Economic Structure of a Videogame

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Introduction

The creation of new categories of video games has led to the revolution of the forms of income for us developers. Some types of games have received changes to forms, structures or economic systems that today, according to certain data, we know for sure to be more adequate than others.

Purpose

The purpose of this study is to examine the economic structure of video games for PC and Telephone, to find the most suitable economic model for the Word War game and to have an estimate on any subsequent earnings and expenses after publication. Before doing this, we need to know that Word War is a low-budget multiplayer party game, which 3 people worked on for 12 months, so for more reliable data, later when we analyze the economic systems of retail video games, we will focus on titles in the "Party" category (Video games consisting of a series of simple mini-games, short-lived and easy-to-control, designed primarily for multiplayer).

Types

The methods to earn by developing video games are many, some are indirect where the player will never be asked to spend his money, while others are direct, where the gamer spends his money within the game.

Indirect methods are those sources in which your income is directly linked to the number of downloads or to the advertisements in the games, where through their pressure, the developer earns.

System Budget Indirect

This system is applicable mainly to the development of games or app for SmartPhone.

It becomes quite profitable if the game or app takes hold within the store by grinding downloads and having its own FanBase.

So to understand how it works we start from the selection of platforms, defining the number of users on the platforms, the number of competitors between apps and developers, and the possible earnings.

	ANDROID	iOS	WINDOWS PHONE
Utenti (milioni)	900	600	12
Numero di applicazioni	800.000	1.250.000	160.000
Numero di sviluppatori	150.000	235.000	45.000
Numero di download (milioni)	48.000	50.000	650
Compensi agli sviluppatori (milioni di dollari)	900	5.000	100

Google Play is the leading marketplace in the industry, with 900 million monthly active users. Despite this, it is the App Store that has the largest number of applications loaded: 1,250,000. Behind these numbers are about 235,000 developers, to whom Apple has paid \$ 5,000 million in the last year.

	ANDROID	ios	WINDOWS PHONE
Numero di applicazioni per sviluppatore	5	5	3
Numero di download per applicazione	60.000	40.000	4.062
Guadagno per applicazione (dollari)	0,02	0,1	0,15

Windows phone tries to incentivize the publication of apps by paying more, but unfortunately it has far fewer users and so developers are forced to publish many more paid games to return costs or to earn more.

	ANDROID	ios	WINDOWS PHONE
Guadagno approssimato per app	1.125\$	4.000\$	6.000\$
Guadagno approssimato per sviluppatore	6.000\$	21.276\$	18.000\$

While this system seems very profitable at first glance, the problem lies in two factors:

- 1. You have to be very lucky to develop the right game at the right time.
- 2. It is not a stable gain, that is, it is a system where no one gives you the certainty of having lasting profits over time. In the sense, let's say you create a good game that makes a fair number of downloads at launch after already a month, or at most two months, a constant

decline is expected until its final death, or a settlement, which in any case after a while 'would lead to further decline. Therefore many times these economic systems are accompanied by advertisements, which however help to have a constant income through the use of the application.

In fact, thanks to a hypothetical fan base, which can be created from the daily use of the game, it is possible to earn further. Some recent studies conducted by GigaOM Pro have estimated the average revenue per application to be around 500 euros per month. This is certainly not a mind-boggling figure, but it would still extend the life of the game.



Direct Economic

System System where in the game there are purchases of DLC or other.

DLC

A downloadable content (abbreviated DLC), sometimes also called add-on content, is a set of extra additions, often for a fee, to a video game distributed through the various stores.

They can range from aesthetic changes to additions of new objects or layers to additions to the main storyline. They differ from expansions by their nature of marginal and / or reduced additions; moreover they are always distributed via download, while the expansions may also be available in physical copy.

Their function, at least in the original idea, is to expand the gaming experience with new activities, new contents that are all in all "negligible" and which, in essence, serve almost exclusively to still give meaning to a title that, otherwise, it would end up being abandoned. Over time, however, DLCs and expansions have begun to acquire an ever greater importance, arriving, in many cases now, to expand and, why not, improve the formula of the basic product.



