



Synopsisskema /projektbeskrivelse
Humanistisk Informatik
Forår 2013

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Gruppenr.:5	Semester: 10
Retning (5.+6.sem. kom el. InfoVid): Informationsvidenskab	
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Projektitel: Long term satisfaction of in game purchases of free to play mobile games	
Anslag og sideantal (projekt modtages ikke ved overskridelse): 365946 anslag 134 sider	
Dato for aflevering:	1/8 2016

Abstract

This thesis revolves around the long term experiences of in-app purchases (IAPs) in free to play mobile games and how they affect the overall player experiences as well as the satisfaction of the different IAPs on short as well as long term. In order to accommodate for this, the emphasis has been on both the overall experience of 3 different games, as well as the different form of IAPs purchases and their way of being applied within these games. This was in order to try and establish how different types of IAPs purchases might affect the experience differently, as well as whether or not different games were prone to vastly different evaluations of these purchases.

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Introduction

At the moment “no business is racing to Free faster than computer and video games” (Chris Anderson, 2009, p. 2018). Computer and video games used to be, and are still sold in stores. They are brought home and played for a “shorter” period of time (Chris Anderson, 2009, p. 118). In this business model most of the sales occurs within the initial 6 weeks of the release (Chris Anderson, 2009, p. 218). Change is coming though. Just like the music and movie business has been through a revolutionary transition to free, so will - and is - the gaming industry (Chris Anderson, 2009, p. 118).

When a company sets a game free, the relationship between that company, the game and the players of that game changes fundamentally. The relationship goes from short term to long term, and that creates new challenges and opportunities (Chris Anderson, 2009, p. 119). This is because revenue is created through micro transactions in form of in-app purchases (IAPs). Therefore in order to create revenue, the players have to keep playing, which will increase the hopes of said players to conduct IAPs (Donghui Cho, 2015, p. 1).

At the forefront of this revolution are mobile games, which have helped lower the entry barrier for playing games. The players just have to download the game and start playing. Mobile games do not demand further investments in order play, because a lot of people already own a mobile phone or a tablet.

In free to play (F2P) mobile games the player experience is not only related to game mechanics, gameplay or player engagement etc. The experience of the IAPs and the experience of satisfaction - or lack thereof - related to these, also play a crucial role in relation to the overall player experience (Richard L Oliver, 2010, p. 38).

In relation to this, it is worth considering that when consumers bring their shopping habits from the “real” offline world into the virtual online world, they also bring their experience of satisfaction or dissatisfaction with them.

Looking into how and why different in-game purchases create a different feeling of satisfaction and how this affect the overall player experience over time. This study aims to establish whether the current application of the free to play (F2P) business model in mobile games actually accommodate for the long term player relationship that this form of business model demands while generating revenue without compromising the overall player experience.

Statement of the problem

In relation to the focal point of this study being long term satisfactions regarding in-game purchases and their effects on the overall player experience 3 main areas of investigation have been defined.

Area 1: The business model & monetization of free products & services - generating revenue through IAPs affect the player experience in that it demands for a long term relationship

Area 2: Consumer satisfaction changes over time - in F2Pmobile games the satisfaction with the in-app purchases is affecting the player satisfaction and experience in all phases of the game.

Area 3: Consumers motivations for purchasing virtual products - is not necessarily the same as accumulating a satisfying experience regarding the IAPs

F2P games are games built on the freemium business model. Generally speaking this business model delivers software as a service by giving the software away for free, but allowing users to buy premium content or upgrades. In the context of games the freemium business model are most commonly applied in two different ways. One where players can pay for decorative content in form of visually appealing items and a second where players can pay for progress in form of functional items that can speed things up (Eva-Maria Scholz, 2015).

According to Chris Anderson, critics of the freemium business model have usually grown up in the 20th century and as such generally do not believe that anybody get anything for free. They simply do not trust in free and perceive it as a marketing scam of some sort, because “we all pay sooner or later” (2009, p. 4). The mechanisms behind this way of thinking should be found in the way the economy was and is built when it evolved around the physical products or services. This is the economy of “atoms” and the result of this economy was and is that products get more expensive

over time due to scarcity (Chris Anderson, 2009 p. 12). In accordance with this some F2P games apply their IAPs so that the players will have to pay more money later in the game because they have to spend more in-game currency for a purchase that initially did not cost a lot.

In contrast to free in the 20th the mechanisms behind “the new economy” foster a new way of thinking, because it evolves around an economy of bits, and as a result the software and services get cheaper over time (Chris Anderson, 2009 p. 12). Therefore, for the generation of the 21th century there is nothing more natural than free, as they have “grown up” on the premises of the freemium business model and software as a service (Chris Anderson, 2009 p. 5).

The question this thesis will look into in relation to this is whether or not the current way of implementing the freemium business model is actually confirming the 20th century perception of free from the players perspective. If this is indeed the case from a player perspective, then part of the criticism related to the F2P games might actually arise, because F2P in it-self has become an untrustworthy concept, because of the way some games conduct their business in accordance with the “economy of atoms”. The economy of the 20th century when dealing with an “economy of bits”, an economy of the 21th century.

There has been some criticism regarding F2P games that to some extent can be related to the difference between the economy of the 20th and the 21st century. Among the criticism of F2P games is whether a game is actually F2P when it applies IAPs. The argument is that F2P games that apply these IAPs generally tend to do so in a manner where the players are “forced” to purchase in game items to be able to complete the game at all, and therefore the game is in fact not free at all (Ben Cousins, 2014). This is closely related to the conception of nothing is really free as described in the above.

This study will not be the judge of whether the criticism is true or not, but will look into how the freemium business model affect the overall player experience. It will do so with a focal point of F2P mobile games.

F2P mobile games affect the way players interact with the game, both in relation to long term as well as short term interactions. More specifically it affects the way in which the relationship between the game and the player is to be accommodated, simply because it is no longer about one but repeated transactions over time. Therefore the player experiences might be influenced by the application of these IAPs on a long term basis. The reason being that the player experience in F2P mobile games not only is related to the gameplay and game mechanics etc. but also the experience

of the IAPs. This begs the question of **whether or not IAPs in F2P mobile games satisfy the consumers in short - as well as - long term?**

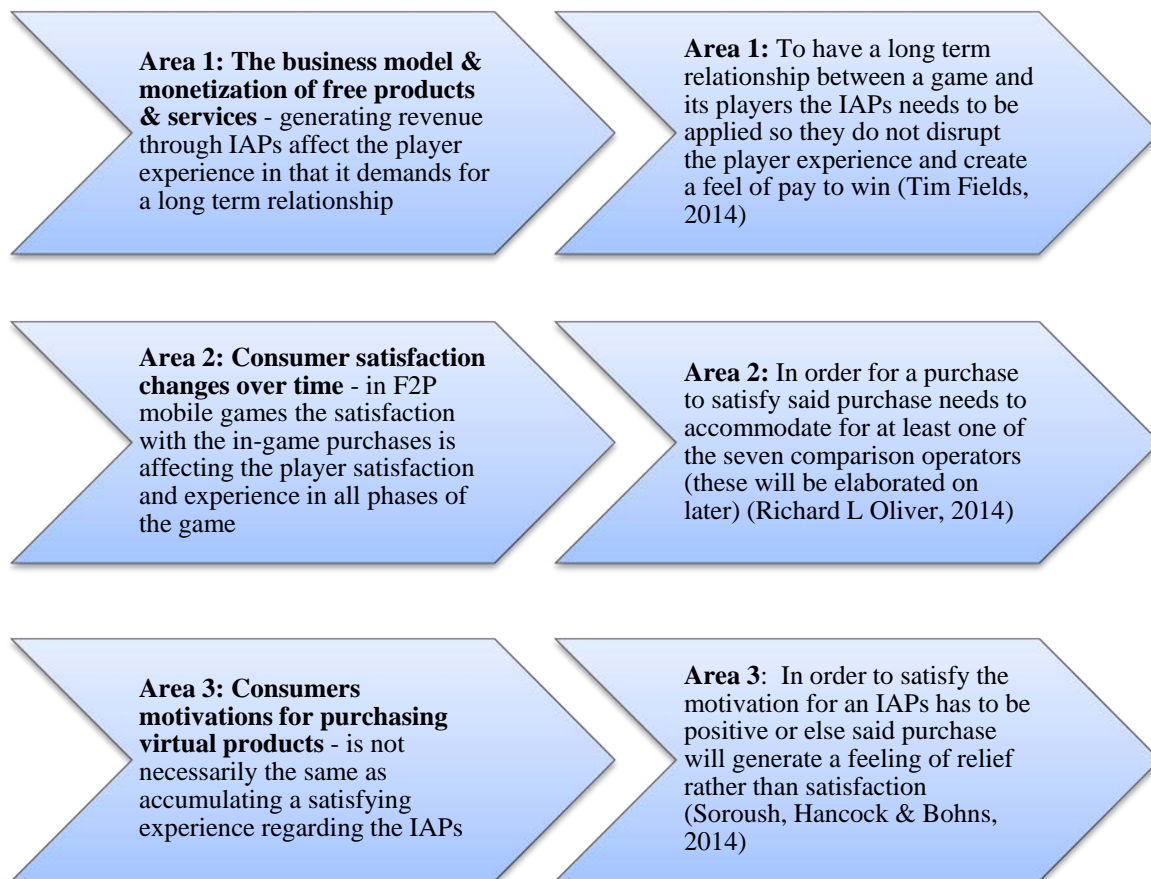
In relation to this it is a noteworthy fact that the experience of satisfaction can be distinguished as an increase in pleasure versus a decrease in pain e.g. feeling of relief (Richard L. Oliver, 2010, p. 8). This relates to the fact that the F2P games tend to use monetization features related to both decorative IAPs e.g. pleasure as well as functional IAPs relieving players from frustration (Soroush, Hancock & Bohns, 2014, p 4). Based on this, this study will be working with the **hypotheses that there is a difference between experiencing functional** (functional IAPs for example speeds up a process or improve an item) **versus decorative** (decorative IAPs are purely about changing the appearance of something) **IAPs and how said experience influence consumer/player satisfaction?**

