auto V*. The return is also comparable. For example, in 2013 *Fruit Ninja* generated \$400.000 of revenue per month only from advertising, while *Angry Birds* with Freemium monetization model brought its developer in total \$152 mln. dollars (30% of which were collected through the range of brand extensions, such as toys, movie, food, drinks and so on). (Moreira, 2013)

In comparison to other mobile game industries, features of the mobile games market make it very alluring for game developers.

PC and console games industry is considered to be very consolidated, where 5 biggest console game producers have more than 50% of the market share. (Marchand, 2013) And it is a tough task for independent game developers to find their customers. There are few cases like *World of Goo* or *Minecraft*, when indie game developers found the world recognition.

At the same time there are many cases like *Flappy Bird* when unknown developer publishes a game and burst the top rankings outperforming such giant game producers as *Electronic Arts* or *Ubisoft*. Among key reasons explaining this phenomenon can be named following factors:

- **Low entry barriers.** In order to enter the market, the only compulsory investments needed is the fee for game developers accounts in Google Play or App Store of 25\$ and 100\$ respectively. (Google Support, 2017)
- **Low costs of production.** There are many things that make production of mobile games much cheaper than console ones. Specialized software like Unity Game Engine made it possible to create games even without deep knowledge in programming with the high pace. (Unity3d, 2017) Relatively low customer requirements towards mobile games in comparison to those for PC and console games and inclination towards casual games also leave a mark on the quality of produced games and efforts spent. (Mason, 2016)
- **Limited amount of marketing tools.** The architecture of app stores is recognized by academicians and practitioners as lacking tools for games promotion. (Laater, 2012) This brings its pros and cons to game developers, but in general the existing state is rather favorable for newcomers, when an application without any marketing budget can be seen by millions people.

All in all, it might be said that the entire mobile game eco-system contributes to the fragmented nature of the industry with thousands of game developing companies and hundreds thousands of application published annually.

At the same time, despite the fact, that smartphone games are to be the biggest video games segment, this is still relatively young industry. While the first games appeared on the phones already in 1997, it hardly can be named as a market, as there was no possibility to acquire other games rather than those basically set up on phones. The classical example and probably the first mobile game was a *Snake* established on Nokia 6610. (Cosmin, 2016) Being set up on more than 400 million devices this game even by now considered one the most spread games ever.

With the time a possibility appeared to purchase new games. Nevertheless, it was the problem to download it on the phone as internet connection was needed and compatibility of games and phones was very low, so the majority of the games remained pre-installed by phone manufacturers. (Campbell-Kelly, 2015) For years, mobile games were perceived and actually appeared to be a simplified versions of games developed for PCs and consoles, only recently smartphones turned into serious gadgets for gaming posing a threat to more traditional platforms.



While ten years ago the share of mobile games on the global video games market compiled less than 5% (see figure 4), in 2017 this value is similar to that of console games with the average annual growth rate of 40% (Takahashi, 2013) for the last 5 years and the forecast of 14% CAGR for the next 5 years. (NewZoo, 2016) There are several reasons behind this dash. Of course, the total amount of time spent on mobile game has increased many-folds (Vision Mobile 2015). However, by this time customer

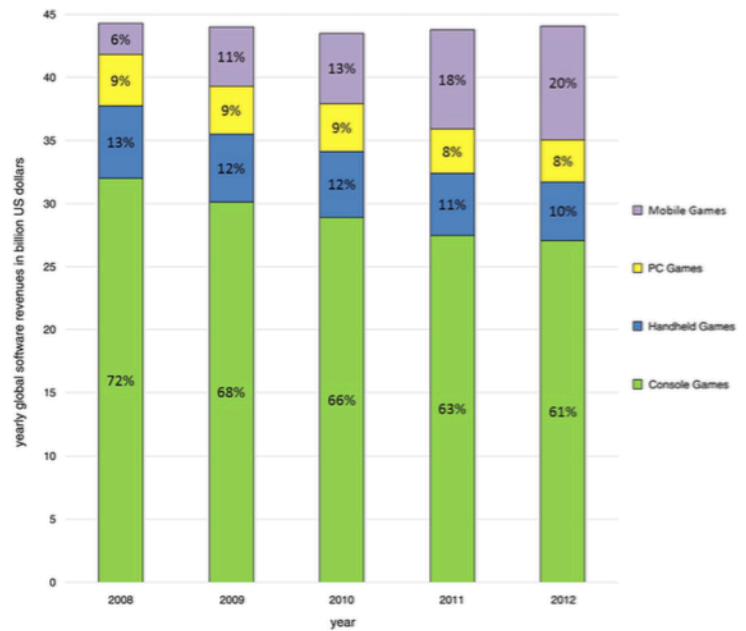


Figure 4 Shares of the total video games industry by platforms

attitude towards mobile gaming did not differ much (AppAnnie, 2016), and mobile games still plays a role of entertaining time killer rather than Full-fledged game platform. What played here the critical role is the technological leap (Feijoo, 2012).

First of all, smartphones become much more affordable. It resulted in geographical and age-related expansion of the markets. Thus, it is much easier to find children with their own phones and people from poor regions among potential customers nowadays. (Poushter, 2016)

The next trend contributing to the rapid growth of this market happened in the mobile hardware. Ten years ago it was just uncomfortable to play on mobile phones: small low resolution screens, bad Internet connection, clumsy touchscreens and lack of memory. All these drove people to give preference to conventional game platforms or do not play games at

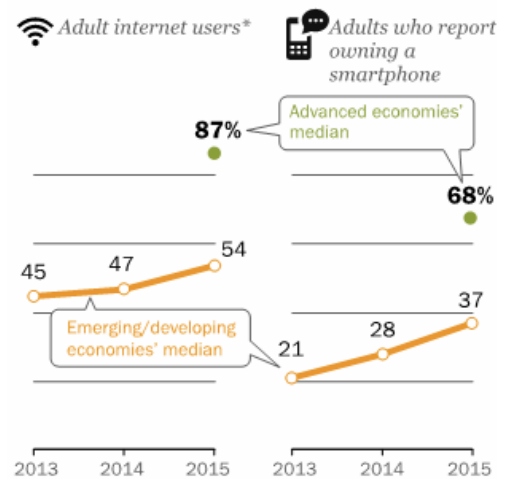


Figure 5 Share of people in emerging markets who own a smartphone

all. But time passed, and now mobile devices not only keep up with the consoles but in some aspects seem to be even more appropriate for gaming, for example, thanks to qualitative cameras, gyroscope or GSM.

And finally, it became nowadays much more convenient and times less consuming to set up games on phones than it used to be, so that people can find, download and try the game just waiting for his turn in the line. While previously it required minutes or even hours to find and download a game, existing app stores made it possible to get a desired app without any effort. So, in year 2007 this market acquired the current view and gave the momentum to a rapid growth that we can observe nowadays.

### Content analysis of the application stores

The invention of centralized stores revolutionized the industry. Practically the whole content of mobile phones is downloaded from application markets as Google Play, App Store, Amazon and others, that were designed to facilitate the work of game developers as well as to improve the customer experience. (Sterman, 2015) The launch of Apple App Store in 2007 marked the the sunset of previous system of game distribution. In 2009 Google launched its own app store. Nowadays these 2 platforms dominate the market where 99% of all mobile games are distributed.

In many aspects those two platforms are similar. Among the most important peculiarities on the game developer's side are the processes of publishing new games, launching and advertising campaign and data analysis. Thus, for instance, due to the pre-moderation way of game approval, it requires up to several weeks to find a new application published in Apple App Store, while in Google Play with its post-moderation it is the matter of couple hours. (Sinicki, 2016) However, higher purchasing power of customers and more expensive advertising in Apple platform makes it in some extent more attractive for game developer than that of the Google.

In fact, the majority of developers publish their applications simultaneously in both platforms, because transfer of a game from one platform to another does not require much effort while the potential market grows thereby almost two times.

From the customer perspective the difference between these two platforms is not significant. With the exception of some minor differences and design these two platforms are very the same for the person who is going to download a game. Probably the most important difference is the mechanics of the search tool and the layout of the game pages. A try to find a game by its full name in Apple App Store would lead a customer to that particular game without showing any other applications but those sharing the same name. At the same time Google Play gives the searcher a big list of apps above the one that was looked for. Sometimes those apps do not even contain any searched words. So, here game developers for Android gain one more chance to make their games visible for the audience. The rest of the toolkits provided to the customers contain very similar sets of instruments, and customer behavior is not affected much by those peculiarities.

That is why instead of discussing behavior between those two markets separately, it is more reasonable to focus on the one platform and give reference to another one in points where it will be needed. In this paper research will be conducted on the data collected from the Google Play market. There are two main reasons that support the choice of the platform for the analysis:

- **More diversified and bigger customer base.** Whereas iPhones are affordable to rather limited groups of people and mostly represented in a few well developed countries, Android smartphones are truly globally spread without any linkage to the welfare of the owner. One can find luxury phones such as *Vertu* with the Android OS in USA as well as cheap *Fly* in poor regions of Africa. (Piejko, 2016)
- **Apple App Store has some data disclosure limitations.** Some data (e.g. downloads intervals or comments in poorly downloaded games) is much harder to find in Apple market in comparison to Google Play that complicates data collection and the research process.

The total number of iOS users versus Android ones also speaks in favor of the latter platform with practically 8 times bigger value. (Bhattacharya, 2016) So, from the author's perspective the analysis of the Google Play would lead to more relevant results, while at the same time it should be noted one more time that results of the analysis are applicable to both platforms.

So, how the customer can get to an analyzed application? Before answering this question, it is needed to get an idea how does the typical customer looks like. In 2015 the number of mobile gamers overpassed the level of 2 billion people globally. (Lofgre, 2015) There is no overwhelming age at which people play mobile games. The number of customers is distributed rather equally by the age. (Miller, 2016) Here are some more facts about mobile game players according the database on video games market EEDAR (EEDAR, 2015):

- The average age is 28 years. The trend toward younger generation of gamers was arisen by the diffusion of smartphones among children.
- The gender distribution is practically equal: 46% of female gamers against 54% of male ones.
- On average every week people spend 7.8 hours playing mobile games.
- People spend most of the time playing games in beds in the evenings.