The rise of DLC has been linked to video game addiction. Game developers have been accused of intentionally leaving content out of games so they can offer more DLC. Multiplayer games that offer many upgrades for purchase are sometimes called "pay-to-win", as players with deeper wallets have an edge.

To highlight the potential of this economic system, just think that the Take-Two Company during the first quarter of the fiscal year 2019-2020, which began on April 1 and ended on June 30 of this year, showed that 58% of earnings achieved during this period comes from the purchase of DLC and the business of microtransactions. This is a decidedly important share, which largely exceeds half of the revenues, reaching almost 60%. Overall, Take-Two's first quarter earnings through the use of DLCs stand at approximately \$ 320 million.

An example of using DLC to their maximum potential is that League OF Legends:

League Of legends

League of Legends is an online video game of the MOBA genre that has beaten any Record. As of November 2011, he had more than 70 million registrations and 12 million players per day, he was able to quintuple the user base in 4 months. As of January 2014, it had more than 67 million players every month, 27 million people every day, and over 7.5 million during peak hours.

The numbers have continued to grow to 90 million monthly players (at

4 Fantasy Westward Journey Online II FIFA 20

6 Star Wars Jedi: Fallen Order Death Stranding

10 Counter-Strike: Global Offensive Luigi's Mansion 3

5 World of Warcraft West

7 Call of Duty: Modern Warfare

8 World of Tanks

1 League of Legends

Top Grossing Titles by Category

Worldwide, ranked by November 2019 earnings

2 Dungeon Fighter Online Call of Duty: Modern Warfare Candy Crush Saga

NBA 2K20

Grand Theft Auto V

Madden NFL 20

Star Wars Jedi: Fallen Order

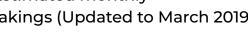
CONSOLE

least for the moment).

The main form of earning in this game is the purchase of Skins through a virtual currency "Riot Points".

The greatest Free to Play MOBA of all time has made outfits / skins must have for monthly earnings.

Estimated monthly takings (Updated to March 2019):



- 90 Million Players.
- 12% / 10 Million Players who make cash purchases.
- 12 Dollars for each Player every month.
- 120 Million Dollars collected monthly.
- All of them buy skins.

а

MOBILE

Last Shelter: Survival

Homescapes

Pokémon GO

Monster Strike

Clash of Clans

Coin Master

Gardenscapes - New Acres

*SUPERDATA

Season Pass

The Pass is a system used in most games where the Multiplayer component prevails, it is used to reward players during a predetermined period of time called the Season. There are two components of the Season Pass: one available for free to all players and another available for purchase in the Game Store. The latter Premium product is the actual Season Pass, while the free component is the "Free Pass".

The Season Pass is nothing more than a method for players to gain access to exclusive challenges, skins, and gear.

At the start of each season, each player will have access to the Season Pass. In this way, upon reaching certain goals, each player will be able to obtain free cosmetic items to customize their alter ego.

During the course of the game, game after game, each player by leveling up and completing the daily missions will begin to get stars, particular coins or other. With them, tiers will gradually unlock. When you unlock new tiers, new rewards will be unlocked, free and Premium.

An example of using the Season Pass to the fullest is provided by Fortnite:

Fortnite

Fortnite is a Free to Play battle royale in which 100 players throw themselves on an island and look for equipment to defend themselves from other players. They can fight alone, with an additional player or with a group of three others. As the game progresses, the playable area within the island gradually shrinks, giving players less and less space to work with. The last player or team alive wins the match. The main distinction from others in the genre are the construction elements of the game, which can offer benefits based on skill level and usage. Battle Royale uses a seasonal approach with battle passages to introduce new character customization content to the game, as well as limited-time events, some of which correspond to changes to the game's map.

Its "fashionable" game mode and the economic system that is mainly based on the purchase of a Season Pass, has made Fortnite consolidate its success.

Estimated monthly takings (Updated to April 2019):

- 40 Million Players.
- 70% / 29 Million Players make cash purchases.
- 7 Dollars for each Player every month.
- 200 Million Dollars collected monthly.
- 50% of these players purchase the Season Pass.
- 20% of these players buy outfits.