The following section will establish some of the pitfalls in relation to the different form of IAPs in F2P mobile games.

Background & Need

The business model and what constitutes a F2P game is also what generates the general criticism regarding these games, simply because a lot of the criticism is related to the way they generate revenue. As mentioned in the section above F2P games demand a longer relationship between the game and its players in that the revenue is no longer generated by one transaction but rather repeated micro transactions (Eva-Maria Scholz, 2015).

Therefore there seems to be a need to establish some sort of method for evaluating the satisfaction with the different IAPs in F2P games, and their effect on the player experience both on a short as well as long term basis. In order to do this 3 different areas as previously illustrated in the statement of the problem have been defined in the model below additional aspects have been added to establish what the current literature states in relation to the possible solutions of the different challenges.



As previously explained a long term relationship where the players keep playing in order for them to spend more money is crucial in the F2P business model that is driven by micro transactions.

In order for these micro transactions to happen F2P games as mentioned apply IAPs in relation to either functional or decorative items. As previously mentioned in the section above most of the criticism regarding F2P games are regarding the functional IAPs. There is general perception that the implementation of functional IAPs in F2P games to some extent generates a disadvantage for nonpaying players or even that it is not possible to complete these games without paying and therefore they are not free at all (Eva-Maria Scholz, 2015). This feeling has also been expressed by some of the paying players since they felt they spend too much on certain F2P games (Ashley FeinBerg, 2013).

Additionally some of the players that actually choose to conduct purchases in F2P games have expressed negative feelings regarding their purchases, such as “it feels like cheating” after conducting these (Soroush, Hancock & Bohns, 2014, p 4). Feeling as the one expressed in the above

might occur more in the later stages of F2P games, since the progression without paying becomes increasingly difficult or time consuming.

This might cause a problem in relation to the testing of F2P games, since player testing in general on computer, video and mobile games regards individual play session during a couple of hours and as a result does not look into the long term effects of the different aspects of a game on the player experience (Regina Bernhaupt, 2010).

Purpose of the Study

The purpose of this study was to create a method for user testing over a longer period of time, to be able to give indications regarding player satisfactions regarding the IAPs and in order to figure out how they affected the overall player experience for players of F2P games.

Quite a few players of F2P games are left with a negative feeling regarding the way of monetizing in said games (Soroush, Hancock & Bohns, 2014, p 4). This does not come to show in the way that play testing is conducted at the current moment in that these test tend to focus on the player experience on short term, and therefore tend to revolve around the initial phase of the games (Regina Bernhaupt, 2010). And in the initial phases of certain F2P games the IAPs might not disrupt the game to the same extent because in some games they do not consume as much time in the beginning as the latter stages of a F2P game (Mike Foster, 2014).

This study was conducted in two parts. Firstly an initial survey regarding the satisfaction of IAPs in F2P mobile games was conducted. This survey was based on the seven comparison operators of Richard L Oliver and has functioned as a form of comparison tool to the survey that was included in the second part of the study. The second part of this study asked players to play a F2P mobile game during a period of fourteen days and explain their experience after each play session. The explanation was based on the UX curve (which will be elaborated on later in this thesis – See Method). In relation to the UX curve the participants were asked to explain why they filled it out as they did. This was to clarify the player experience. Furthermore each time the participants conducted a purchase in the game they were asked to fill out a survey that evaluated their satisfaction with the purchases.

The goal of this study was to establish whether there was a change in attitude towards the overall player experience over time and whether the conduction of IAPs might actually be fundamental for a good or a bad player experience. In doing so, the aim was that this study might help clarify the different aspects that might help improve the overall experience of F2P games depending on the way in which the IAPs have been implemented in the game. In order to reach that goal some research question were conducted.

Research Questions

In relation to the problem statement and based on the existing literature the tree following research questions has laid the foundation of this thesis:

It is commonly known within marketing that price is an aspect in forming judgment and expectations of a product or service (Richard L. Oliver, 2010, p. 84). In relation to this there do exist some evidence to support that if a product or service which previously operated in the traditional market where products and services can be either sold or bought. Then moved from that market and into the so called market of free that product or service will generally be perceived as being of lower quality than before (Chris Anderson, 2009, p. 46). **This begs the research question of whether or not F2P mobile games are expected or perceived to be of lower quality than paid games.**

Now the different research questions have been defined the next section will try to establish why this thesis is relevant and what new aspects it can bring forth.

Significance

There has been conducted quite an amount of scientific studies as well written as quite some books regarding the business model of F2P, what motivates players to conduct purchases in F2P games and how to keep players playing. While these studies have been fruitful in providing additional knowledge regarding acquisition, retention and monetization none of them says anything about satisfaction with the purchases or what it adds to the player experience of the game. Therefore the

goal as aforementioned was to investigating the experience of satisfaction related to the IAPs in F2P mobile games.

Before getting into investigating of the aforementioned, it is firstly important to clarify and define some of the terms that will be utilized throughout this thesis - this will be done in the following section.

Definitions

F2P is a term that covers all games that can be played for free where players can voluntarily choose to conduct purchases when they see fit.

IAPs cover all the different in game purchases that are possible for the players to conduct in in F2P mobile games.

Micro transactions is similar to IAPs in that it is small transactions within F2P games that are meant to alleviate or improve the player experience of the game.

Functional IAPs are in game purchases that gives the player a boost in form of for example speeding up a process or empowering a weapon.

Decorative IAPs are in game purchases that are strictly artistic in nature and therefor as such only “improve” the looks of for example a character or a weapon.

Comparison operator is an element that either constitutes the creation of the experience of satisfaction or the lack thereof.

Flow constitutes the different stages of engagement in an assignment in this case the player engagement in the F2P mobile game.

Now that the different definitions have been clarified the following will shortly describe some the constraints and limitations in regards of this thesis.

Limitations

In relation to the limitations of this study it is first of all important to stress that even though this study does look into the player engagement, the focal point is related to the satisfaction regarding the IAPs. This satisfaction will logically be affected by, or in itself affect the player engagement, thus there will be elements regarding the player engagement, hence the aforementioned definition of flow. But the different theories have not been chosen to accumulate a deeper understanding of how the players were engaged. Rather the player engagement is included as a way of looking at whether the IAPs have a positive or negative influence on said engagement. Furthermore the aspect of player engagement is important because satisfaction regarding the IAPs can be related to the IAPs individually or the overall experience of the game (Richard L Oliver, 2010, p 12).

Being that this is a retrospective study it is a noteworthy bias that human beings generally tend to put more emphasis on the most extreme, negative, positive or most resent encounters with a product or service (Richard L. Oliver, 2010, p. 117) (Karapanos, Martens & Hassenzahl, 2012, p. 2). In relation to this important to note that human beings in general tend to put more emphasis on the negative experiences than the positive in hindsight (Richard L Oliver, 2010, p 82). As a result of this, what the participants are giving is subjective statements related to their own experiences and thus the research does not foster objective results.

In regards of the subjective statement mentioned in the above, they generally do not present a problem in the context of this study. The reason being that since this study is examining the experience of satisfaction, and thereby is about a subjective subject of investigation, therefore the objective results may not matter to the same extent as usual. The argument for this is that even though the memory of the experience might not be a hundred percent aligned with what actually happened, said memory will be how the experience is perceived in the long run anyway (Karapanos, Martens & Hassenzahl, 2012, p. 2). In other words “the retrospective judgment is more real than what actually happened” (Karapanos, Martens & Hassenzahl, 2012, p. 3).