The content analysis of App Store and Google Play allows to learn which elements they consist of and how the behavioral map of customers can look like. The complete route of a potential customer to the final download can be illustrated as it follows on the figure 5. (Google Support, 2017)

If the customer wants to acquire a new game, he can directly go to Google Play and start looking for a new application there or beforehand he can refer to some other sources for additional information concerning new games. It can be the friend’s opinion and recommendation, specialized sites and forums devoted to the game development, some comments in social networks and so one. However, after getting the necessary information the customer continues his route to the Google Play.

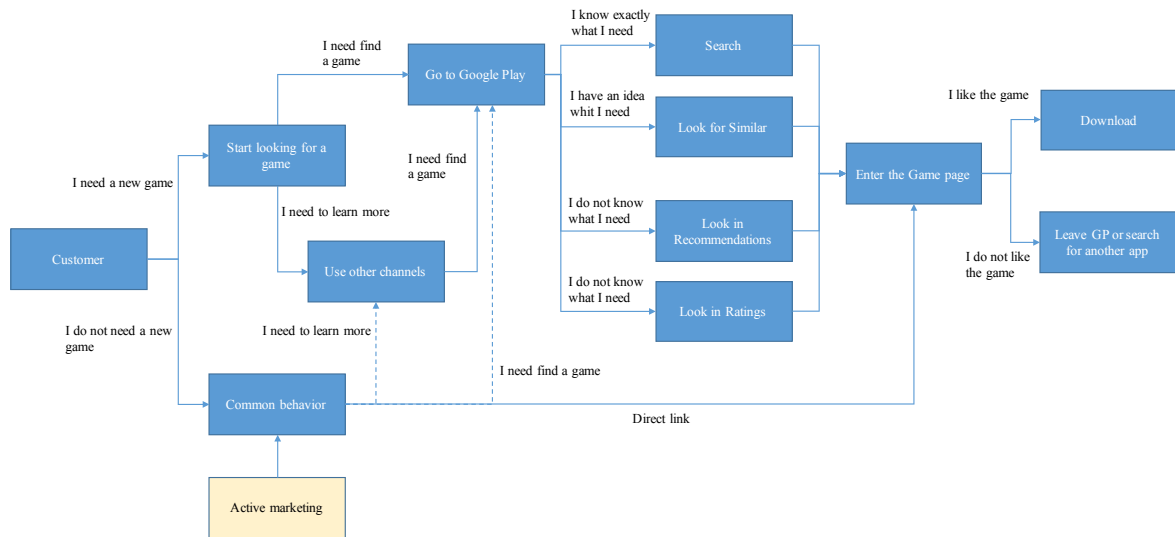


Figure 6 The customer behavioral map on the Google Play

After the customer reaches the Store he has 4 options how to proceed. On the main page there are several groups of games recommended by the platform to users. Sometimes these apps are combined by the mutual topic as “Space” or “Animals”, sometimes those games were selected by the genre or the managed to be among such groups as “for you” that actually do not share any common features rather than that Google Play moderators liked those apps. (Habrahabr, 2015) While some of those groups are organized automatically by personal preferences and search history (personalized recommendations) in some cases developers of those games pay money to be shown on the main page, although many games appear here since they have big number of downloads and good rating.

The next important groups of tools are rankings and categories. Both of them are constructed in very similar way. Customers are offered to choose among top free games, top paid games, bestsellers and top new games. In contrast to the references on the main page top rankings are being built automatically and game developers can not just pay money to Google to get to the

top positions in ranking, although good marketing campaign significantly improves the chances to get to top positions ranking. (Swant, 2017)

Another channel of game promotion is the cross-selling. It can be observed on the app page. Along with the game information a customer can find two more sets of games: similar games and other games of the game developer.

And the last tool that can be actively used to find a game in Google Play and App Store is the search engine. With some differences the search engine allows customer to find games by keywords searching.

So, if the customer already has an idea what he wants to download he uses search mechanism, otherwise he applies to the remaining tools provided by Google. At this stage customer gets the first impression about applications that is based on very limited information: only icon, name, genre and rating. If the first impression speaks in favor of the game customer switches to the final destination of this route – to the game page. Here he gets a chance to get to know the game closer, to see the screenshots, description, comments and so on. If this matches the customer expectations and requirements, then he finally downloads an app that happens on average in 20-40% of the cases (depending on the game genre) according to the data of average conversion rate provided by Google. (Google Support, 2017) Otherwise, the player starts looking for another app or stops his search at all.

This is the case when the customer has the initial desire to download a new application. In the opposite case there is a task of outbound marketing to make a customer to notice a game. It can be done in many ways: through application ads, video ads, banners, posts of friends in social networks, invitations to join the game and so on. As the marketing works properly the customer either gets interested and starts looking for an advertised app in Google Play or in other sources or just downloads it by the direct link.

Anyway the final destination in both cases is the game page in Google Play where the final decision is made based on all the experience and data that was collected on the previous stages.

### [Monetization strategies overview](#)

In the end of this part it is also necessary to discuss the how game developers earn on their games. There are three main monetization models used in this market that use completely different sources of financing, but do not exclude the combination of several models in one game. (Tang, 2016)

- **Paid games.** Not so long ago it was the main monetization model of the market. People pay money in order to download a game. Despite the fact that the average amount of money per customer is relatively high in comparison to other models (equals to the game price), there are many drawbacks of such models among which loss of the huge share of the market who just ignore paid games who thinks that mobile games do not deserve to allocate money on them. (Shloger, 2014) Another problem is that people consider the paid game much more attentively than the free one. So, while people are ready to give a chance to free game just because it costs them nothing with paid games people prefer not to jeopardize and purchase only those games that are really deserve to be downloaded.
- **Advergaming.** This is a special term aimed to describe those games that are monetized through the advertising. In such games customers have to watch advertisements after some specific actions or in order to get something. Despite the fact that people do not pay money directly some problems are arising with this type of monetization that people are getting irritated with the advertisements, that finally can result in shortening of the average game sessions and worse rating.
- **Freemium games.** This types of games combines free main content of the game with the possibility to acquire paid in-app features like additional game material or just extension of the game. Nowadays this is the most popular monetization model (over 95% of revenue comes from this business model), because in comparison to the previous models it eliminates the disadvantages of paid and free games allowing the user to try the game for free and pay only if the game really appeals to the user. (Nelson, 2014)

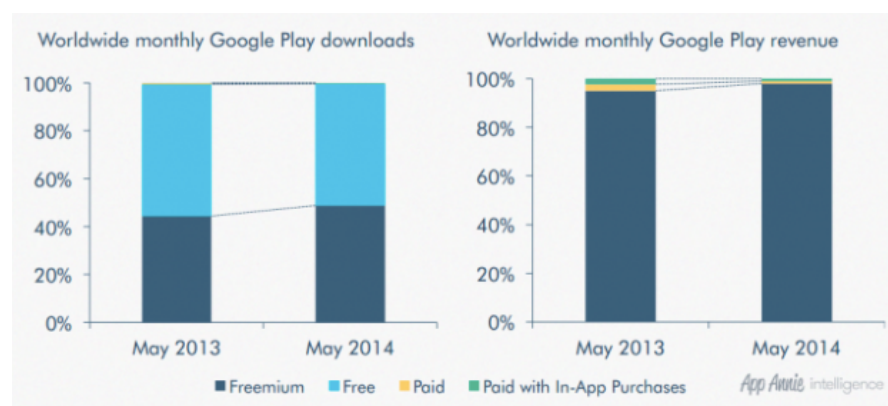


Figure 7 Share of games in the total number of downloads by the type of monetization

In many cases the model of monetization is the factor that influences the customer choice by itself. While many people prefer not to pay for games, some customers demonstrate a clear intolerance to ads in games, preferring paid games to the free ones valuing the esthetic pleasure of the game without any distortions.

### Digital marketing for mobile games

Even though Google Play and App Store provide a narrow set of marketing tools inside the stores, mobile games market is not isolated from the remaining digital ecosystem. Many of the external channels can be used for the inbound marketing leading the users directly to the game page in app store.

The article “App Marketing Strategies for 2016” (Sefferman, 2016) provide a holistic overview of the existing marketing strategies that allows to promote mobile games either within the app stores or beyond them:

- Affiliate marketing
- App Store Optimization
- Blogs and Multimedia
- Internet forums, Q&A sites, and social bookmarking services
- Paid advertising
- Personalized messaging
- Press, influencer outreach, and public relations
- Social media
- Word of mouth

Several of the above listed marketing tools are paid, such as affiliate marketing, paid advertising, personalized messaging and influencer outreach. That makes them hardly applicable for small startups. However, the remaining strategies can be used by companies of all sizes, and deserve close attention in this paper.

#### ***External channels***

Even though small startups can not allow to allocate money on the advertising, it does not mean that there are no other platforms besides app stores where people can learn about the launched games.

There are plenty of forums devoted to mobile games such as 4PDA, #gamesjam and Unity3d. Besides the promotional purpose those forums can be a good source of opinions about the game from other game developers who can share their experience and give some recommendations on the game improvement. Social media is also a good channel where information about the game can be seen by thousands of people for free.

Another marketing strategy recommended by Apptentive.com is the running of the game developer's blog or publication of videos of the game that also can generate additional inflow of customers.

Word-of-mouth is another useful tool in the game promotion. A game developer can push the customer to share the information about the game with other people by providing, for example, in-app benefits or currency for publication of the post about the game in social medias or invitation of players to the game pages in app stores.

### ***Inbound marketing***

All the marketing strategies listed above are very useful at the early stage of the game, when each of the customer is counted. However, only a little share of game downloads is done by customers who found an app beyond the store, while the majority of customers look for games inside the Google Play or App Store.

That is why the last marketing strategy deserves special attention: App Store Optimization (ASO). ASO for mobile platforms is the same as SEO (Search Engine Optimization) for web-sites. It is the set of measures aimed to promote an application in app stores, lift it in search and pushing it to different rankings.

ASO is the inalienable part of any mobile game development process whether it is launched by independent developer or a huge corporation. Actually, ASO starts at the moment when the title of the game is being chosen. Preparation of icon, screenshot and promo video comes next. In the end the proper description finalizes the process.