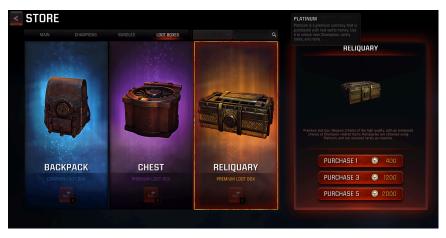


LootBox

box is defined in video games as the mechanism that allows players to purchase the ability to extract objects used in the game (weapons, skins, maps, etc.).

The appearance rates of items depend on their degree of rarity (usually labeled with colors). The rarer an item, the less likely it is to find it.

Some lawmakers have compared



loot boxes to gambling as players don't know exactly what they're getting before making a purchase. In fact, countries like Japan regulate the sale of loot boxes as a form of gambling. Season Passes have been criticized for the same reason.

This mechanism leads to an often compulsive purchase of loot boxes with dynamics very similar to those of slot machines.

Belgium, very drastically, declared that loot boxes are illegal forcing various publishers to remove them from games.

Overwatch players, for example, can no longer buy crates containing cosmetic items, other software houses, on the other hand, are silently adding the percentages related to the possibility of finding objects of a certain rarity in order to try to discourage anyone who wanted to approach the 'purchase.

Overwatch, had revenues of one billion dollars; Supercell, mistress of Clash of Clans, grossed two billion; Riot Games, which runs League of Legends, took home just as many, according to 2017 data collected by The Verge and Venturebeatjumped: Blizzard's in-game sales25% in one year largely thanks to the expense of 30 million already orders for Overwatch pits loot.

An example of using Loot Boxes to their fullest potential is Hearthstone:

Hearthstone

Hearthstone is a trading card video game from 2014, which is playable for free. The main forms of "exchange" are real money and credits ("gold"), which can be accumulated through daily quests. Currently all cards and content are obtainable by spending real money or using game credits. The use of real funds makes the collection of cards extremely quicker, resulting in a concrete advantage. Gamers get additional cards by purchasing "Cards Packs" which would be "LootBoxes". Hearthstone is probably the best trading card video game, (from the point of view of receipts) it has consolidated, along with other games, the economic system of Loot Boxes (Card Packs). Estimated monthly takings (Updated to October 2018):

- 60 Million Players.
- L 8% / 5 Million Players who make cash purchases.

- 12 Dollars for each Player every month.
- 60 Million Dollars collected monthly.
- All of them mostly buy Loot Boxes (Card Packs).



Freemium

Freemium is a marketing strategy of offering a free basic version of a game and a paid version of the same game, but expanded to other modes or customization.

According to Chris Anderson, former editor of Wired magazine, 4 Freemium models can be identified:



- Time limitation (free for a few days, then for a fee)
- Function

- limitation Limitation of the number of users (free for a certain number of users)
- Limitation of type of customer (free for small and young companies, paid for large ones)

Although freemium generally only means the limitation of functionality.

Peculiarities

Here are the peculiarities of the economic systems in the video games that we have just seen:

Fortnite:

The "Battle Pass" is composed of a series of missions directly linked to the seasonal patch (large patch that modifies balances and makes important changes to the game) this means that the game renews every two months, so you never lose your Fan Base.

Hearthstone:

The "Loot Boxes" are chests or in this case packages where you have the opportunity to find rare items or cards.

League Of Legends:

The "Skins" are aesthetic changes that affect the character, thanks to them the game seems more varied, so that every month the developers can make minor changes to the balance of the game and later, only once every year, carry out a seasonal patch that radically changes players' approach to the game.





With What You Buy

Gamers, at least in recent years, never spend their money "directly", that is, unless they buy physical expansions or DLCs, their wallet never comes into contact with the system behind the Loot Boxes or DLC in game, but these Add-ons are almost always purchased through two currencies present in the game:

- The first currency that we will call "Coins" has a very low value, is free and can be accumulated in game, with the effort and sweat of hours and hours of commitment and play.
- 2. While the second that we will call "Gems" has a much higher value, it accumulates much, much more slowly than coins, but can be obtained immediately if you use the money.





This differentiation comes about because developers want players to spend more and more money within their game.

