Smuggloot: A Stealth Action Adventure

A possible path to profitability

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Executive summary

This report explores different sales models for a game developed by a group of Tecnico students. After a thorough market research, two different revenue models were conceived: One is based on direct saled in "bundled sales" where several games are bundled together in a package which is subsequently sold for a single price. The other is as a free to play game, in which revenues are created by the sale of in-game maps.

After a financial comparison between these two models, the bundles sales method has been chosen due to a higher expected NPV at $732, while achieving an IRR of 28.65%. The NPV is achieved at a discount ratio of 5%. Note that this is a small project with an initial investment of just around $1000.

1. Introduction

For the course Engineering economics, taught by Professor Joana Serra da Luz Mendonça, the assignment was given to build a business plan behind a game developed by a group of Tecnico students. The game for which the business plan was to be made, is "Smuggloot", a 2-dimensional stealth action game. In this report, first the general gaming market is assessed, and the position and possible competition for Smuggloot is examined. Subsequently, two different sales models are explored and the financials behind them are explored. Finally, these sales models are compared and the most promising alternative is chosen as final sales model.

2. The gaming market – position in the market

This part will go into depth of the size of gaming market and how it works now, it will further examine how Smuggloot, the 2D game will fit in this market and what competition the game have in the market.

a. General Market View

The gaming industry have expanded to extreme heights the last years, during 2017 the gaming market reached a value of 121,7 billion US dollars (NewZoo, 2018). For 2018 the market was expecting to grow 13,3 percent that can be transformed to 16,2 billion more than 2017 that makes the total value end up at 137,9 billion US dollars. The market can be divided into three branches, which are Phone and Tablet, Console, and Computer Games. The market shares are as following: 51 percent of the market is in the mobile and tablet. The percentages for Console is 25 percent and 24 percent for the computer games market. Asia and Pacific part of the world is the biggest part and goes up to 52 percent of the market and Europe is put at third with 21 percent of the market, close after North America that have 23 percent (NewZoo, 2018). There are approximately 2.2 billion gamers in the world in 2018, and 1.2 billion out of all are people that play games on a PC (Gaimin, 2018). This might seem huge for example the most played game to date is League of Legends where approximately 27 million unique players sign in and play daily on an average and around 67 million on average per month (Gaimin, 2018).

To gain bigger knowledge on how big the gaming market is, we introduce Twitch.tv, which is a website for gamers to stream when they are playing so that others can see how they play and interact with the player through a chat. During 2018 Twitch had a an average of 1,178 million people watching people play games live, and the highest viewership in 2018 was 3,98 million unique viewers during August (Twitchtracker, 2019).

b. 2D games

2D games have always been a big genre for games since it was the first type of computer games that came out on consoles or PC and of course all the classic games such as Mario, Donkey Kong and Pac-Man were all 2D games. But how does the market look now 30 to 40 years after the classics?

On the game marketplace called Steam there are approximately 2900 games that classify as 2D games. The price of these games varies from 120 euros to free to play games. The games with the higher prices are so called bundles that the report will go into further depth later on, while the cheaper games are more often games from new developers trying to make a name (Steam, 2019). Smuggloot is classified as a 2D, action and stealth game, within that exact same category is 33 games out on the market (Steam, 2019). This displays of big ground to grow on since there is not that many competitors on the same market as Smuggloot.

According to Orland, Kyle in the article *Valve leaks Steam game player counts; we have the numbers*, the numbers of Steam's active players in different games have been released. Going through the list from most amount of players down to least we find our first 2D game named Terraria at spot number 12 with approximately 13,1 million players, this is people that have bought the game and must not correlate with the amount of active players (Orland, 2018). This then shows that there is plenty of market space for a 2D game to become global today.

3. Commercial and business strategy

Commercial and business strategy will go through the two alternatives that the group found best for this game and the market they are trying to enter. The part will also show how the producers will make money with the two different strategies and what unique about them.

Strategy 1: Bundle sales

Since the game is a 2D game and the size of the content is not overwhelmingly big, it will be hard to market the game as a stand-alone sale. Fortunately, there is a good market for players who want to play newly developed smaller games. These are easily reached by being part of a bundle where several games can be bought for a combined price. This way, players who wouldn't usually have bought Smuggloot will be pushed to try it out, and hopefully spread the word.

i.   How will you address the market

Addressing the market with the approach of bundle sales could be done through the company Humble Bundle[1]. This is a great way to secure some income for a startup developer company without having to invest in large productions. It will also incentivise the developers to further develop other simple innovative games with short development time. This will make the company able to build a steady income and provide a proof of concept if the developers would seek out investors for embarking on bigger production projects.