In relation to the above it is important to note that the conduction of the research is inspired by the UX Curve but does not facilitate a neutral point such as the UX Curve. Even though this is somewhat contradicting with Herzberg two factor theory that states that the opposite of satisfaction is not necessarily dissatisfaction but rather just not being satisfied. It was still deemed feasible to only have a positive and a negative point in this regard because as mentioned in the above human beings tend to emphasize the extremes and therefore does not tend to apply a neutral point in retrospective.

In relation to the game under investigation, WinterForts it is important to note that the IAPs of said game primarily revolves around functional IAPs. This might affect the results in that there according to previous literature is a distinction between the feeling of satisfaction and relief, which seems to be closely related to whether the IAPs are purely decorative or functional of nature. This will be elaborated on in the literature review. In order to accommodate for this a survey that included three of the biggest players on the market of mobile games that employ different monetization strategies has been conducted in order to compare the results between that and the other part of this study. The consideration is that this will expand the area of research so that the area of investigation is not limited strictly to functional IAPs. This is due to the fact that this study has not been able to reach enough participants to either conduct the research on more than one game. Therefore it has not been possible to have a control group either.

As for the participants of this study it is important to note that they will not be spending their own money, but rather will be given a code so that they in game currency in form of gems. Therefore this study will not be looking into the part of the purchase where the players spend money, which is then converted to in-game currency. Rather this study will look into the part of the purchase where the gems are spent on IAPs.

Additionally it is important to note that some of the participants depending on their previous history regarding computer, video and mobile game might be biased in relation to their already existing beliefs. This is noteworthy because of the ongoing debate and some of the criticism regarding F2P games. The reason being if some of the participants already have a prepositioned belief regarding F2P games they the results of the satisfaction experience will most likely be influenced in accordance with said belief.

Speaking of the participants of this study it was important to ensure the ethical guidelines of this study were in accordance with the general guidelines for ethical research. Therefore the following will elaborate on the considerations regarding ethical research in this study.

Ethical Considerations

The most crucial parts related to ethical considerations in relation to this study were to ensure that the participants knew what they were getting into beforehand. In other words that they were

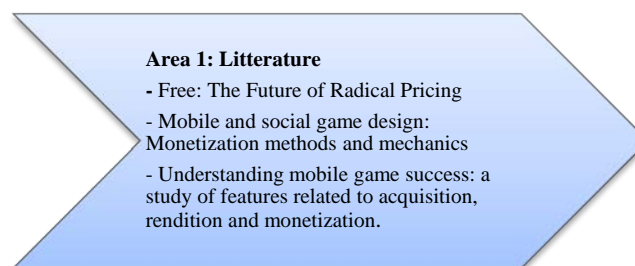
informed about the study, its purpose, how the data was to be collected and handled, that they were ensured anonymity and that their participation was a hundred percent voluntarily. In order to do so the participants were given a consent form beforehand with all of the information mentioned in the above (See Appendence – 1).

As this study was more descriptive in nature it has not involved an intervention and therefore the participants have not been influenced via an independent variable and as such one of the most important aspects related to the ethical guidelines has been to ensure the anonymity of the participants. In order to do so the individual names of the participants has not figured online at any point in relation to this study. What this basically means is that each participant was given a number instead of a name, said number has only been available for the two researchers on a piece of paper. In doing so it has been possible to conduct the research without incriminating the participants.

Now that the ethical considerations in relation to this study have been established the following will be looking into research that has already been conducted within the three areas of investigation.

Literature Review

The following model gives a short overview of the different articles that has contributed in one way or another within the three different areas of investigation that constitute this study.



Area 2: Literature.

- Satisfaction: A Behavioral Perspective on the Consumer
- Customer Satisfaction and its Importance for Long-Term Relationships with Service provider: the Case of Odontology Services.
- The Opposite of Satiation: Motivational Priming As an Aftereffect of a Pleasurable Consumption Experience

Area 3: Literature

- Why do Teens Spend Real Money in Virtual worlds? A Consumption Values and Developmental Psychology Perspective on Virtual Consumption
- Exploring the value of purchasing online game items
- Why do people buy virtual goods? Attitude towards virtual goods purchases versus game enjoyment

Now that it has been established how the different literature has been encompassed within the three different areas of investigation the following will describe the literature more in depth as well as explain how the different aspects within the literature will contribute to this study.

Area 1: The business model & monetization of free products & services

The idea of monetization for games started back with the birth of video games on computers. Back then computers were very primitive, and extremely expensive, only accessible to a select few - the military and the scientists who made the machines. In the beginning video games were free, and were passed around at college Computer science departments and mainframe labs (Tim Fields, 2014, p. 1). With the evolution of the computer, and it becoming more accessible to a general crowd, so did video games also become more accessible. It did not take long for them to be sold over the counter at specialty stores that sold software and hardware. Due to the popularity, the model then further expanded to retail stores as well. The idea of buying a complete video game at the store still prevails to this day. Traditionally the most common business model within the gaming industry used to be the premium model, where a player would pay a one-time amount and then get access to the whole game (Morerira, Filho & Ramalho, 2014, p. 3). As time progressed and games got better along with hardware, the creation of MMO's(multi mass online) sparked a new type of

monetization. Due the circumstances of having to pay for running servers in order for people to play online, the creators of MMO's had to make an additional monetization aspect to their games – the subscription fee. Beyond paying for the game, the user also had to pay a monthly subscription to keep playing online, as bandwidth and server storage needed both maintenance and money to running (Tim Fields, 2014, p. 3). This idea of the subscription model was then refined by the developers in the East, and instead of making a paid subscription model, they then made the online games free to play, but with the ability to purchase items in the game for real money. This monetization model worked well, as users could opt for smaller purchases instead of the more expensive monthly subscription based models, and in general people were found to spend a little bit every day from a core player base. From this trend, the freemium microtransaction model was born (Tim Fields, 2014, p. 5).

Today the F2P games are gaining more and more ground within the gaming industry, and more so within mobile games. In the F2P business model the player can play the game for free, but also has the option to spend money on different items within the game (Morerira, Filho & Ramalho, 2014, p. 3).

There are different approaches to generate revenue based on the F2P business model. The most common are known as direct monetization or indirect monetization. Direct monetization has to do with in game purchases whereas indirect monetization has to do with advertising in games (Morerira, Filho & Ramalho, 2014, p. 3).

The following section of this chapter will address the underlying mechanisms of the free economy as well as how these have been applied within the gaming industry, more specifically F2P mobile games.

Free: The Future of Radical Pricing.

By Chris Anderson

In his book free, the future of radical pricing Chris Anderson explains the different underlying mechanisms of free within businesses. He does so by trying to answer how the world suddenly

created an economy based on zero. Furthermore he tries to look into what the future hold for the free economy (Chris Anderson, 2009, p. 2).

He does so by telling the history of free and how it has affected the way in which free is perceived by consumers today. One of the conclusions is that the perception of free in the context of 20th century is vastly different from how it is perceived in the 21th century as previously explained in the statement of the problem (Chris Anderson, 2009, p. 3).

Chris Anderson states there is a wide variety of business models based on free and that sometimes the meaning of free within a commercial context really does not mean free at all. “Buy one get one for free is” is basically just another way of “saying 50 percent off when you buy two” (Chris Anderson, 2009, p. 3). There are numerous examples of this within marketing and this has created mistrust towards free from a consumer perspective. In relation to this free products and services are generally mistrusted and perceived as being of lower quality than traditional products (Chris Anderson, 2009, p. 46).

There are different ways of doing business related to free products and service. Chris defines four main ways of doing so:

- **Direct cross-subsidies:** is attuned to the definition of free in the 20th century in that free did not actually mean free (Chris Anderson, 2009, p. 18). It was simply another way of saying that something extra was included in the price e.g. buy one get one for free is basically a smart way of saying the product is 50 percent off if the customer buy two instead of one (Chris Anderson, 2009, p. 15).
- **The three-party market:** is what economist calls “two-sided markets”. This arises when two different user groups interact with the same product and through the interaction some kind of synergy is evolving. An example of this is the free newspapers who generate revenue through advertising which leads to consumers buying the products from the advertisements (Chris Anderson, 2009, p. 19).
- **Freemium:** divides the content so that the core functions are free but it is possible for the consumers to get upgrades in different forms that improve the experience e.g. basic, premium or pro versions of for example software services (Chris Anderson, 2009, p. 20).