For example, if a player spent his money directly in the game, he would most likely only buy what he would like and would never spend an extra penny, since he would have no reason to spend any more money to buy anything else, while through a foreign currency. payment, which is mainly used to convert the money into game currency, the developers will be able to ensure that you always have, or at least almost, a balance on the game, that is, a remainder of what you load ... and how?

If you want to buy a skin of a weapon on call of duty that costs 520 "Gems" and then going to top up the balance of gems you see that you can top up \in 5, which is equivalent to 390 gems and \in 10 which is 750 gems, you are practically forced to choose to load $10 \in$, so then to spend the 520 gems for the skin ... At the end of all this, however, you would have 230

gems on the game balance and this leftover will probably send you to buy more and then to spend more money to buy other "Gems"

Player Categories

Knowing who plays or will play our game, and the reasons behind it, is a fundamental action that helps to identify the best choices to meet the needs of the players. It is impossible to create an economic system for a universal audience, establishing one or more reference targets is fundamental for the final success ...

A categorization of the players is offered by Nick Yee, American researcher behind the Daedalus project on the sociology and psychology of MMORPGs (massive multiplayer online rpg) in which it collected data from over 40,000 players. In 2005, it identified three key components and 10 sub-categories.

Achievement	Social	Immersion
Advancement	Socializing	Discovery
Progress, Power,	Casual Chat, Helping Others,	Exploration, Lore,
Accumulation, Status	Making Friends	Finding Hidden Things
Mechanics	Relationship	Role-Playing
Numbers, Optimization,	Personal, Self-Disclosure,	Story Line, Character History,
Templating, Analysis	Find and Give Support	Roles, Fantasy
Competition	Teamwork	Customization
Challenging Others,	Collaboration, Groups,	Appearances, Accessories,
Provocation, Domination	Group Achievements	Style, Color Schemes
		Escapism
		Relax, Escape from RL,
		Avoid RL Problems

The AchievementComponent

 Advancement: These players derive satisfaction from achieving goals, quickly leveling up and accumulating in-game resources such as coins or gold. A constant progression accompanied by the increase of power in both social and financial form. Usually these individuals join evolved guilds to better achieve their goal.

- Mechanics: These players derive satisfaction from analyzing and understanding the mechanics behind the game in which they operate. For example, they will know by heart the points obtained by defeating boss X in comparison to those obtained by boss Y. This in-depth knowledge of the system allows them to advance and optimize a character perhaps specialized in a given segment (a wizard rather than an archer).
- Competition: These players love the adrenaline caused by a battle on the battlefield with other players, they love to defeat and dominate other players both in regulatory challenges and through sabotage or backstabbing.

The Social component

- Socializing: These players love to meet and get to know other players. They prefer places like chat where they can gossip and if they can help new members and their friends. They usually tend to join guilds full of friends.
- Relationship: These players seek forms of lasting and meaningful relationships with others. They do not disdain personal and real life discussions, often helping via chat to overcome real problems and obstacles.
- Teamwork: These players love to work and collaborate with others.
 They act more in a group than alone, drawing greater satisfaction from reaching a collective goal.

The ImmersionComponent

- Discovery: These players love to explore the world and discover new locations, missions or items that others don't yet know. They are inclined to collect information, objects and souvenirs.
- Role-Playing: These players love to immerse themselves in a story through the eyes of a character they have created themselves. They carefully read the game's storyline and background, and likewise pay close attention to making the character and giving it a story.

They want their avatar to become part of the larger story told in the virtual world.

- Customization: These players love to customize their virtual alter ego. They believe it is essential that the character has a unique style and therefore appreciate the games in which numerous options are offered in this regard.
- Escapism: These players use the game as a place to relax and escape the stresses of real life.

Target and Considerations

Among all the categories of gamers present, those that can be associated with a Party Game such as Word War are "Relationship", "TeamWork" and "Customization" this because Party Games are Video Games to be played in the company of a group of friends. offline (in the same room and on the same platform sharing the same screen), or in Multiplayer (Online). While among the various economic systems that we have seen we can deduce that:

Season Pass

Currently solid economic structure but where the game should be revolutionized every two months, so as to keep earnings constant.