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[1]

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segment
Humble Bundle	Developing simple games	Games provide entertainment and competitive stimulation for the end-users	Pay-what-you want setup in humble bundle - Customers can decide to prioritise certain developers	Players who enjoy indie games and stealth games
	Key Resources		Channels	
	Student developers		Digital through Humble Bundle	

Cost Structure	Revenue Streams
Hardware Developer wages	Humble Bundle purchases

With the business model canvas presented above, it is possible to generate the financial projections for the go-to-market strategy. These projections will be elaborated in Section 4.

Strategy 2: Free to play, Map editor

A different approach to making this game generate revenue is to make it free to play. This will create the opportunity to generate a much higher player-base than for paid games. In order for this player-base to keep playing the game instead of discarding it after 1st play-through, a map-editor should be developed together with a online community for high scores and rankings. This would spark a competitive nature in the game that would keep players in the game, replaying different maps in order to improve their high score.

iii.   How will you address the market

The market could be reached through Steam, where a great gaming community platform is already well developed. Utilising a well established platform would lower the barrier to entry for new games by facilitating the entire experience in an easy and convenient way.

The revenue stream in this model would consist of in-game purchases. Players will be able to unlock new maps by earning coins through playing - or by purchasing the maps directly. This means that the developers would have to consistently develop new maps to keep the players hooked. The burden of developing new maps will however be easened up by allowing players to create their own maps using the map editor. This way, players who create maps themselves could earn free map-vouchers by creating successful maps. The free map-vouchers could also be given through the refer a friend mechanism to generate a growing player base.

Furthermore, as the game develops, skins and other characters can be unlocked/purchased within the game to generate an additional source of income for the company.

iv. Business model and sources of income

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segment
Valve (Steam)	Developing maps and in-game purchasable content	Games provide entertainment and competitive stimulation for the end-users Competitive nature is stimulated even more when players are able to compete with their friends as well as globally	Community based. Players create their own maps and take part in the development role	Players who enjoy indie games and stealth games Competitive players Creative players who enjoy creating their own maps
	Key Resources Student developers		Channels Digital through Steam	

Cost Structure	Revenue Streams
Hardware Developer wages	In-game purchases of maps, characters etc.

After the business model of both suggestions have been presented, the financial projections and estimations will now be presented in the following.

4. Financial Projections and estimation
a. Initial investment

In order to produce a functional game in the first place, an initial investment is required in order to acquire all the necessary resources. According to software developing company VironIT, these can generally be divided into five main categories: development, software, intellectual property, equipment, and cost growth. (VironIT, 2018)

For the sake of briefness, these will not be analyzed deeper in this report. Instead, VironIT's estimates for development cost for a number of well-known games will be used as a template for assessing the initial cost of Smuggloot. By comparing complexity against the other games on the list, and taking into account that developers are students and not paid employees, it is believed that startup costs can be estimated to 1000$ for the basic game, and 2000$ in case a map editor is included.

b. Cash flow estimates and payback period

By utilizing strategy 1, where the game is distributed using bundle sales, statistics from Humble Bundle are used to provide estimated monthly revenue. Each bundle includes around ten games, and 60% of the revenue goes to the developers. However, customers are free to distribute their payment between the developers as they see fit, meaning that games with higher name recognition and development cost are likely to receive higher portions of the revenue cake at the end of the day.

In addition, games generally have to be tested and approved before making the cut to appear in the actual monthly subscription pack with a company like Humble Bundle. As such, a game from a new

developer, like Smuggloot, is therefore more likely to appear in specifically themed bundles of, for instance, 2D or stealth games that appeal to a particular base of players.

As a result, revenue from bundle sales are roughly estimated to about 2$ per sold game, with number of players starting out at 200 in the first year, and remaining relatively stable as bundle sales are expected to remain on a similar level as time progresses.

In the case of strategy 2, featuring the map editor, initial numbers are expected to be the same as with strategy 1, however, with map editing providing increased customizability to the game, the number of players is expected to rise as more people join the community. As such, an increase of 20% per year in terms of players is expected to be a reasonable expectation. MARR is set to 5% per year, in order to compensate for any risk and interest.