- **Nonmonetary markets:** thrives on the basis that money is not the only motivation for actively conducting a task. This is not true for all form of tasks, but tasks that are driven by interest, fun, enjoyment etc. Actually have the possibility to change what is perceived as value in relation to what consumers and companies are to gain and thus can “capitalize” on this. An example of this could be the different open source software, where people participate in the development voluntarily (Chris Anderson, 2009, p. 20).

One of the main mechanisms behind a free economy is abundance, as Chris states “there is a reason why economics is defined as the science of “choice under scarcity” (Chris Anderson, 2009, p. 40). The way in which this functions can be compared to water going down the drain. In other words products that can become cheap - do so - and meanwhile companies that look for profits go against the stream “in search for new scarcities” (Chris Anderson, 2009, p. 42).

One of the challenges regarding free as a business model is getting the customers to pay. In relation to this Chris explains that even though the amount the customer has to pay is a small amount in form of microtransactions, the consumer still has to decide whether to pay or not (Chris Anderson, 2009, p. 49). In doing this the business model evolving around free continuously demand that the consumer make a cognitive choice of paying or not. The process of deciding whether something is worth paying for is basically the same whether the amount is small or large and that is the process consumers want to avoid (Chris Anderson, 2009, p. 49). “if there’s a way to take the whole “is it worth it”?” question off the table it would be preferred(Chris Anderson, 2009, p. 50).

That raises another question which is related to this study and perhaps also to some of the criticism regarding F2P mobile games, if you remove the consideration of whether it is worth it or not, do the consumers then actually know that they are paying for anything? And furthermore is it possible to satisfy consumers if they do not “know” that they conducted a purchase? The point here is that some players have been surprised by the amount they have spent after playing a F2P mobile game and that has created certain dissatisfaction regarding these games (Megan Dickey, 2013).

Mobile and social game design: Monetization methods and mechanics

By Tim Fields

In the book, *Mobile and social game design: monetization methods and mechanics* by Tim Fields, the many aspects of F2P games are explored. Ranging from what type of users there are, and how they interact with the games, to how you can measure monetization, how you can monetize and so forth.

The Free To Play (F2P) model

With the evolution of the Internet, and everything becoming more accessible, plus the constant evolution of computers, where things are getting faster and smaller, the time to tap into the F2P video game market has never been easier. Smaller teams, and smaller development cycles can create games, which can rival and outdo the revenue of triple A titles by large margins. According to Fields, there are certain things in which the developers must keep in mind when creating these games for it to be attractive to the user.

- Make it easy to start playing
- Make it easy to stop playing
- Make it easy to play with friends
- Let the user decide how much is the right amount (this indicates how much money they want to spend, but you can nudge them to purchases)
- Make it easy to return to the game (Tim Fields, 2014, p. 45)

With these attributes applied to a F2P game, it should be easier for the player to be more engaged with the game, and more loyal to it.

How to monetize

According to Fields, there are several ways in which the developers can implement monetization features within their games. There are wide arrays of options that can be considered when creating a game, and then processing what could be beneficial for that type of game. The list of features that can be utilized to monetize is:

Sell time

This feature is the most popular one within the F2P market, as they allow players to progress faster through games, if they are willing to pay with real money. This has to do with the impatience factor,

and how progress is stalled throughout these games. One example is a widely popular strategy game called 'Clash Of Clans' in where you build your own base, train a small army to attack other bases. In the beginning, building structures and troops takes little to no time, but as the player progresses further, upgrading a structure can go from 1-15 minutes to 14 consecutive days of waiting for one upgrade to finish. Here is where the player can purchase an in-game currency called gems for real money, and use those gems to finish upgrading their structures or troops immediately.

Sell virtual goods

This feature is also very common within F2P games, in where they allow players to purchase in-game items for real money. This can be either cosmetic items that make the user's avatar look 'cooler' or it can be something more intrusive as a certain type of upgrade, in where a user could gain a competitive advantage over the other players who do not pay. Such as a special kind of bullets for example.

PDLC & Game content

Paid Downloadable Content (PDLC) is not very renowned or used on the mobile platform, but this is used in particular on the PC and console market. F2P such as Hearthstone have regular expansions, which come out once every 6-8 months, and these expansions are obtainable for free, but take a lot of time to acquire without using any money. Therefore you can for a smaller sum purchase an entire expansion, and with it get a lot of in-game items.

Cover charge

This is a rather new strategy within the F2P market, as it is not entirely F2P as the others. As you have to pay a certain cover charge, which will then be translated into in-game currency which the user can then spend within the game.

Sell your players eyes

Popular F2P games have a lot of players, and their time and attention has value. Developers can sell advertisement within the game, which can prove a source of revenue.

Offer walls

A part of adding new players to existing F2P games is to attract new players, and one way of doing such is to do offer walls. This can be either to obtain in-game currency or items by connecting to Facebook, or the user inviting friend(s) to play with him/her, or making the user watch a video add for another service or game.

Pop up ads

Some F2P games also utilize pop up ads, in which an add will come up after a certain event in the game. Whether it be when the user dies, or completes something, a short ad can display with a given time frame on it. Some ads are skippable immediately, where others are displayed for a certain amount of seconds. Normally, the games do not force the users to watch entire ads, as this might exasperate them from the experience enough to quit the game entirely.

Ad placement

Ad placement is taking inspiration from the film industry and adding product placement to the games. This can be in form of sponsorships or similar, so when playing a game, certain items or settings are connected to already established brands from the real world – such as Adidas or Nike in a sports game.

Advertainment

This monetization idea is not really that extremely popular anymore, but it still appears from time to time. Basically, the idea is that you add a game within an already existing item that you normally buy. Whether it be a pizza from Dominos, or a box of cereal from Kelloggs. The game is then ‘free’, but the entire game theme and setting is set in the universe of the certain brand.

Motivate LTNV

In relation to offer walls, to motivate lifetime total network value (LTNV) is a great ordeal for any game, as the user who is playing a certain game might not spend any money on it, but maybe his friends will. This is a great way for player acquisition and revenue (Tim Fields, 2014, p. 151).

Mentioned in the following are some of the most common monetization features within F2P games, and games can incorporate either one or several of these features in order to create additional revenue. Developers, however, must be wary and keep these features in mind from the earliest parts

of development, as newly implemented monetization features for an already existing game can prove disastrous for the game.

Virtual goods

Virtual goods can end up taking many different forms within F2P games. They range from goods that can empower the player, to goods that they can use to customize their in-game avatar. When considering virtual goods, there are two main types of goods that should be kept in mind - functional virtual goods and decorative visual goods.

Many virtual goods can add a functional value to a game, but a developer must be careful when treading in this area, as it can affect the gameplay very negatively for players who do not choose to spend real money within a game. This can happen when a functional item that is purchasable with real money has a really strong competitive effect, in fact, so strong that it can seem unfair for the non-paying player that he/she will quit the game in pure frustration. The other way around, it must not be too easy either for people, because the game might become tedious that they also will quit out of boredom. Especially in terms of a game with a competitive element, a developer must be very careful of not breaking the games competitive balance with functional items. This is to avoid the “pay to win” tag that a lot of players are not comfortable with (Tim Fields, 2014, p. 179).

Vanity items, or decorative visual goods are pretty straightforward, as they do not have any direct implications on the gameplay experience. The good thing about decorative goods is that they can be viral, and in that is meant that when other players see a certain décor or appearance – whether it be an avatar, or a border, or the design of the back of the card the player is playing, it has a certain effect on others. Another thing keep in mind is that the games are meant for a global marketplace, so the vanity items should try to be as broad as possible - so that they can appeal to the masses without insulting. In term of semiotics, one symbol can mean a certain thing to one culture, but an entirely different thing to another. (Tim Fields, 2014, p. 181)

Another thing to keep in mind in terms of both types of virtual goods is rarity. Deals and offers on the different vanity items can boost sales, as they can give an extra incentive for players who might have had considerations to purchase a certain virtual item. This can also be linked to a cultural display, in that seasonal items seem to be very popular. During Christmas there could be extra items that are exclusive to that time of year and so forth. (Tim Fields, 2014, p.183)

Currencies

A lot of F2P games incorporate a certain type of currency within their games that has different meanings. Normally, the games split it up into two types of currencies: hard currency and soft currency. Soft currency is normally acquired within the game, and through actions in the game. Whether it be playing the game, or completing certain tasks, or the aforementioned different ideas. Hard currency, on the other hand is something that is acquired through trading in real money for in-game currency. Hard currency is normally only obtainable with real money, and not in any other way. Hard currency also dictates the game, in where you can normally trade in hard currency for soft, and not vice versa. Hard currency also allows you to purchase certain things or services within the games that are only exclusive to the hard currency. Games can have either one of the currencies or both incorporated (Tim Fields, 2014, p. 193).