There are many articles devoted to the topic of ASO including those published by AppAnnie (AppAnnie, 2015), Moz (Sefferman, 2016), PR20/20 (Laur, 2015) and other well-known specialized sites devoted to marketing and game development. In general, most of the principle discussed in the articles are the same. Here is the combined list of principles discussed:

- Understanding of the customer and competitors.
- Choosing the right title
- Usage of keywords
- Writing compelling description



- Creation of unique icon
- Inclusion of screenshots and videos
- App localization

In general, there are three areas how game developer can improve the application page, in order to increase the visibility of the game and conversion rate after the game was seen by the customer. (Genadinik, 2014)

### **Usage of keywords in title and description**

The general idea of SEO works on the market of mobile games: the page has to contain keywords by which the game is expected to be searched. There are only three places in Google Play and two in App Store where developers can set keywords and where the engine will be looking for them: game title (both platforms), keywords section (App Store), short and full game descriptions (Google Play). As well as in SEO there are two main parameters that play the biggest role by the keyword effectiveness:

- Volume. The intensity at which people are looking for the word
- Competition. The number of developers use this word in their applications

The game with high volume and low competition can be considered as a good one and usage of this keyword will likely make the application visible in the store.

### **Game localization**

Many authors highlight that 72% of people outside English-speaking world prefer to search apps in their native language. As long as, nowadays more than 50% of downloads and revenue come from the non-English speaking countries, it is critically important to localize the application to achieve the full potential of the games. (Chan, 2014) Examples are when localization of the game in China, Korea, Japan and Russia lead to 767% increase in the application revenue. (Janner, 2013)

With the lack of resources authors recommend to do so called MVL Minimal Viable Localization. (Lu, 2016) It means the translation of only keywords, game description and title. However, localization does not mean only translation. The visuals should be also changed in accordance to customer preferences in targeted markets. Thus, customers in Asia prefer bright screenshots with many elements and text on it, while in Europe screenshots with minimum details are better perceived by users.

### **Creation of compelling icon, screenshot and video**

While the first two tools mostly aimed at increasing the visibility of the game, visual materials such as icons, screenshots and video are mostly aimed at making the customer to download the game. After the game is seen by the customer the highest attention is paid first of all to the icon. Inside the game page the importance of different elements varies within the platforms. In App Store the biggest part of the screen is taken by screenshots, that is why it is recommended to pay more attention to them. In Google Play it is the header that is seen on the top of the page and attracts the most of customer attention. (Storemaven, 2016)

Among the recommendations given by authors all of the visual materials should match the following criteria (Galazzo, 2014; Leblanc, 2013):

- Convey what an app does
- Highlight the key features of the app
- Be simple and do not contain many elements
- Look good at all sizes

Now, when the market of mobile games was investigated the research of business practices used by startups can be conducted.

## CHAPTER 3. ANALYTHIS OF BUSINESS PRACTICES USED BY SMALL GAME DEVELOPING STARTUPS

### Business model description

Before analyzing the factors that can improve the game performance, it is necessary to investigate, how a small company can operate on the market, that represents practically perfect competition where more than 95% of games are for free, that prevents practically any price competition. The main problem is to make the game visible for customers among millions of other games on the same store. For small startups this situation is deteriorated by the fact that their advertising budgets are very small or absent at all.

Moreover, in many cases for the small companies advertising is not reasonable tool of promotion. The fact is that it the CPI (Cost Per Install) varies in the range of 5 to 20 rubles, while it requires significant efforts to make a game that would bring its developer revenue per download higher than these values. On average only 2% of total freemium users have ever spend money of in-app purchases, (Liu et al, 2012) while the revenue per download from advergames rarely exceeds 5 rubles per download.

Nevertheless, both Google Play and Apple Store are full of small game developers that launch thousands of mobile games every year. One of the possible business models will be described in case study of the three game developing startups with the similar business models. Some of the practices used by those companies are widely spread across the industry the basic concept of the business model is rather popular and allows to open the game developing business very easily with rather low initial investments.

### **Practice 1. Emphasis on the right ASO**

While paid marketing strategies are unavailable, the experience of considered companies shows that promotion of the game in different social networks and forums does not result in significant increase in number of downloads. Out of all discussed marketing strategies ASO demonstrate the biggest impact on the game success. That is why in the considered companies a lot of attention is given to the right ASO, especially in the part of keywords and visualization.

The search of keywords starts from the determining of the game concept and the main theme of the words. After it ASO specialists brainstorm keywords or look for them at competitors or other sources. When the list of potential keywords is combined, its efficiency should be checked.

There many sites and services devoted to the keyword assessment and selection: Apptweak, Mobile Action and Sensor Tower are among the most popular ones.

The fact is that it is not a simple task to come up with the words that would be well downloaded but have little competition. The share of words with KEI (Keyword Effectiveness Index) above 66 rarely exceeds 5%.

When the list of good keywords is made up, it is necessary to construct a game title and description out of these words. (in App Store this task is simplified with the possibility to insert the list of separate keywords in special section on the page) While some articles devoted to ASO recommend to use only one keyword in the title and keep it short (AppAnnie, 2015), in considered business model this tactic is not relevant, as having the chance to be found by customers because of several keywords in the title is more valuable then keeping the title well-sounded. As for the game description, there is needed to write a text out of these keywords, trying to make a smooth story that would be easy to read for customers.

Here are some additional recommendations on the right keyword selection from experts from AndroidPub (Kwakyi, 2017) and Apptamin (Gauchet, 2016)

- Before the keyword will be approved and selected the number of tests should be held, with different keywords. Updating the game description every second day can allow to try many of keywords and stop on the most effective ones;
- Volume is not the most critical parameter by the keyword choice. Relevance plays bigger role, as if the conversion rate by the searched keyword is low, the game will fall in the search ranking that finally will not result in bigger inflow of customers even though the used word is frequently searched;
- Targeting the long-tailed keywords allows to drive the more quality download as the search are more specific but also to rise in the ranking as the competition is lower. The possible tactic is to start growing with the long-tailed keywords and then shift back to the shorter words with higher volumes, but being at that time on the higher position than if it would start using it at the very beginning;
- Updating keywords allows to maintain the stable customer inflow and to remain on the good positions in the search rankings.

In the analyzed companies a lot of attention is also given to the last two ASO tools such as visualization and localization. In localization the considered companies broadly use the concept of MVL discussed previously, translating apps only to that languages where increased interest is observed. As for the visualization, this component of ASO will be discussed in the separate part later.

## **Practice 2. Production of many similar games**

Selection of keywords and its correct usage is more like an art rather than a science. And even the words with KEI above 90 do not guarantee the good game visibility. The considered company resolves this problem by increasing the number of tries. While developers of expensive games direct their resources on promotion of one particular game, this business model assumes the creation of many games so that the chances that at least one of the game will become downloaded by at least 100.000 users increases significantly.

Neither Google Play nor Apple App Store controls the number of games published by single producer. Moreover, both these platforms allow publication of similar games that differ from each other only by some visual content. So, developers can publish very similar games with high speed, changing the deployed keywords and game visualization.

Out of the companies' experience only every 10<sup>th</sup> game gets more than 100 downloads in the first month. So the speed here is critical factor. Nowadays the company launches 1 game every working day and the overall business process works as the conveyor, when the work of the next department on the game starts only when the previous one is finished. The scrum methodology works here pretty well allowing to control the quality of games and abide to very strict timing. (Sutherland, 2014) There is an actual working board on the figure 8 used by one of the analyzed companies in its daily life. As it can be seen the game goes through 6 successive stages from the determining of the game concept and writing specification through preparation of all materials and its integration on the game frame up to the game publication on both App Store and Google Play. Depending on the game format 5 or 6 people take part in the work at one game.

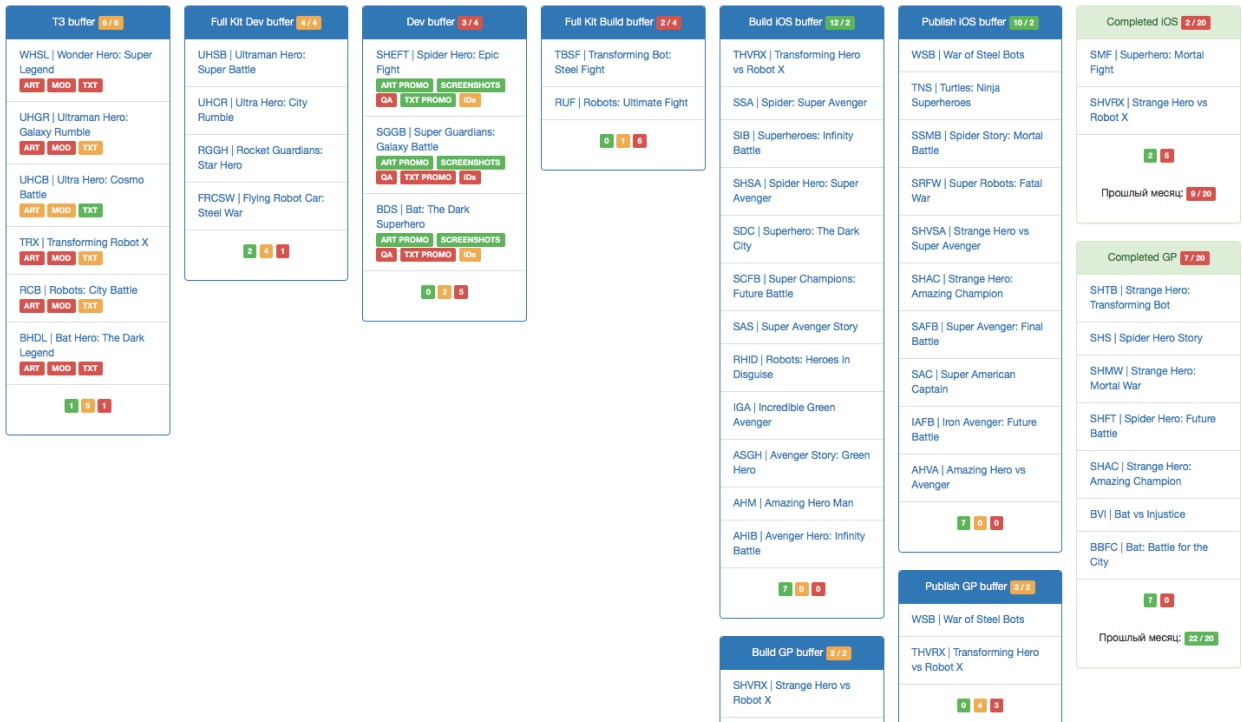


Figure 8 Timetable used by one of the considered companies for organizing the work process

The brief overview of top new games raking gives the understanding, that many of the things discussed by academics differ from the actual course of actions. Many rules that are correct for top ranked games are not applicable to the majority of games appearing on the platform every day. The main of such contradictions is the fact that quality of the game is the critical thing when it goes about the app downloads, what many authors state. (Liu et al, 2012) In fact, the content of the game does not play significant role by the customer choice to download a game or not. This was proven by so called *black screens*, when the same games with only slight changes in visual elements brought completely different results from 100 up to 6.000.000 downloads per game. Actually, customers can not get the complete picture of the game from the game page. The mistake would be here to waste time