Loot Box

Consolidated economic structure and easily adaptable to any game but which would collide with the thought of the average gamer ... "Loot boxes are gambling and they hurt".

DLC

Economic structure that can bring constant gains and where excessive changes are not necessary until after a long time.

From these brief considerations we can see that the system to be taken into consideration and that would bring the maximum profit with a reduced economic budget are the DLCs.

Let's now pass to the analysis of the Party Games which, as an economic system, have the sale of DLCs so as to be able to simulate "Real" earnings.

Games in Exam

After having viewed the various economic systems and outlined a target, we can analyze the Party games whose revenues will be analyzed in order to obtain an estimate of real earnings for Word War.

We will carry out a study on the gross and net earnings of each game and then, through the data obtained, we will simulate the sales objectives of Word War.

Among the expenses that can be in a game we find, the one destined to the sales platform, where in this case we will consider only Steam, the one aimed at the salaries of the various developers and the one that goes to the Publisher or is dedicated to marketing. Developers usually turn to a Publisher to advertise their game and this means that 45% of the game's revenues will go to it.

While a marketing budget managed without a publisher, and therefore paid for privately by the developer, is equal to the cost of the game itself. So if a game costs € 100 million, it will have a hundred million for the marketing budget, sometimes even more.

The following games are in order of success and earnings:

Overcooked 2

Pummel Party

The Jackbox Party Pack 6

Party Golf

Party Crashers

Overcooked 2

In the "cooking simulation" game, teams of up to four players prepare and they cook orders in absurd restaurants. The players chop and cook the ingredients, combine them on the plates and serve the dishes via a conveyor belt. Between coordinating short orders and bumping into each other's characters, the game tends to overwhelm.

After the game price of \le 15, the primary source of income for developers is the DLCs which all cost \le 5.

These are the estimates of the receipts from the release date of Overcooked 2 to date:

Earnings without Expenses:

- About 500 thousand copies on PC with a total profit of € 7,500,000.
- On average 4% / 20,000 players have purchased DLC at a cost of € 100,000.
- Since August 2018, about 1177 players have purchased DLC every month at a cost of € 5 for each player and a total of € 5,885 collected monthly.

Earnings with Expenses:

Overcooked 2 has had total revenues of approximately \in 7,600,000 gross so far, which must be deducted 30% / \in 2,280,000 that goes to Steam and a further 45% / \in 3,420,000 that goes to publishers, so they had a net income of \in 1,900,000 to which the salary of the developers involved in the project must be deducted.

Pummel Party

Pummel Party is a 4-player online and local multiplayer party game, where you hunt down friends or the computer using a wide range of absurd items in the main "board" mode, which works like a board game but in addition to providing the roll of the dice to move you have to win in various mini-games in order to earn a number of keys necessary to win the game.

After the price of the game of 15 \in , the primary source of income for the developers are the DLCs which have a cost ranging from 2 \in to 5 \in . These are the estimates of the proceeds from the release date to today of Pummel Party:

Earnings without Expenses:

- About 300 thousand copies were sold on PC with a total profit of € 4,500,000.
- On average 3% / 9,000 players have purchased DLC at a cost of € 36,000.
- Since September 2018 About 565 players have purchased DLC every month at a cost of € 4 for each player and a total of € 2,260 collected monthly.

Earnings with Expenses: it

has had total revenues of about \le 4,536,000 gross so far, to which 30% / \le 1,350,000 that goes to Steam must be deducted and an additional 50% / \le 2,267,000 that they spent on advertising , so they had a net income of \le 918,500 to which the salary of the developers involved in the project must be deducted.

The Jackbox Party Pack 6

It is a party game where inside there are various company minigames such as:

- 1. Trivia Murder Party 2 (1-8 players). Try to survive the new bizarre mini-games.
- 2. The wacky Dictionarium word circus (3-8 players). May the funniest definition win.
- 3. The Push The Button hidden identity game (4-10 players). Can you discover the aliens in time?
- 4. The Joke Boat comedy contest (3-8 players). Prepare a joke for a cruise talent show
- 5. The eccentric personality test Role Models (3-6 players). Find out who you really are.

Yes you can play using your mobile, tablet or computer, no extra controllers are needed.