Since the aim of this study is to investigate the experience of satisfaction or the lack thereof in relation to the IAPs in F2P mobile games it was necessary to clarify the different way of monetization in these kind of games. This simple help in framing the concepts and what is to be part of the study.

Understanding mobile game success: a study of features related to acquisition, rendition and monetization.

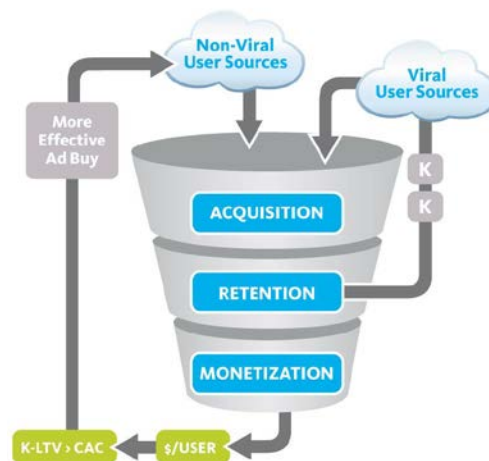
By Átila V. Morerira, Vincente V. Filho & Geber L. Ramalho

The study revolves around the different monetization features that are becoming part of the player experience in the current paradigm of F2P. Furthermore this study establishes relations between some of the successful mobile games, and the features that help foster their success. The aim of the study is to figure out which features that have a positive or negative effect on the game performance (Morera, Filho & Ramalho, 2014, p. 2).

On the basis of existing literature regarding game monetization, 37 features were established. These features were then utilized as evaluation tools in relation to the top 100 games regarding download as well as revenue on Google Play and Appstore (Morera, Filho & Ramalho, 2014, p. 2). This

evaluation was conducted over a period of a month where the presence, or absence of the features, as well as whether the game kept a good position on Google Play was concluded. A regression analysis was utilized in order to accommodate for the relation between features in contrast to the performance (Morerira, Filho & Ramalho, 2014, p. 2).

The results of the analysis were then related to the 3 stages of the ARM funnel model (Morerira, Filho & Ramalho, 2014, p. 3).



The 3 stages of the ARM funnel model as shown in the picture above are:

- **Acquisition:** is the strategy for how the game acquires new players.
- **Retention:** is the strategy for how to keep the players.
- **Monetization:** is the strategy for revenue generating.

The features were drafted on the basis of Peter Askelofs thesis; monetization of social network games (Morerira, Filho & Ramalho, 2014, p. 4) and included:

- **Social networks:** features that connect and show achievements within the game to an outside network.
- **Social interaction:** features that encourage players to connect with more friends.
- **In-app purchases:** features that are related to some sort of task that might trigger a purchase.
- **Virtual currency:** some sort of virtual “money” that players can use to attain additional items.

- **Gambling:** features related to some sort of betting within the game.
- **Game restriction:** features that control the length of each game sequence.
- **Offers:** different kind of offers regarding purchases that are related to for example a holiday.
- **Player accelerators:** features that make it possible for the player to save time.
- **Upgrades:** different aspects that can be upgraded e.g. items and status.
- **Consumable:** items that can be utilized once and give the player a limited advantage e.g. health potion.
- **Customizable:** features that make a player stand out in the crowd.
- **Level system:** features that visualize the progress of the player skills and unlock new content.
- **Reward rendition:** advantages related to how often a player returns to the game.
- **Punish absence:** disadvantages related to players that do not return to the game often.
- **Gameplay and social interaction:** different kinds of game modes that accommodate for the different social preferences of different players e.g. single player, co-op mode etc.
- **Achievements and leaderboards:** bonus features related to different accomplishments within the game that foster competition.
- **Levels:** features that indicate progress within the single player mode.
- **Random elements:** features that break the repetitiveness and create diversity within the player experience.
- **Size:** within the 3G mobile network apple restricted the maximum size to 25 MB. so the download time would not be too long (Morerira, Filho & Ramalho, 2014, p. 4-6).

After the conducting the regression analysis based on downloads it was established that overall there were 6 features that affected the download rank and 5 features that affected the revenue earned. The 6 features that affected the download of the game were:

- **Achievements and leaderboards:** bonus features related to different accomplishments within the game that foster competition.
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After conducting the regression analysis based on revenue it was established that overall there were 6 features that affected the download rank and 5 features that affected the revenue earned. The 6 features that affected the download of the game were:

- **Achievements.**
- **Social network connection.**
- **In App Purchases.**
- **Social interaction features.**
- **Item upgrades.**
- **Status upgrades.**

The first 3 features affect the download in a positive way, whereas the last 3 affect the download negatively (Morerira, Filho & Ramalho, 2014, p. 11). As mentioned there were 5 features that affected revenue earned:

- **Random elements.**
- **Event offers.**
- **Gameplay and social interaction.**
- **Customizable.**
- **Soft currency gambling.**

As with the features related to the download of the game the top 3 features in relation to earned revenue have a positive influence whereas the last 2 have a negative influence on the revenue (Morerira, Filho & Ramalho, 2014, p. 11).

It is worth considering that even though a game has a lot of downloads, it truly does not tell anything specifically regarding the success of the acquisition strategy. The reason being that a lot of people that download a game - or an app - in general only open that app once or never open it again

(Joshua Pramis, 2013). However, measuring on the amount of downloads might indicate something regarding the success of acquisition, being that more downloads most likely will result in more players, which again probably will result in more purchases. Naturally, the more people trying the game, the greater the chances of more purchases, no matter the aforementioned challenge.

This has been included in the literature review in order to grasp some important aspects of performance. Even though it does not revolve around the exact performance of mobile games it does tell something regarding what elements players find interesting, download and tryout. Therefore it does indicate something regarding what players seek and can help clarify what they expect of F2P mobile games.

Therefore even though performance might not be the focal point of this study it will become evident in later chapters that performance is an important aspect of satisfaction. Although performance is not enough in itself for players to establish some kind of comparison as to the satisfaction of a product of a service (Richard L Oliver, 2010, p. 36).

Area 1 Summary

As mentioned in the introduction to in the literature review there are two commonly known ways of monetizing in F2P games. In relation to this study the focal point will be on the direct monetization being IAPs.

Chris Anderson states that in relation to the perception of free products and services it is important to distinguish between free as perceived in the 20th century versus free in the 21st century. This is simply because free products and services from a historical perspective are perceived with certain mistrust by consumers. It might be an indication related to this that free products and services seems to be perceived as being of lower quality than paid products and services.

One of the main challenges as regarding F2P as a business model as mentioned is getting players to spend money in the games. In relation to this it is noteworthy that the decreasing of the question of whether a purchase is worth it or not will ease the decision for the consumer. The question remains of whether the fact that a process where the purchase is too easy and too automatic actually removes the sense of consciously conducting said purchase.

In relation to this Tim Fields mention that one of the important aspects regarding F2P games are letting the players themselves be able to decide how much money they want to spend within the game. In this regard it is argued by some the even though the players do have a free choice in regards of how much they want to spend in the games the application of functional IAPs might disrupt this feeling as it in some games is not possible to progress any further without waiting quite an amount of time or conduct a purchase. This is also what Tim fields defines as sell time and can also be applied even though a game might utilize virtual currency.

In relation to the performance of F2P mobile games there is one of the three aspects which to Átila V. Morerira, Vincente V. Filho & Geber L. Ramalho mention that are of main importance in relation to this study mainly the aspect of monetization. Here some of the different aspects related to monetization are:

- Achievements.
- Social network connection.
- In App Purchases.
- Social interaction features.
- Item upgrades.
- Status upgrades.

Even though performance wise it is regarding the success on app store or google plus it still indicate some of the aspect that are wished for by the players. That was the last regarding Area 1 and leads to Area 2 in relation to this study

Area 2: The complexities of providing customer satisfaction

What the section above among other things implies is that revenue is now generated through repetitive IAPs which demands for players to keep playing if the games are to create profit. This business model demands for a long term relationship between the players and the game. In order for this to relationship to occur the players have to be satisfied with the experience of the game.

In relation to this a lot of research has been conducted regarding player engagement, mechanics, playability etc. Just as important in regards of the overall player experience of F2P mobile games is the implementation and satisfaction of the IAPs within these games.