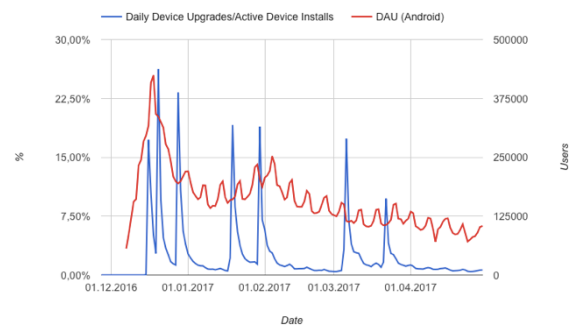


Figure 9 Strange Hero: Future Battle

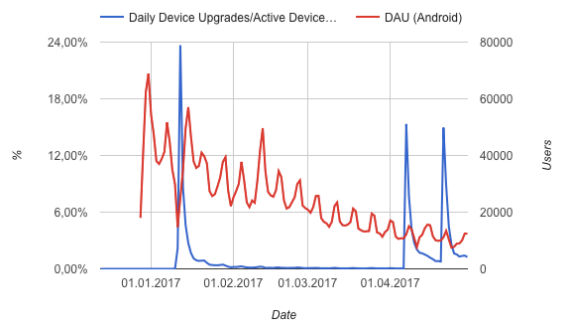


Figure 10 Bat Secret Mission statistics

and money on the perfect game content that will finally be seen by just several customers. The concept of MVP (Minimal Viable Product) works here perfectly. (Ries, 2011) Improve the game on the basis of feedback from first customers.

Besides the publishing of very similar games, the constant development takes place. The team adds new features, new quests and new game materials, leaving the game mechanics the same, but making the game each time better and better.

However, as it is seen from the figures 9 and 10 on the example of *Strange Hero: Future Battle and Bat Secret Mission* the impact of the game updating on the number of downloads is not very big, so the companies prefer either to update only the most successful games or not updating games at all, saving time and money for creation of new games.

This strategy has significant managerial disadvantage that lies in the fact that the work in this business model is very repetitive and the factor of creativity is minimized. As a result, some problems and conflicts arise with the employees who want to make different games. However, the financial results speak in favor of such strategy. One of the companies shared the historical data of its revenues, from which it can be seen, that the company experiences a 4-times leap in the end of 2016 that continues nowadays. This jump in the performance is caused exactly by this strategy. During the previous 2.5 years the company had around 33-38 employees at once, who developed a lot of different games trying to catch the trend.

In December 2016 the company changed the course of the strategy. First of all, it reduced the staff by half. Secondly, all of the game mechanics were ranked by the profitability and the top three of them were selected. The remaining games were abandoned. This specialization and acceleration of the working process allowed the company to grow 3 times in monthly revenue and around 5 times in profitability.

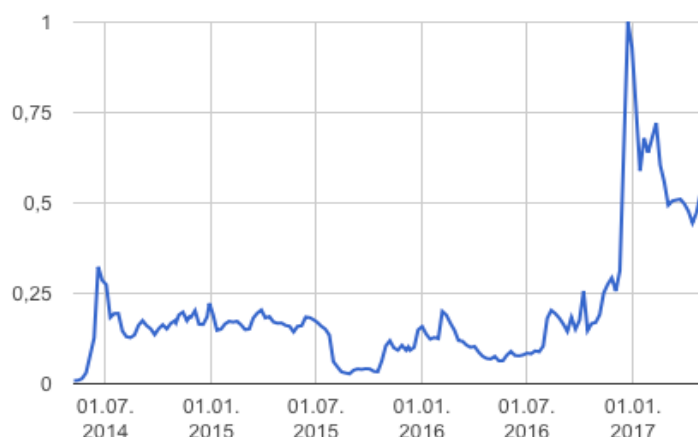


Figure 11 The company's revenue dynamic in relative values

### Practice 3. Two monetization strategies

People are ready to pay money for the in-app materials only if in their perception the quality of the game is high enough. That is why, such type of monetization is seen by considered companies as inappropriate – the quality of the game used to be relatively low that would result in very rare in-app purchases and low overall revenue. So, the main monetization strategy that brings over 90% of the revenue was chosen monetization through advertising.

The analyzed company periodically experiments with the advertising services, trying to find the one that would be financially the most beneficial and convenient in managing at the same time. Nowadays, company simultaneously uses the services of three mobile advertising companies: AdMob, UnityAd and Applovin. This is the know-how of the company, because originally the only one advertising service can be used. It causes losses of revenue, because as the figure 13 shows, only 83.8% of all requests in AdMob account for an advertising get responds from the server, that means that the total revenues from this account can be 19.3% higher. The situation with the remaining services is very similar. Serial connection of several advertising services allows to lift this conversion up to 99.6%.



Figure 12 The number dynamic of advertising revenues from AdMob service from the game *Spore Monster.io*

The next 8-10% of the revenues is generated from the second monetization strategy – paid games. As long as there is a small but very profitable segment of customers, who prefer to pay money rather than watching advertising, the company duplicates all their games as the paid version without advertising inside in both platforms. Besides the fact that those apps can be purchased at price times higher than ARPU from advertising, it is a great chance for the game to increase the game visibility at paid rankings among those customers who prefer to avoid free advergaming.



#### **Practice 4. Minimization of costs by the the hiring of unqualified personnel**

The high profitability of this business model is supported by very little costs. The peculiarities of this business model allow to get rid of some positions that are supposed to be necessary for the game developing companies like game designer, marketers and so on. The limited demand in development of new game features as well as absence of active marketing allow the managers to decrease the number of employees and fulfill part of the functions by themselves.

Another feature that allows to keep the costs low is the fact that there is no need to higher qualified and expensive staff. Actually, the majority of employees in all three considered companies are students, who acquire experience in this industry and whose monthly salary rarely exceed 30.000 rubles.

Today there are only 6 roles in one analyzed company who participate in game development:

- **Content manager.** He decides what will be the style and topic of the game, its name and description and write specification to all other people. When the game is ready he is in charge of publication of this game in all platforms
- **3D modeler.** His role is to make 3D models that will be used in the game, such as characters, buildings, weapons and so on. He receives the specification from content manager, creates models and prepares them for the game developer. Another task is to make templates for the screenshots and icons with the new characters that will be later used by artists.
- **Artist.** This position assumes creation of materials for 2D games or GUI for 3D games. On the base of templates from 3D modeler the artist creates screenshots and icons. All this then is delivered to the game developer
- **Game developer.** Out of the material prepared on the previous stages game developer builds a new game. From time to time game developer improves the game framework by adding additional features.
- **Translator.** As long as localization of game proved to improve the downloads across different regions, this person translates all the materials into two languages: English and Chinese that turned out to be the most important language for the game distribution.
- **Screenwriter.** From time to time the game requires updating. This is responsibility of screenwriter, who decides which features to add or remove, writes new scenarios for the game, comes up with the new quests and so on. All in all, he prepares the specification for the game updating.

Besides these positions there are couple more people who fulfill the tasks not directly linked with the game development process.

Labor costs, rent and taxes comprise the dominating share of total costs. Additional costs like fees for different services like Jira and Unity, purchase of some office staff and other costs are negligible.

### Business practices used to increase the number of downloads

Now, when it is clear how a small business can work on this market it can be analyzed how the factors influencing the customer behavior on the mobile games market considered in the first chapter corresponds with the business model and how a company can manipulate those factors in order to improve the performance of their games.

The following list of the business practices was combines from the responds of the companies' representatives and supplemented by recommendations and comments collected from industry experts from Google, AppAnnie and other companies specializing in apps creation and promotion.

#### ***Social Approval***

There are two main reasons why game developers should pay attention to app rating and comments: these two parameters are considered with high weight by the ranking of the game by Google Play and App Store, and both these parameters serve as the good source of information for users deciding to download an app or not. That is why Google Play Support and many experts recommend to pay attention to these parameters.

Especially important these parameters at time when the game has been just launched and customers pay a lot of attention to rating, as other sources of social approval as feedback from friends, game ranking and even the number of downloads can not say much about the quality of the game. Moreover, when the number of downloads and comments is low the weight of each grade is higher than at the later stages. The figure 13 shows the data about the game *Strange Hero: Future Battle*, where it can be observed that, when the number of downloads is low, the volatility of average grade is very high. So, game developing companies should pay much attention to rating and customer comments at least for a while after the game was launched, when it does not require a lot of effort and impacts the overall grade significantly.

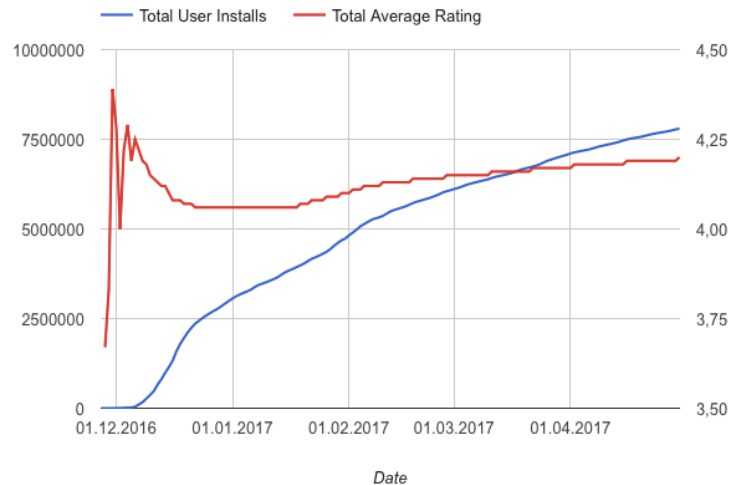


Figure 13 Strange Hero: Future Battle statistics

### Practice 5. Initial push

As long as first grades matters so much it is critical to make them good ones. The popular practice – to ask someone to give a good grade. It might be friends, relatives, people on the specialized forums and so on. People, working on the project might become a good start for the game: when 20 people give 5, it becomes a difficult task to put the grade below average after it.