After the game price of \leq 25, the primary source of income for developers is the game expansions which cost \leq 4.

These are the estimates of the takings from the release date to today of The Jackbox Party Pack 6:

Earnings without Expenses:

- About 75 thousand copies were sold on PC with a total profit of € 1,875,000.
- On average 3% / 2,250 players bought Expansions at a cost of € 9,000.
- Since October 2019 About 750 players have purchased Expansions every month at a cost of € 4 for each player and a total of € 3,000 collected monthly.

Earnings with Expenses:

The Jackbox Party Pack 6 has had total revenues of approximately € 1,884,000 Gross so far, which must be deducted the 30% / € 565,200 that goes to Steam and an additional 50% / € 942,000 that they have spent on advertising, so they had a net income of € 376,000 to which the salary of the developers involved in the project must be deducted.

Party Golf

Party Golf is a competitive party game for one to eight players.

Party Golf combines simple 2D physics, a procedurally generated world and over a trillion different gameplay combinations.

Features:

- 1. 4-player local multiplayer games and even 8-player games (with shared controller mode)
- 2. Over 100 game modes included, or create your own with the gameplay customization system
- Procedurally generated terrains so you never play the same hole more than twice
- 4. Customizable boosts to suit any style of play or match
- Twitch integration that allows viewers to directly change gameplay through group chat

After the game price of \in 3, the primary source of income for developers is aesthetic DLCs that cost \in 3.

These are the estimates of the proceeds from the release date of Party Golf to date:

Earnings Without Expenses:

 About 20 thousand copies were sold on PC with a total profit of € 60,000.

- On average, 2% / 400 players have purchased DLC at a cost of € 1,200.
- Since October 2016 About 10 players have purchased DLC every month at a cost of € 3 for each player and a total of € 30 collected monthly.

Earnings with Expenses:

Party Golf has had total revenues of around \le 61,200 Gross so far to which the 30% / \le 18,360 that goes to Steam must be deducted, so the developers have had a net revenue of \le 42,840 to which the salary of the developers involved in the project.

Party Crashers

Party Crashers is a last-standing car for one or four players. Following in the footsteps of Party Golf, it aims to provide the same customizable competitive game.

There are over 60 game modes ranging from manic vehicular carnage in battle mode, to precise and skillful driving in stopwatch mode. You can create your own game modes, from hundreds of settings provided, for example:

- 1. change car model, top speed, acceleration, steering
- select power-ups including turbo, cow hunter, rail gun, homing missile and mine
- 3. Double the speed of the game, play in top-down mode or switch between split-screen modes.

After the price of the game of $3 \in$ the primary source of income for the developers are the aesthetic DLCs which have a cost of $3 \in$. These are the estimates of the proceeds from the release date to today of Party Crashers:

Earnings without Expenses:

- About 15 thousand copies sold on PC with a total profit of € 45,000.
- On average 2% / 300 players have purchased DLC at a cost of € 900.
- Since October 2017 About 12 players have purchased DLC each month at a cost of € 3 for each player and a total of € 35 collected monthly.

Earnings with Expenses:

Party Golf has had total revenues of about \le 45,900 Gross up to now which must be deducted from the 30% / \le 13,770 that goes to Steam, so the developers have had a net revenue of \le 32,130 which must be deducted the salary of the developers involved in the project.

Conclusion

Through the analysis of the data we can draw the following conclusions: Considering that Word War is Party Game, with a sale price that will be around \leq 10 and 3 people participated in the development for about 12 months, which must be reimbursed for a total of \leq 2,000 for each month worked, we can deduce that the gross profit of the game must be at least \leq 432,000 with 43,200 copies sold on Steam.

Di questa cifra il 30%/129.600€ andrà a Steam il 50%/216.000€ sarà la spesa complessiva per il marketing ei restanti 72.000€ saranno finalizzati agli stipendi, senza contare una percentuale del 1-2% di DLC con un costo di 5€ l'uno, che possano fruttare 4.320€ di ricavi aggiuntivi.

Grazie dell'Attenzione

I Dati sulle vendite dei vari giochi presenti in questo Paper sono stati raccolti sul sito:

Steam Database
SteamSpy