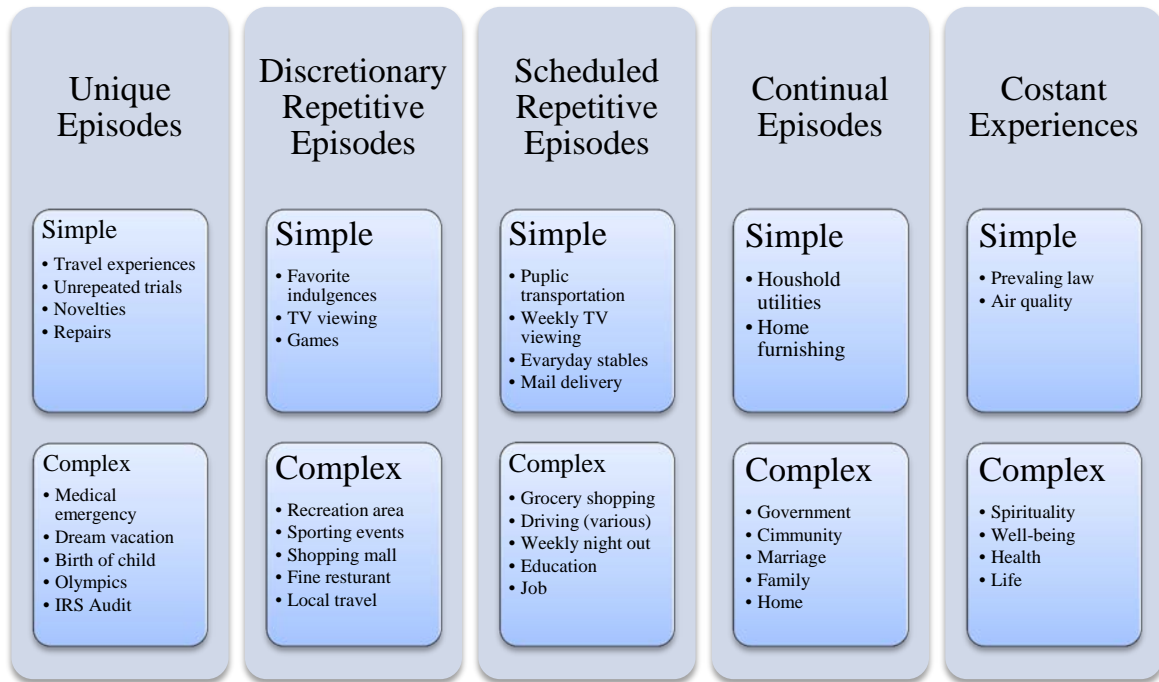
Therefore the following will look into previous research regarding what constitute customer satisfaction.

Satisfaction: A Behavioral Perspective On The Consumer

By Richard L Oliver

According to Richard L Oliver it is necessary to understand that when evaluating satisfaction “pleasures” can be defined in different terms depending on the context of the underlying aspects that contribute to the experiences of satisfaction e.g. expectation. What this means is that “fulfillment gives or increases pleasure or reduce pain” (Richard L. Oliver, 2010, p. 8). As a result of this satisfaction can stem from getting back to status quo by the “removal of an aversive state”. Furthermore fulfillment is not necessarily confined to needs being met. “Overfulfillment can be satisfying if it provides additional unexpected pleasure; and underfulfillment can be satisfying if it gives greater pleasure than anticipated” (Richard L. Oliver, 2010, p. 8).

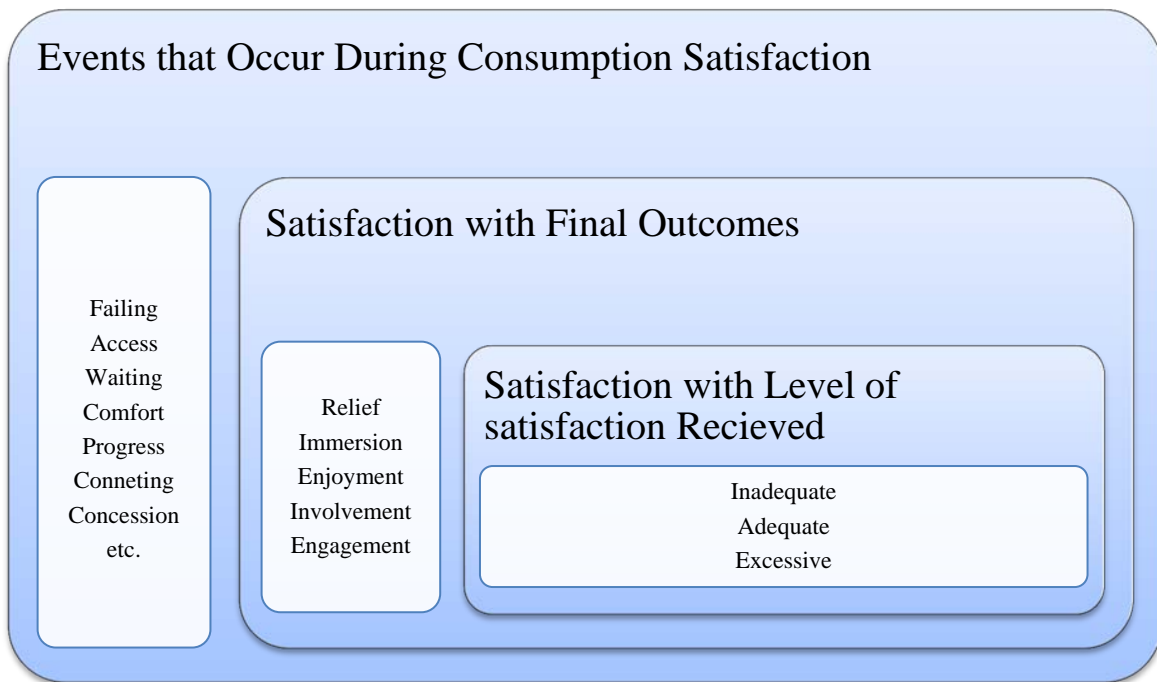
That being said whether it is a simple or complex consumption experience the consumer evaluation of said experience can always be referred to “single unique encounters”, this holds true no matter whether it is a one or more encounters (Richard L. Oliver, 2010, p. 12). In the context of F2P mobile games these encounters are discretionary repetitive as illustrated in the model below (Richard L. Oliver, 2010, p. 13).



Domains of Satisfaction based on episodic frequency

What the above described imply is that in order to reach satisfaction something to strive for, a goal needs to exist. “Thus fulfillment can be judge only with reference to a standard”. In other words satisfaction demands a “minimum of two stimuli – an outcome and a comparison referent (Richard L. Oliver, 2010, p. 8).

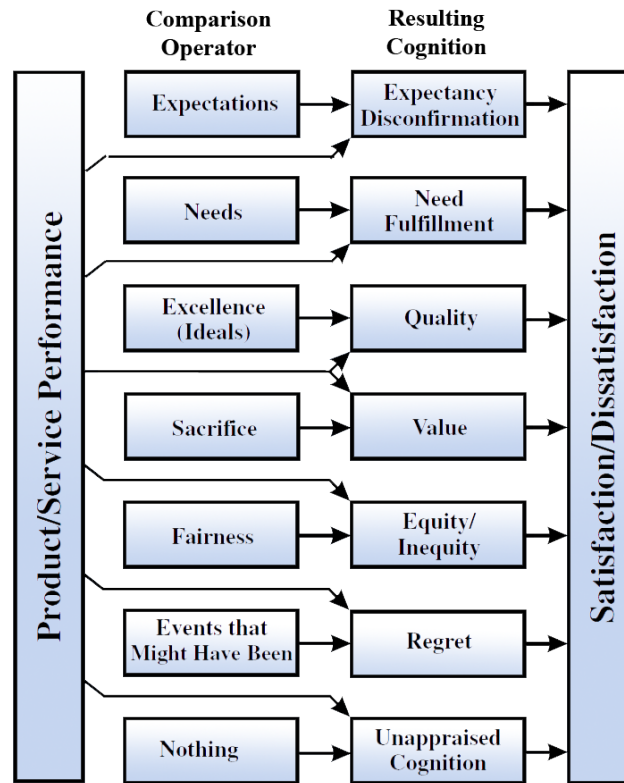
According to Richard L Oliver the complete consumption experience consists of 3 different dimensions (2010, p. 7) as illustrated in the complete consumption experience model below. The complete consumption experience model also illustrates the fact that “satisfaction can be perceived as both singular events leading up to a consumption outcome and as a collective impression of these events (Richard L. Oliver, 2010, p. 7).



The Complete Consumption Experience Model

Considering the events that occur during consumption in relation to F2P mobile games it was necessary to include the player experience of the game already at this stage, simply because the consumption of the game is initiated before any purchase occurs. What this means is that the events that occur during consumption satisfaction is not only related to aspects that revolve around the product or service as with traditional consumption, where the consumer evaluate events related to the overall shopping experience e.g. waiting in line (Richard L. Oliver, 2010, p. 7). This is simple necessary because consumers evaluate the experience of for example a F2P mobile game as a whole and each level or purchase individually related to this (Richard L. Oliver, 2010, p. 12).