AppAnnie’s insist on this tactic as showing the app to the trusted people is a good chance to collect feedback without the harm to real app rating and to develop the game before it becomes available to the mass audience. (AppAnnie, 2016)

### Practice 6. Requesting customers to assess the game

Besides the grade value, another factor that matters by the game ranking is the number of grades and comments. The bigger the number of comments – the higher the position in the overall ranking. That is why it is important to motivate customers to assess the games. (Gauchet, 2012) The very popular and simple way is to directly ask them to do that inside the application. However, there are two tricks that can take maximum out of this tool.

- It is important to choose the right moment for the assessment request. The best case would be when the window appears after some customer’s pleasant impression. It can be the victory in the previous game round, a purchase of a new expensive staff and so on. Anyway, it is much easier to get a positive mark at the moments when customer is happy.
- Another trick that might be especially useful for small companies, with not very qualitative games. While the request to rate the game in most cases directly leads to the game Google Play page, it can be done more wisely: if the customer

rates 1, 2 or 3, the customer should be asked to write a feedback without transferring him to the web-page. If the results are 4 and 5, then the user is asked to rate application again, but already in the Google page. The share of good grades thereby can grow significantly, as only people who like the application will actually vote.

In addition, Google warns game developers to abstain from practices such as giving away app bonuses in exchange of good review or asking for the review with each game update. These and some other practices are prohibited by Google Play and might result in account suspension. (Google Support, 2017)

### Practice 7. Management of the customer relations

Google Play insists that rating is one of the most important parameters by combination of rankings and provides a bunch of instruments to manage the customer relations. (Google Support, 2017)

All those tools can be used even by small startups that allows the direct communication with the customers. There are many cases when bad comments with mark 1 or 2 were positively changed by the authors after a game developer respond. When the number of votes is little the answers can be personalized, but with the increasing number of comments the set of answers can be prepared in advance and just pasted in bad comments. This is especially useful tool, when the number of grades is little and every bad mark throws the average grade down.

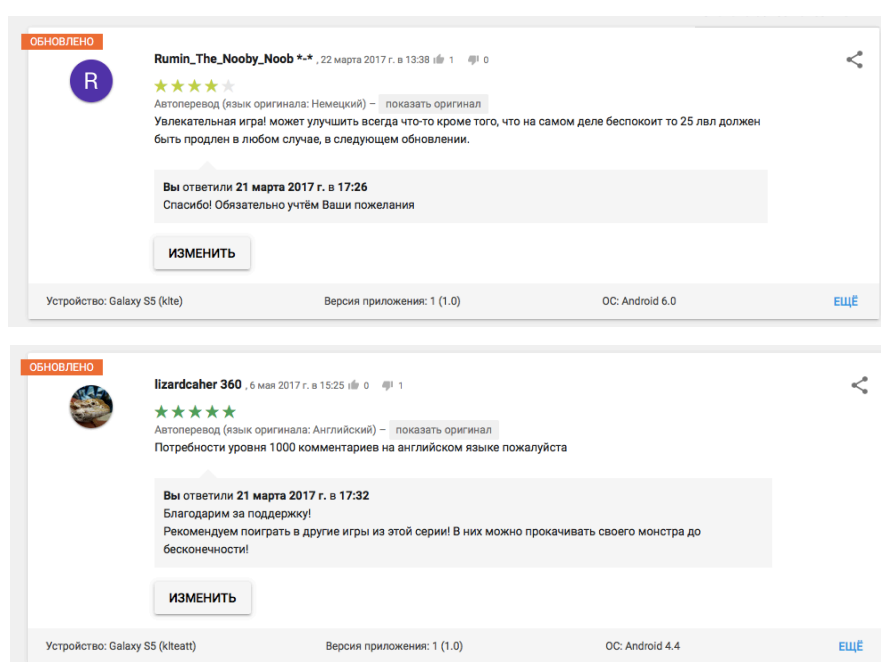


Figure 14 The comments that were changed and improved after the customer got a respond from the game developer

Besides the direct benefit such as rating improvement, managing the customer responses allows to collect feedbacks for game improvement. Google Play provides the possibility to group the comments by topic that allows to highlight the most problematic points in the application and to improve them first.

### Practice 8. Improvement of the game quality

The most organic way how a company can improve the game grades is to improve the quality of the game. On the figure 15 the correlation between game updates and daily average grades can be observed on the example of *Strange Hero: Future Battle*.

Not each of the updates lead to the leap in the customers' grades. Some of the updates just eliminated some minor bugs and changes were not visible for the client. But when new game version brought additional quests, levels and materials to players as on the January 18 and March 5 the shifts in the daily grades appeared. As long as the development of the gameplay is being constantly developed, the company can afford to introduce the new game features to the old but popular games to increase the grade and thereby try to increase the number of downloads.

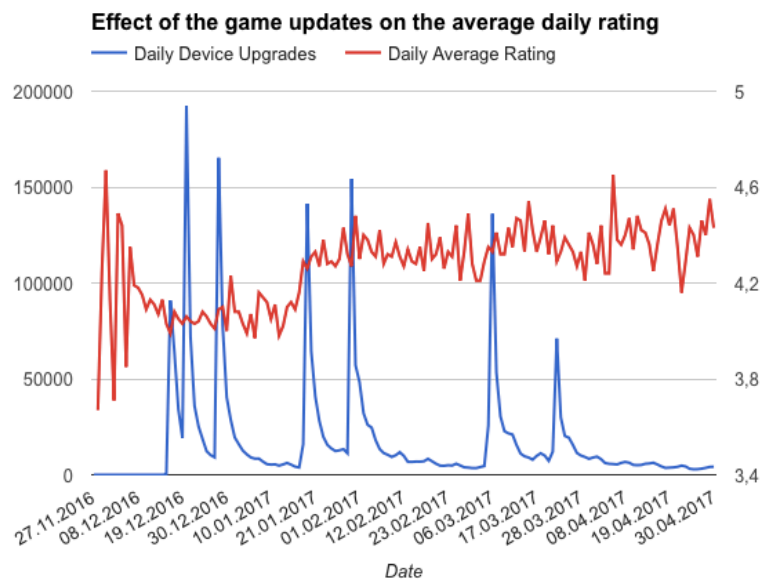


Figure 15 *Strange Hero: Future Battle* statistics

### ***Brand name and reference to former experience***

As it was already written in the part 2 the top new rankings of Google Play are full of games that replicate other well known games and brands. The success of any game raise the wave of clones that try to earn on the success of others. The analyzed business model also uses this method.

The critical mark here is, that even though neither Google Play nor Apple App Store controls the games in terms of similarity, the direct copying of other brand may lead to the banning of the account. Nevertheless, there are plenty of companies (mostly small startups) who use this tactic for rather long period of time without any bad consequences. The fact is that there is a small border between “similarity” and “imitation” that should allow to imitate popular games without punishment.

Some authors refer this tactic to so called Black Hat ASO - tactics that are prohibited by Google Play and App Store but allow to manipulate the current search and ranking algorithms and to lift the game by not fully ethical methods. (Leuwer, 17) However, this practice should be considered in this paper as it is widely used by small startups and allows to increase the number of downloads significantly.

Here are the methods how a small startup can get an advantage of the customers’ addiction of well known brands:

### **Practice 9. Style imitation**

Sometimes there is no need to copy the prominent application. Just to give a hint to this brand will be enough. Good example might be the *Minecraft* style that gave birth to thousands application made in the same cube style or the *Pokemon* universe. In both these cases a customer values not the characters or a particular story. The world itself is more important. The vivid features of those games like cube simplicity of *Minecraft* world or bright mythical creatures make it rather simple to imitate these styles and create games that will be way different from the original games but at the same time capture the customers’ attention by familiar traits.

The most difficult part here is to figure out which features are so beloved by customers at the original game or movie. The way how this imitation can be done after it may vary: through the color spectrum, similar font or art style.



*Figure 16 Headers of the games Duels of Poke.io and Pokemon*

In comparison to the next practices style imitation requires a lot of effort and creative talent to make a game stylistically similar to the game but at the same time not copying anything from there. However, the benefit here is that the developed game can be considered as practically original and therefore has very little chance to be accused of plagiarism or violation of copyrights.

### **Practice 10. Clear reference to well-known characters**

More effective but a riskier trick is to create characters that are very similar to the original one. The reference should be clear to the customer but at the same time the character should be different from the original one. On the figure 18 are brought together the picture of original *Spiderman* and three icons of mobile games published in Google Play. Each of those games has thousands of downloads while the last one (*Strange Hero: Future Battle*) was installed more than 6 million times.



*Figure 17 Icons of the games showed by the search for “Spiderman”*

As it can be seen, the image of Spiderman can be easily traced in all of the pictures but none of them are its complete copies. Adding or replacement of some details like cloak or tracery, color alteration, distortion of the logo – all this makes old Spiderman a new superhero, bringing its developer millions of downloads of Spiderman’s fans.

Another way how the game can refer to the prominent character is through the game title or game description. Many of characters have strong linkage with the words that are not protected with the copyrights. So, if no one can use the name of *Spiderman* without permission of the Marvel, the words “Spider” and “Hero” can be freely used by small companies having practically the same affect as the direct mentioning of the character’s name.

### ***Aesthetic feelings***

The third part of App Store Optimization that is critically important for making the user to open the game’s web page and then to download it is the visual materials of the game that directly influence the customer’s aesthetic feelings from the game.

The statement that the better the visualization of the game the better it attracts customers does not require any statistical confirmation. The question is: what is “good visualization”? It is hard to satisfy everyone’s tastes, and in such part of game design as art it is hard to predict whether people will appreciate a picture (style, animation) or not. Nevertheless, some common patterns can be found that better affect the game’s downloads than others.

There are many sites and articles describing the advises how to make right icons or screenshots. Here is the list of recommendation provided by AppAnnie (AppAnnie, 2015), Apptweak (Galazzo, 2014), TheNextWeb (Leblanc, 2013). The good icon should:

- look nice and recognizable from different sizes;
- be simple and clear;
- stand out from many other applications;
- not contain text;
- not merge with standard backgrounds;
- be updated periodically.

All of those advises are rather general and do not give clear instructions on how to improve the game icon. More detailed analysis is required to give specific recommendations on visual improvements. The visual preferences of the customer can vary from genre to genre. Different age and gender groups also value different pattern in icons and screenshots.

The good solution would be to collect feedback from the representatives of the targeted customer segment. Unfortunately considered startups face two challenges here:

- each of the customer surveys costs money
- the number of published games is very high.

Al long as every day considered companies launch at least one game, it is needed to conduct surveys non stop that is not appropriate for startups. The found solution was to see the customer reaction on the go.