For the basic alternative, it has been found that the IRR over a 5-year period is 28.65%, while the IRR of the map editor alternative is 13%. Both of which are well above the MARR. Since the project is mutually exclusive, only one of the alternatives can be chosen. It should be noted that while the first alternative boasts a higher IRR, it is not necessarily the best option since the map editor alternative requires a higher investment thus it might result in a higher total NPV.

A graph showing a five year cash flow plan for both strategies can be seen below. As can be seen from the cumulative cash flow diagram, the payback period for strategy 1 is three years, while strategy 2 requires five years. It has been calculated that for the basic alternative the NPV is $732, while for the map-editor alternative, the NPV is $532 (the discount rate has been set equal to the MARR). On basis of the NPV, the first alternative (bundled sales) has been chosen.
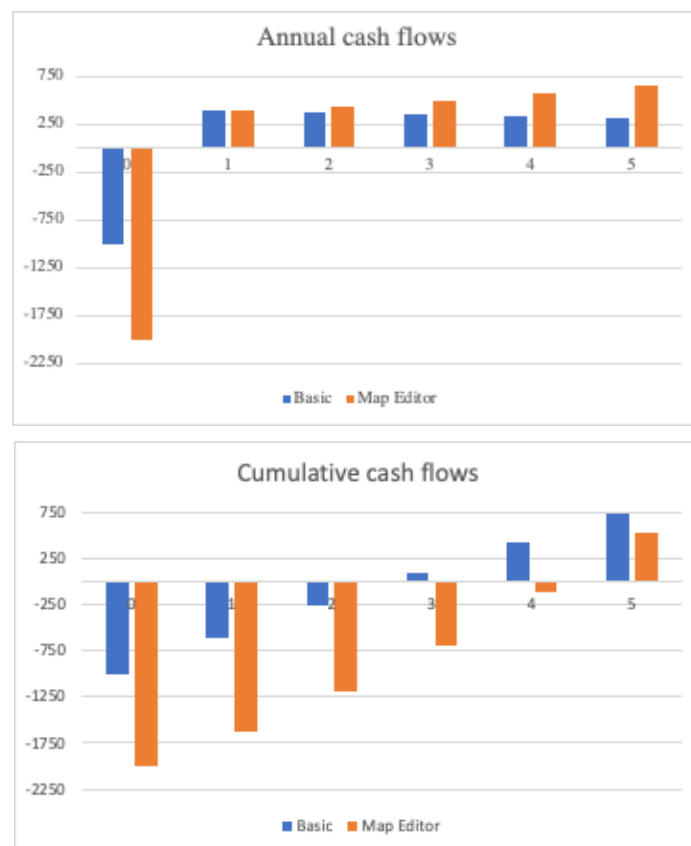
5. Conclusions

Is has been found that within the fast-growing gaming market, the competition in the same category as smuggloot is limited. With millions of players and just 33 competitors, there is room for more of these "2D action stealth" games in the market.

Two different sales strategies have been proposed: One of which is based on bundled sales, the other as free to play with ingame map sales. For both tactics, sales will go through steam, an established gaming community platform. It has been found that while the first strategy yields higher initial revenue, with revenues being quite stable over the next couple of years, the second strategy is expected to have its revenues increase over the years due to an increase in active players.

The expected initial investment is 1000 for the basic game, and an additional 1000 for the map editor (which is only needed in scenario 2). Using a discount ratio equal to the MARR (5%), it has been found that the bundled sales model (without the map editor) results in the highest NPV (at $732), while achieving an IRR of 28.65%. Therefore, this option has been chosen as sales model.

6. References

How Many Gamers Are There?, Gaimin, 2018, https://gaimin.io/how-many-gamers-are-there/

Mobile Revenues Account for More Than 50% of the Global Games Market as It Reaches $137.9 Billion in 2018, Wijman, Tim, 2018, https://newzoo.com/insights/articles/global-games-market-reaches-137-9-billion-in-2018-mobile-games-take-half/

Steam, Valve Corporation, Used 07 Jan 2019, https://store.steampowered.com/search/?sort_by=Price_ASC&tags=3871%2C19%2C1687&category1=998

Twitchtracker, Used 07 Jan 2019, https://twitchtracker.com/

Valve leaks Steam game player counts; we have the numbers, Orland, Kyle, 2018, https://arstechnica.com/gaming/2018/07/steam-data-leak-reveals-precise-player-count-for-thousands-of-games/

How much does it cost to make a video game? Yury, 2018, https://vironit.com/how-much-does-it-cost-to-make-a-video-game/ (Accessed: 13-01-19)