In relation to these individual events the experience of satisfaction is constituted by 7 comparison operators as illustrated below.



It is important to understand that even though there are 7 distinct comparison operators there still some overlapping in relation to the different operators. What this basically means is that expectations for example can be related to quality and if the expectations are not met they could foster regret.

In order to measure the experience of satisfaction it is necessary to have an anchor between two stimuli in order to measure the experience of consumption satisfaction. Therefore it was a necessity to figure out how to include the valence of positive and negative in the method which will be described later (See – Method) (Richard L Oliver, 2010, p. 48).

In relation to this it is important to understand that the majority of the seven comparison operators can be compared by the integration of disconfirmation theory (See – Theory – Disconfirmation Theory). The way in which this happened is that the consumers evaluate the performance of a product or service by comparing said performance to their expectations, needs, excellence, worth and fairness (Richard L Oliver, 2010, p. 261). The following will elaborate on the underlying mechanisms of these comparison operators and how they can possibly be measured.

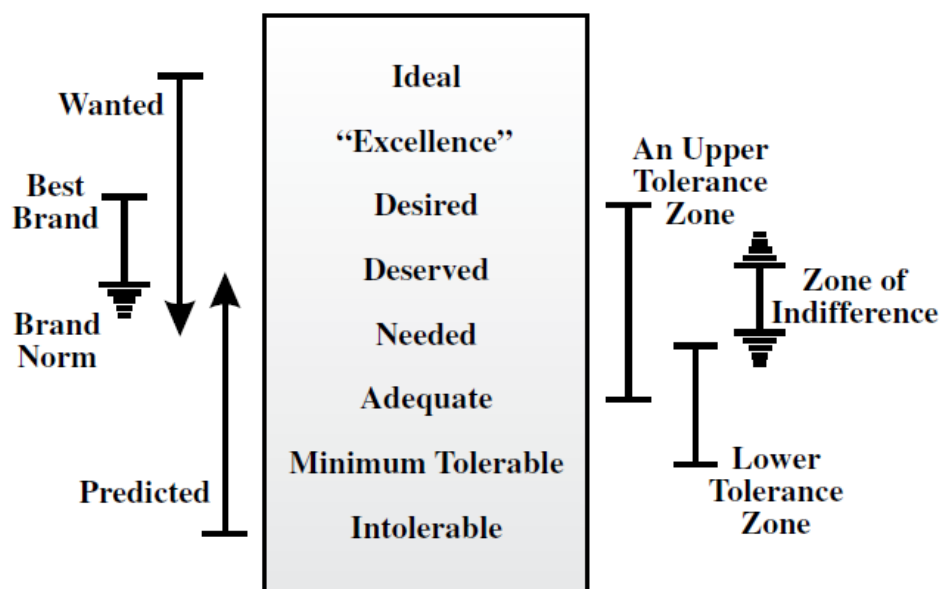
Expectations

As aforementioned in order to measure satisfaction some sort of reference point of comparison is necessary. Expectations can be defined as “anticipation of future consequences based on prior experiences, current circumstances or other sources of information” (Richard L Oliver, 2010, p. 64). In that regard expectation help create the point of reference.

In relation to this performance is important in the establishment of said reference point in that performance is part of what compares to the preset expectations. Thus performance can either live up to the expectations or not. That being said a good performance in itself does not necessarily equal satisfaction, it is but only one aspect of satisfaction since expectation can also be regarding fun, engagement and so forth. Therefore performance in itself is too narrow of a focus in order to establish satisfaction based on expectations (Richard L Oliver, 2010, p. 65).

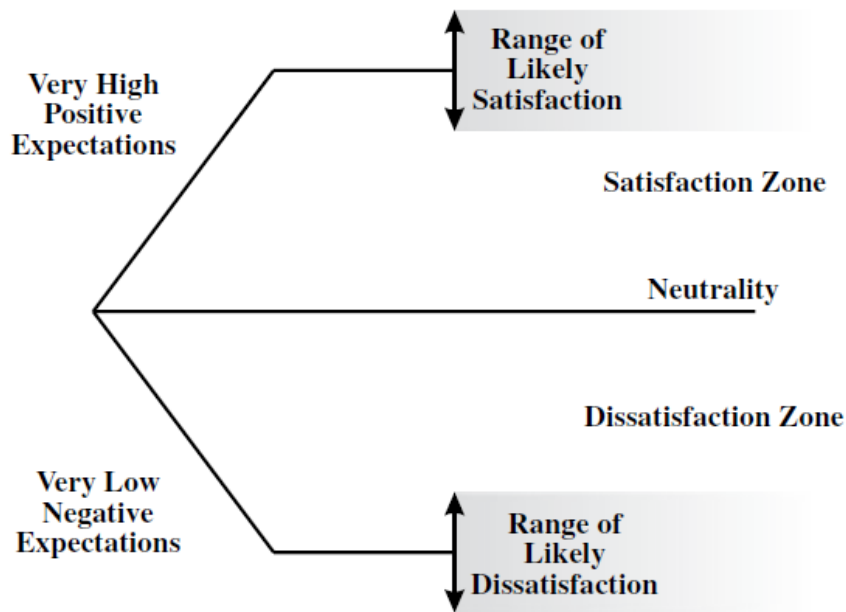
When measuring expectations it is important to understand that there exist different levels of desires, as the ideal (wished-for) level and the predicted level. Additionally it is also important to acknowledge that there is another level mainly the minimum tolerance of acceptance (Richard L Oliver, 2010, p. 65).

In this regard consumers generally know that they want more than they can get. This means that what they wish for and what they predict is different in that they predict lower outcomes than they ideally wish for as illustrated in the model below.



From a consumer perspective regarding satisfaction this results in tolerance and indifference zones. Tolerance zones can either be “the best one can expect to get to fulfill the desires versus the worst one will accept as barely fulfilling ones needs”. Whereas indifference zones can be perceived as the gap in between the two extremes where the consumer is neither completely satisfied or dissatisfied (Richard L Oliver, 2010, p. 68).

Another aspect of importance related to expectations is the assimilation of discrepancies related to previous opinions that influence the final judgement to align with the already existing beliefs (Richard L Oliver, 2010, p. 84). In other words if the expectations were high then even though the product or service might not be fully satisfying “the final judgement remains similarly high, though lower than it was predicted” and vice versa as illustrated in the model below (Richard L Oliver, 2010, p. 85).



In order for elements that have no “objective performance dimensions” such as decorative items in A F2P mobile game can to be comparable based on “aesthetic pleasure” “the perception of better than, same as and worse than have to be sensed” as illustrated below (Richard L Oliver, 2010, p. 103).

My expectations for this product/service were:

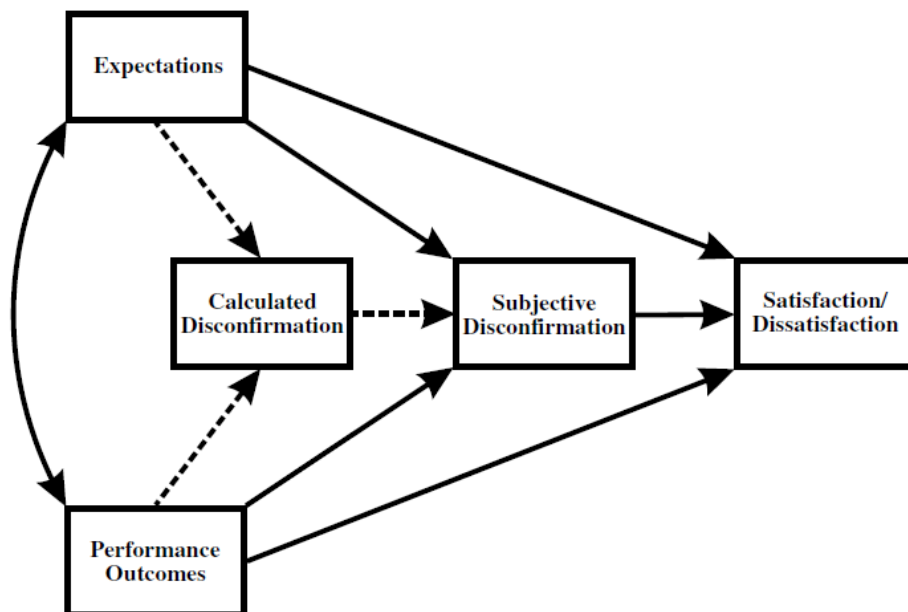
Too high		Accurate			Too low	
It was <i>poorer</i> than I thought.		It was just as I thought.			It was <i>better</i> than I thought.	
1	2	3	4	5	6	7

Overall, this product or service or feature or attribute was:

Much worse than expected		Just as expected			Much better than expected	
1	2	3	4	5	6	7

In relation to subjective matters previous research has shown that a subjective disconfirmation is more correlated with satisfaction scales than calculated disconfirmation (Richard L Oliver, 2010, p. 104).