### **Practice 11. Usage of the Google Play experiment tool**

No matter, how experienced the artist and how good the icon is perceived by game developers. Only customers can give the true answer on the question which icon is better. That is why it is necessary to create several icons at once and give a customer the chance to choose one. Google Play provides the great toolkit for this. (AppAnnie, 2015)

By dividing the whole customer stream into several equal group it can be clearly seen the difference in the conversion rates by each of the icons (screenshots, videos etc.), so after a week of experiment it becomes clear which item results in higher downloads.



As it can be seen on the figure 21, demonstrated the number of daily downloads of the game Spore Monsters.io with two different icons, the second icon turned out to be more efficient than the first one. Remarkable thing here, that initially the company considered the first icon as more attractive and even considered not to conduct the experiment. If they would finally refuse from it, they might the quarter of the income from this app. In many cases the opinion of the customers does not match the game developer's expectations. In order to avoid this mismatching experiments should be held with each of the games.

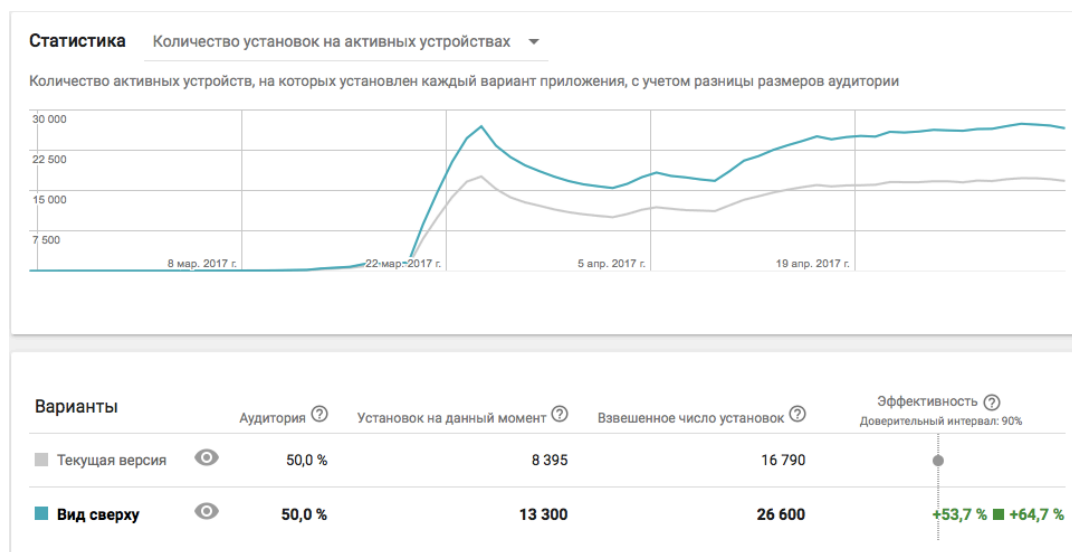


Figure 18 The number of daily downloads depending on the icon used

### Social interaction

Many authors considered in the first chapter name this parameter as one of the most important. People like games where they can interact with other players. Unfortunately, there are at least five problems associated with the development of real multiplayer or even actual leaderboards in applications (Demski, 2014):

- Server costs;
- Development costs;
- Mobile gamers playing patterns;
- Difficulties with gaining number of core online gamers;
- Unstable internet connection of 66% of gamers.

Two last points can even harm the game performance. The fact is that a big customer base is needed to make the multiplayer work properly. Otherwise the game will be either empty or the search for an opponent will require a lot of time. As long as first customers will be leaving the

game very shortly being unable to find any opponents, small company will be hardly able to get the critical mass of the people without a huge marketing campaign. Bad connection can spoil the impression from the game and result in low ranks.

Nevertheless, the experience shows that people do not necessary need real teammates to feel themselves a part of community. The real social interaction can be substituted by the fake one.

## Practice 12. Usage of artificial intelligence

In simple games with popular mechanics it is not a difficult task to create a simple artificial intelligence that will be simulating the real players. Besides the real person behavior of the bots the game should also possess some features of the multiplayer:

- **The real nicknames.** The player will believe much easier that he plays with real people if he sees the names of those games. The simplest way how to do it – to make a list of real nicknames and randomly distribute them among the bots.

- **Loading page.** The real multiplayer is associated with some unpleasant but inalienable features like search for opponents, waiting for server and loadings. Too smooth start of the game can start arousing suspicion.

- **Fake leaderboards.** One of the reasons why people prefer multiplayer to single games lies in the fact that people like the feeling of achievements and winning when compete with other people. So, the good solution would be to give them this feeling by adding a fake leaderboard, where a player can compete with some benchmarks set by game developer.

There is a risk that users will understand that they are playing not with real people. However, from the data collected the share of people who react on this is very low. Thus, in the game Spore Monsters.io there only eight comments where the words “bot”, “robot” or “fake” were mentioned out of more then 1000 comments in total. But even this fact does not necessary results in low grades as can be seen from the figure 23.

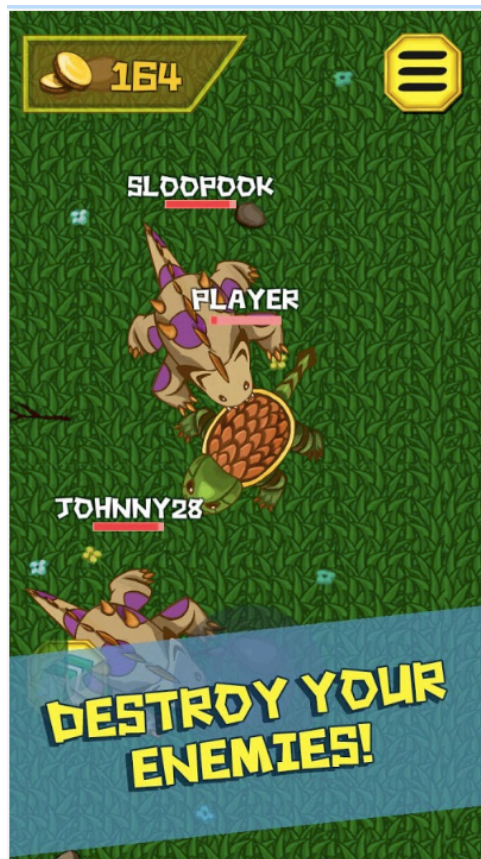


Figure 19 Screenshot of the Duels of Pokes.io

**Ruben Liebenberg**, 22 марта 2017 г. в 0:22 0 0

☆☆☆

Автоперевод (язык оригинала: Английский) – [показать оригинал](#)

Здорово. Просто вопрос. Являются ли эти игроки онлайн или боты

[Ответить](#)

---

Устройство: P9 (HWEVA)      Версия приложения: 1 (1.0)      ОС: Android 6.0      [ЕЩЁ](#)

---

**Excellent Name**, 21 марта 2017 г. в 11:38 2 0

☆☆☆☆☆

Автоперевод (язык оригинала: Английский) – [скрыть оригинал](#)

Такое ощущение, что у играть против ботов.

Отзыв на языке оригинала

It feels like u playing vs [bots](#).

[Открыть в Google Переводчике](#)

[Ответить](#)

---

Устройство: Galaxy J1 (j1xlte)      Версия приложения: 1 (1.0)      ОС: Android 5.1      [ЕЩЁ](#)

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**Antoine Carpentier**, 23 апр. 2017 г. в 18:18 0 0

☆☆☆

Автоперевод (язык оригинала: Французский) – [показать оригинал](#)

Это позор, что мы должны играть против ботов

[Ответить](#)

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Устройство: Galaxy J5(2016) (j5xnlte)      Версия приложения: 1 (1.0)      ОС: Android 6.0      [ЕЩЁ](#)

*Figure 20. Comments concerning devoted to the fact of substitution of players with the artificial intelligence in the game Spore Monster.io*

### **Market trends**

The main problem of small game developers to make their application visible for broad audience. Big game developers can direct the flow of customers to their app through the advertising. It opens great opportunities for creativity and novelty. Big developers do not depend on the market trends that much as small companies do. They lead those trends. While the small startups should look for the areas where customers search and promote their games there.

It can be small breath like increasing demand for games over the specific topic like that with the Trump election or significant market transformation with the creation of new game genres and features like that with augmented reality caused by popularity of the *Pokemon Go*. (AppAnnie, 2016) Anyway, small startup should carefully follow the market trends and flexibly adjust there games in accordance to current customer behavior.

### Practice 13. Reference to trendy products or events

There were already mentioned above such worlds as *Minecraft* and *Pokemon*. Both these topics were very trendy in 2016. Only by the query “Minecraft” in AppAnnie search gives 600 applications containing this word, while the actual number of games who somehow can be referred to this trend exceeds several thousands.

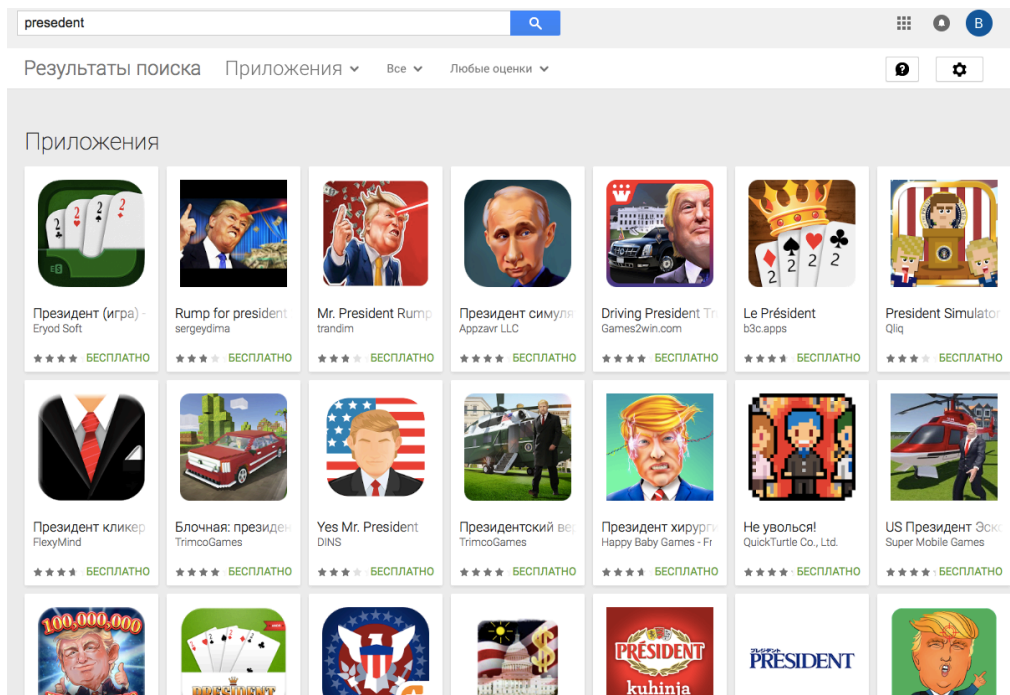
There are many sources of new trends:

- New games that became viral;
- New movies, especially serial ones like *Pirates of the Caribbean* or *Marvel Movies*;
- Popular TV-shows;
- Music clips;
- Well-known events.

### Practice 14. Anticipation of customer mistakes

The last practice that can be very useful for small startups is the usage of customer mistakes. As long as 50% of all search queries are misspelled (Heine, 2017) it is a great chance to get advantage of trendy mistakes as recommended the experts of AppAnnie. (AppAnnie, 2016)

Thus, for instance the search by the words “president” and “president” will give different sets of games. What is left is to track the common mistakes and use them in the game title or description as a keyword.



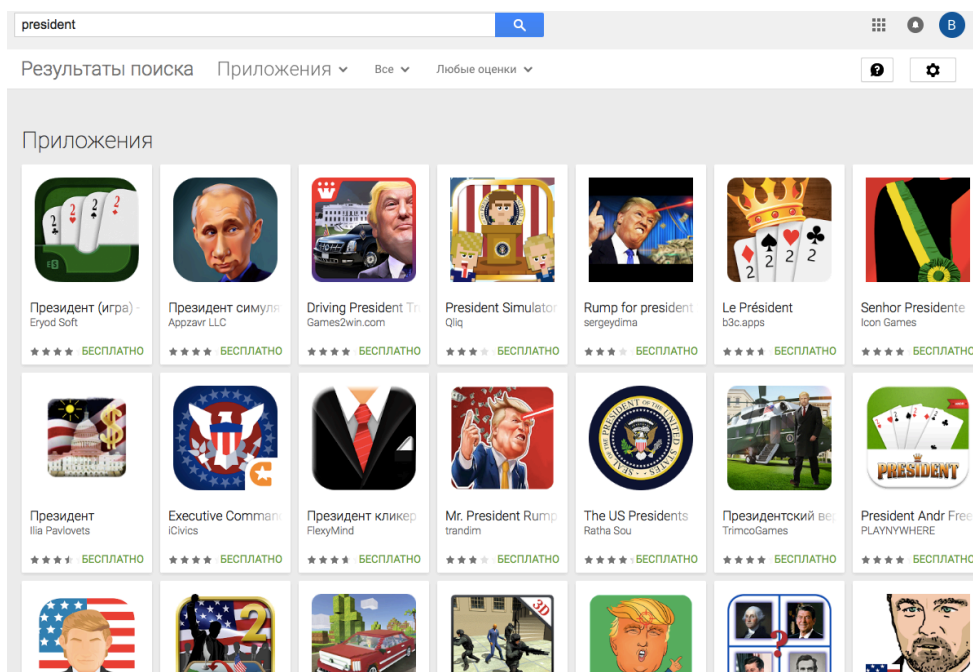


Figure 21. The result of search for “President” and “Presedent” in Google Play

### Performance indicators used to measure the practices’ effectiveness

Now, when the practices used by small startups on the mobile games market were identified, it is necessary to understand how to measure the effectiveness of practices applied. In many considered practices, like selection of keywords or creation of icons, there is no right unified answer that will be applicable to all applications. Selection of keywords is an iterative process that requires time, and several tries is needed to choose the most effective words. All this poses the necessity to use KPIs to choose between several options. (Kwakyi, 2016)

There is a huge variety of possible indicators that can be used for measuring the effectiveness of ASO and other marketing methods, but as this paper focuses on customer **acquisition** without additional expenditures that are not affordable for small startups this list of PIs can be narrowed down to the following parameter proposed by the CE of Icipia Gabe Kwakyi:

- **Number of daily installs (DUI)** – probably the most widely used parameter for measuring the success of customer acquisition initiatives, that can be used to measure any practices aimed at customer acquisition.
- **Revenue** – sometimes the growth in installs numbers does not lead to growth in revenue and vice versa, so sometimes these two parameters should be considered separately;
- **Store impressions** – this parameter describes how often the game was seen in searching results. Mostly used to assess the effectiveness of keywords;

- **Product page views** – when the game was shown to the customer, the next task for the game developing company is to persuade him to open the game page. As long as only icon, and game rating is seen on the screen, number of product page views is mostly used to assess the efficiency of initiatives aimed at the improvement of those two parameters;
- **Position in ranking** – the company decides by itself which ranking to target. It may be the top games ranking or just the position in the search result ranking by one particular keyword.

In addition to the above mentioned metrics some additional conversions can be used such as ratio of game install to page views, or the page views to store impression. In many cases this relative values allow to measure with the higher precision and exclude the influence of external factors.

In order to measure the efficiency of applied practices it is necessary to determine the benchmark – the initial value of the considered metric. Results of every change should be compared with this benchmark to understand whether the applied practice lead to better result or not. In order to achieve the most relevant results it is recommended to change only one parameter at once and observe the results one by one.

As part of the research the analysis of the effectiveness of icon change was held. Number of daily downloads was taken as the main metric. The sample of games collected from the considered companies provide a great opportunity to analyze the impact of visual content on the game performance purified from practically all other factors except game title and description. This is possible, because out of those 292 games 91 games are completely the same in all other aspects. All of them are RPG games done in the theme of Marvel and DC superheroes. The gameplay differs insignificantly and those difference are unnoticeable from the game page in Google Play. Thus, the only two things that differ and matter are icon and title with game description.

In order to analyze icons two groups were selected of the most downloaded games and the least downloaded games. Each group contained 20 icons. The observation and comparison of those icons allows to make the following **recommendations** on how to make the icons more attractive.

- No conceptual art should be used – only clear characters;
- Background should be drawn in details. (not mono-colored backgrounds);
- Clear reference to the characters;
- Action scenes are preferred;
- Rough edges should be eliminated or hidden;
- Icon has to give an impression about the game content;

- No blur and distortion should be used.

Based on these inferences the the experiment in collaboration with the partner company was conducted.



Out of list of poorly performing games 19 units were selected for the change of the icon. Instead of drawn and beautified pictures the chosen screenshots from the game were set as the icons. The results turned out to be striking: 17 out of those games experienced the leap in the number of downloads in the next several days. 8 out of which has a growth of more than 100%.

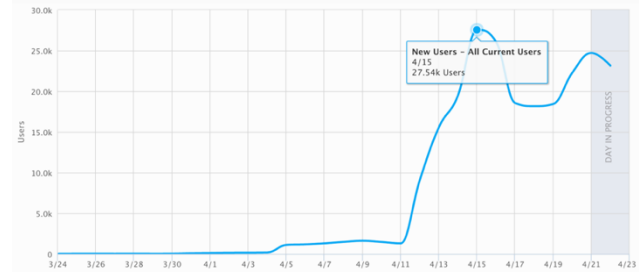


Figure 22 The daily number of downloads of the game *Super Avenger: Final Battle*

On the figure 22 the experiment result for the game *Super Avenger: Final Battle* is shown. After the icon change the game reached the increase in number of daily downloads from 1500 units up to 27540 installs.

While the advices how to improve an application are very narrow and hardly can be transferred to games of different genres and styles, there are some practices that might be used by any game developer in process of icon creation. However, the results of conducted experiments show that even the change of only one parameter such as the game icon can multiply the number of downloads.

## CONCLUSION

The research of academic articles and interviews with industry representatives demonstrated that 6 factors can be defined as key factors of customer acquisition on the market of mobile games. Those factors are:

- Social approval
- Social interaction
- Aesthetic feelings
- Market trends
- Reference to previous experience
- Brand name

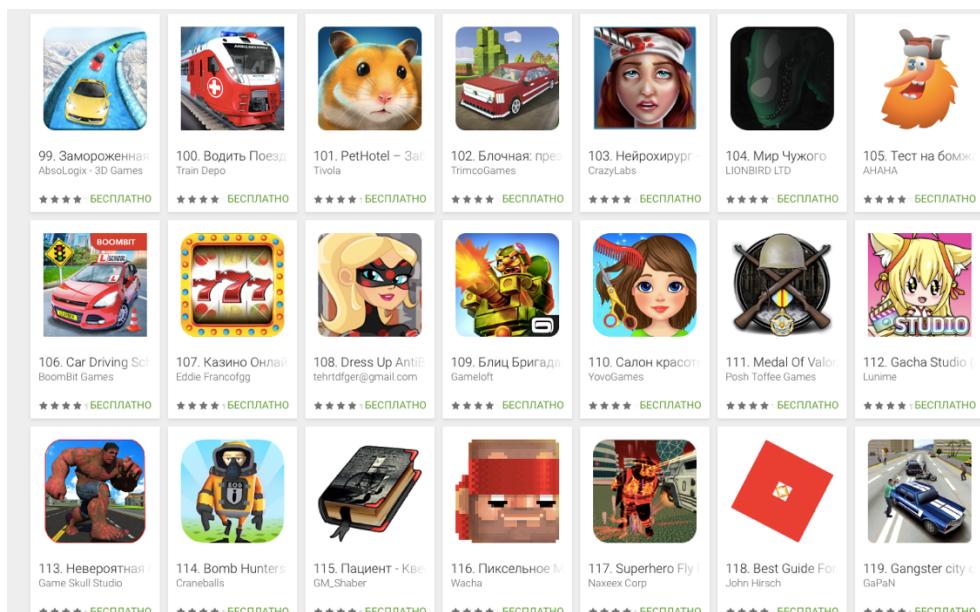
Paying attention to those factors during the process of game development and promotion allows the company to improve the game performance. There are many ways how a company can do that. In this paper the set of practices was considered that are currently used by small startups. Some practices (1-4) just describe the business model allowing small game developing companies operate on this competitive market, while many of them (5 – 14) are directly aimed to manipulate those factors. Here are the practices discovered during the research:

1. Emphasis on the right ASO;
2. Production of many similar games;
3. Usage of two monetization strategies simultaneously;
4. Minimization of costs by hiring less qualified personnel;
5. Initial push by good grades from friends;
6. Requesting customers to assess the game;
7. Management of the customer relations;
8. Constant improvement of the game quality;
9. Well-known brand style imitation;
10. Clear reference to famous characters;
11. Usage of the Google Play experiment tool;
12. Usage of artificial intelligence;
13. Reference to trendy products or events;
14. Anticipation of customer mistakes.



The research shows that despite the fact that advertising is unavailable for small startups on the market of mobile games, there is still a lot of practices that allow a small business to succeed on this market and compete with the giant companies for the customers. While advertising simplifies the process of customer attraction and makes the games significantly more visible among millions of competing applications, it can not guarantee the sustainable customer attraction and organic growth in number of downloads after the cancelation of advertising. If the game did not manage to build a stable customer base, customer loyalty or at least gain a foothold in the ratings, the situation will deteriorate very soon after the advertising budget expires. Many of the practices that were discovered in research should be used both by little and big game developers. Especially in the part of ASO: proper keywords for searching in titles and descriptions, attractive icon, video and screenshots as well as localization allows the company to stay in demand by customers for long period after advertising campaign or even without it at all.

As for the small companies, all the practices listed should be and actually are used by wide range of small companies. All of those practices are not purely individual. On the contrary, a look at the developers of new games in Google Play of App Store allows to see that many of them already use part of those practices. Thus, for example a snapshot of 21 top new games in Google Play (May 15, 2017) shows that all of them demonstrate the same or similar business strategy.



*Figure 23 Top new games in Russian Google Play from the May 15, 2017*

Here are two examples of the game developer pages who created two out of those 21 games shown on the figure 25. All of them have a long lists of very similar free games, with different number of downloads, relatively high concentration of keywords. Deeper look at the application proved that the difference among games of one developer is minimal. Some other practices found

in this research were also detected. The remaining 19 game developers from the figure 24 demonstrated very similar patterns.

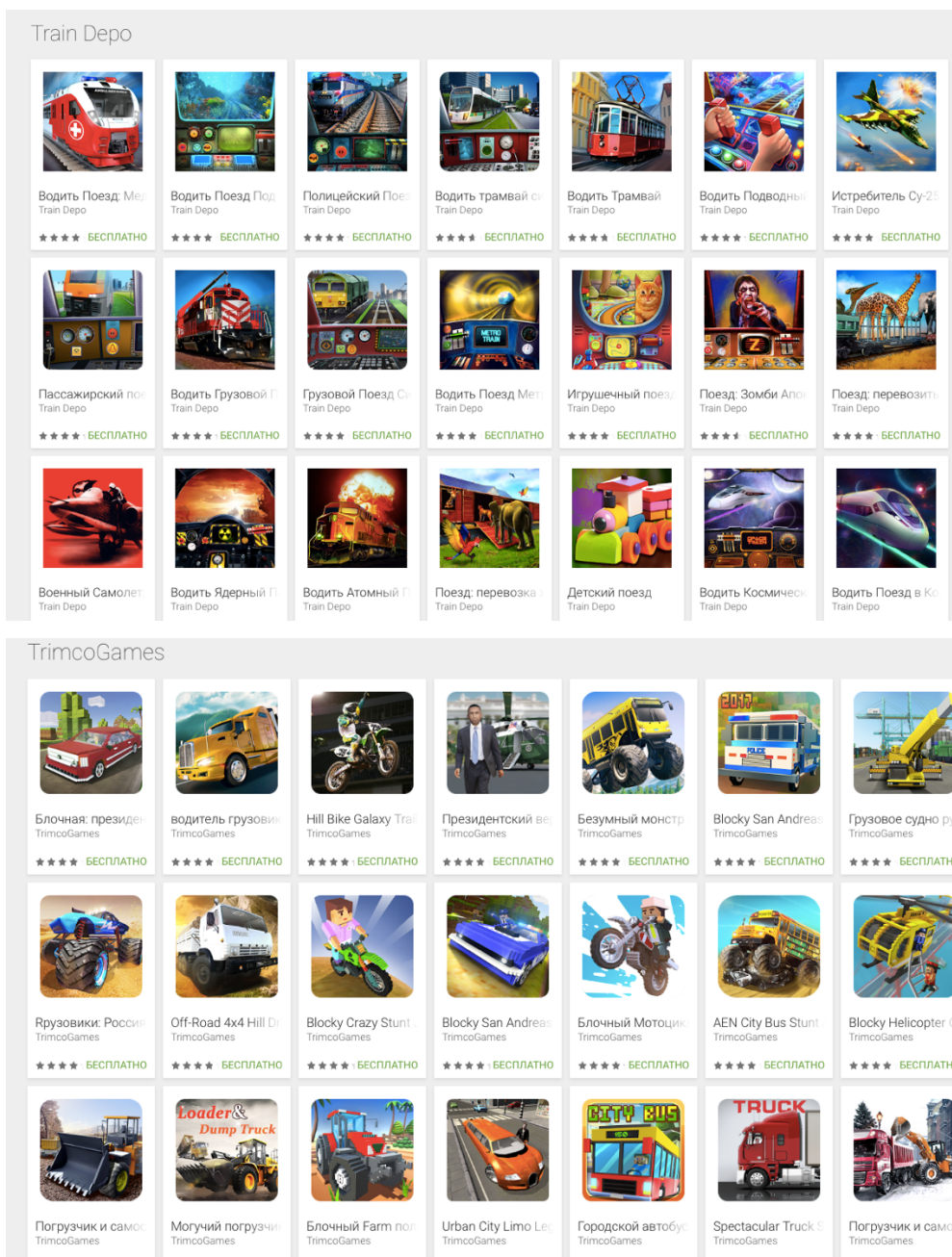


Figure 24 Lists of the game produced by two random game developing companies having the games in top new ranking

As it can be seen from the pictures, all of the tactics determined are very practical and allow small companies to succeed on this highly competitive market. At least, they proved their efficiency in attraction of new users.

However, customer acquisition is only a small portion of a game success, and 2 out of three analyzed companies highlighted that this strategy has many drawbacks and the company works hard on their elimination. The main problem by this strategy is the fact that the game quality

remains for rather long time at a relatively low level. It results in low value of ARPU comparing with the market average. Actually most of the games have weak retention rate even on the second day of game usage. As it seen on the figure 26 in 68% of the cases the application was inactive already on the second day. While by the 4 day the share of usages drops below 2%. Figure 25 reveals there is a lot of space for game improvement. And actually that is what the analyzed companies try to do.

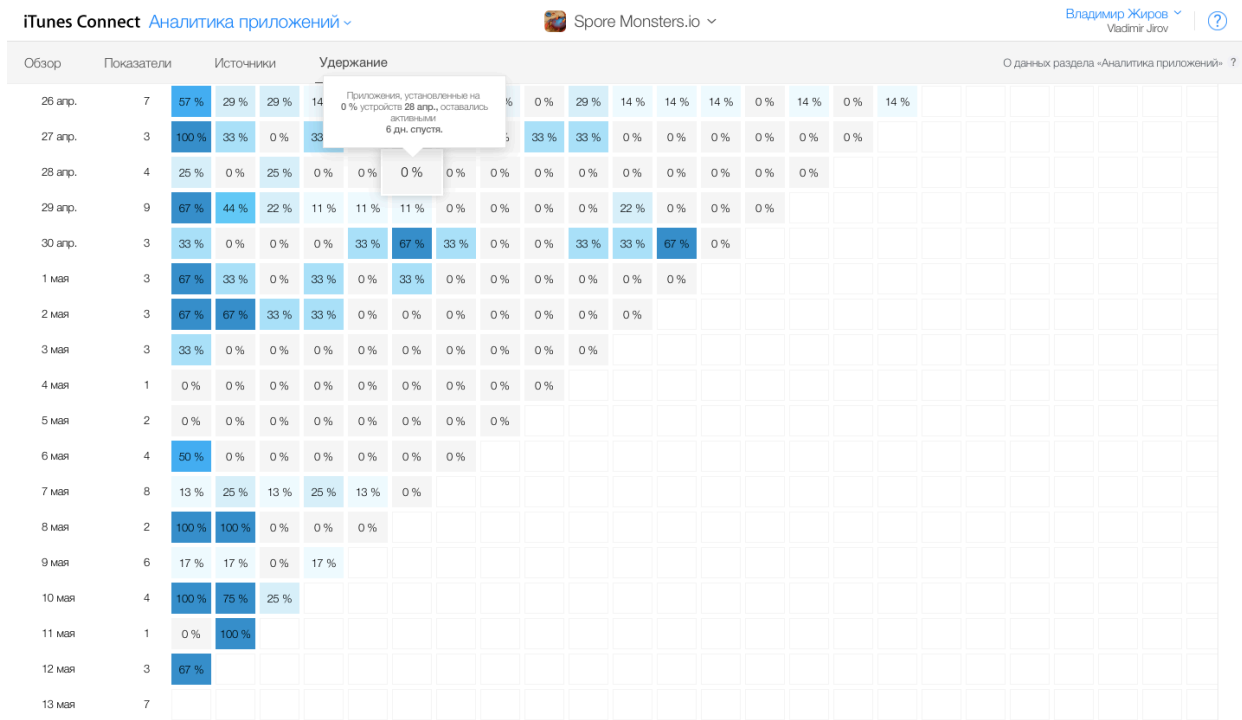


Figure 25 Statistics of the game Spore Monster.io on customer retention by dates

Summing up, this paper covers most of the practices that are used or may be used by small companies on the market of mobile games. All of them can be easily applied in any startup on this market and will be useful for current practitioners as well as for those who consider to enter this market.

In the end it should be noted that there is still a lot of space for future research.

First of all, this paper only lists the possible practices that can improve the customer attraction of game developers. The list is not complete and other practices can be added to expand the list. So the possible improvement of this paper can lie in the extension of the list by increasing the number of investigated companies.

Secondly, the deeper quantitative analysis can be conducted to determine which practices are the most beneficial, and which practices can turn out to be less effective and might be excluded

from the business strategies. Another type of analysis that can be done here is the assessment of practices effectiveness across different regions or genres. It might be so, that this practice work well with arcade game while bear no fruits in such genres as sport games or simulators.

The third possible development of current research can lie in the area of closer customer analysis. From the managerial prospective very useful outcome would be to get a matrix of different customer segments from one side and business practices from another side to understand which practices allow to attract customer from one particular segment and which of them show to be less effective.

And finally, the analysis of customer retention on this market might serve as a logical continuation of the paper, because currently it is out of scope of the given research

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