The correlates with the quantification of discrepancies as will be describe in the theory section (See Theory - Disconfirmation Theory). Because this process affectively results in “a calculated expectation performance difference or gap”. In other words the performance is subtracted from the expectation and that result in satisfaction or dissatisfaction (as illustrated in the model below). But only if the related question “forces” the participant to “calculate” said difference or gap (Richard L Oliver, 2010, p. 105).



Needs

In regards of needs it is important to acknowledge that conceptually they are similar to deficits in that consumers express needs for something, they currently feel is missing in their life. In contrast to needs, wants stem from a wish for more and as such wants are generally perceived as non-essential for human survival (Richard L Oliver, 2010, p. 138). In relation to this it is worth considering that wants “can be redefined as needs” when the fundamental needs are already fulfilled (Richard L Oliver, 2010, p. 138). Thus needs are aligned to the bottom half of Herzberg’s hierarchy of needs whereas wants are aligned to the top half (See Appendence - 2).

In relation to this it is important to distinguish how needs and wants differ from each other satisfaction wise. A need is activated when interruption of status que occur, then said need no longer is fulfilled. Thereby the need is reawakened and thus will have to be fulfilled; this is also defined as negative reinforcement. Restoring a negative reinforcement creates a sense of relief “satisfaction” (Richard L Oliver, 2010, p. 138).

Wants on the other hand is not a return to status que rather it is an addition of something new that further enhance the experience of satisfaction, in other words “life is now enriched not restored” (Richard L Oliver, 2010, p. 139). As a result of this a rating scale regarding needs (dissatisfaction) and wants (satisfaction) should be separated as illustrated in the two last examples below.

Example 1.

	Dissatisfaction					Satisfaction	
1	2	3	4	5	6	7	

Example 2.

	No satisfaction					Satisfaction	
1	2	3	4	5	6	7	

Example 3.

	Dissatisfaction					No dissatisfaction	
1	2	3	4	5	6	7	

This approach allow for a two dimensional measurement regarding needs and wants, in accordance with how people can be both satisfied and dissatisfied regarding different aspects related to the same product or service (Richard L Oliver, 2010, p. 146.)

Generally speaking there are two ways to assess needs in regards of products and services. One with the focal point being said product or service the other with the focal point being the consumer (Richard L Oliver, 2010, p. 148). The difference between these two approaches is that when the focal point is the product or service the results will accumulate attributes regarding what said product or service has and what it does not have. In contrast to this if the focal point is revolve around what consumer gains then the results accumulate attributes regarding consumer benefits (Richard L Oliver, 2010, p. 148).

Excellence (Quality)

Quality differs from needs, but is similar to expectations in that it is also evaluated by consumers in relation to an ideal reference point (Richard L Oliver, 2010, p. 168). There are various perceptions of what the aforementioned ideal reference point actually refers to though.

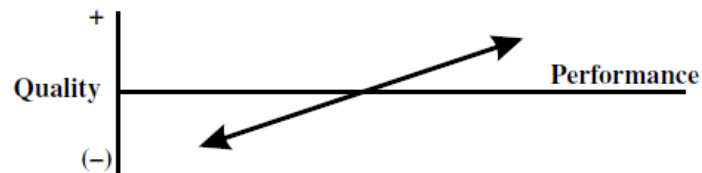
The earliest interpretation of ideal reference points related to quality stems from marketing and regards “the ideal product that possesses ideal levels of all its relevant features” (Richard L Oliver, 2010, p. 168). In this regard it is important to acknowledge that consumers compare the different product or service features to their own imagined perfection regarding those (Richard L Oliver, 2010, p. 170).

In regards to post purchases the aforementioned standard of perfection becomes a reference point comparing the product or service to previous experience of other similar products or services (Richard L Oliver, 2010, p. 169). As a result the ideal point of reference is not necessarily the ultimate product or service, but rather the best product or service experienced by the individual consumer (Richard L Oliver, 2010, p. 169). Thus “even though consumers can only perceive real-world offerings, they also have the capacity to imagine” products or services that are better (Richard L Oliver, 2010, p. 170). 3 distinctions of the ideal reference point will help describe the above.

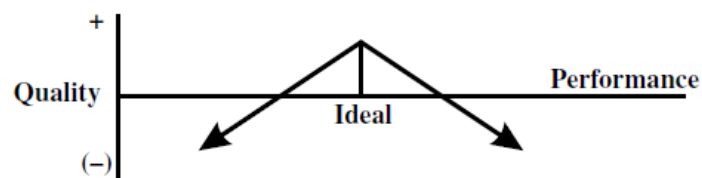
- One: an infinite increasing ideal reference point where more is always better as illustrated in panel A in the model below (Richard L Oliver, 2010, p. 171).
- Two: a finite ideal reference point where performance beyond the threshold of that point start to affect the perception of quality negatively instead of positively illustrated in panel B in the model below (Richard L Oliver, 2010, p 171).

- Three: an ideal point of reference that encompass the best realistically possible product or service versus the imagined product or service. Similarly to the second example if the imagined point of reference is exceeded the product will suffer negatively illustrated in panel C in the model below (Richard L Oliver, 2010, p. 172).

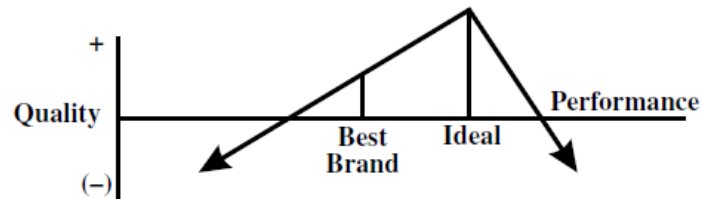
Panel A: Vector Representation



Panel B: Classic Ideal Point



Panel C: Feasible Ideal Point



As previously mentioned the experience of satisfaction can be accounted for in context singular encounters or the collective experience of several encounters (Richard L. Oliver, 2010, p. 7). In accordance with this quality can be accounted for short-termly through “transaction-specific reactions” or long-termly by the sum experience of several transactions (Richard L Oliver, 2010, p. 173). This does however create a challenge regarding the measurement of long-term satisfaction in the context of quality simply because in that regard “specific quality attributes are not considered, so no one attribute can inordinately influence the consumer’s judgment” (Richard L Oliver, 2010, p. 174).

Therefore when conducting an evaluation of long-term satisfaction as was done in the context of this study it had several rating scales related to the quality of the product or service so that a as illustrated below (Richard L Oliver, 2010, p. 175).

Please rate this product or service on the following scales:

Poor				Excellent
1	2	3	4	5
One of the best				One of the worst
1	2	3	4	5
Inferior				Superior
1	2	3	4	5
Good value				Poor value
1	2	3	4	5
Low standards				High standards
1	2	3	4	5
High quality				Low quality
1	2	3	4	5

Sacrifice (Value)

The evaluation of value is based on different time frames, either as expectations prior to the purchases or in retrospective after use of a product or service (Richard L Oliver, 2010, p. 192).

Previous research has shown that value generally is defined in relation to four main themes in regards of consumer experiences:

- High or low price
- To get what is wanted
- A comparison of price and quality
- A comparison of what is gained and what is lost (Richard L Oliver, 2010, p. 192)

Furthermore value is hypothesized to be positively related to:

- Quality
- “Extrinsic attributes such as functionality”
- “Intrinsic attributes such as pleasure”
- “High level abstractions” such as personal values (Richard L Oliver, 2010, p. 192)

Additionally value has been negatively related to the perception of what is to be sacrificed. All in all, this results in an evaluation of gain versus loss calculation in order to establish the value of a product or service (Richard L Oliver, 2010, p. 192).

The obvious notion of value is basically worth where worth refers to individual consumer goals e.g. price and quality. This is also referred to as utility definitions (Richard L Oliver, 2010, p. 192). But being that value can also relate to more intangible concepts such as hedonic consumption e.g. fun worthiness seems to be more appropriate when encompassing what value is (Richard L Oliver, 2010, p. 193).

There are different way for consumers to evaluate the value of products and services. One being what has been touched up on in the above which is a comparison between gain and cost. The second is an “interproduct comparison” where consumers compare the product or service to other alternatives (Richard L Oliver, 2010, p. 193).

Fairness

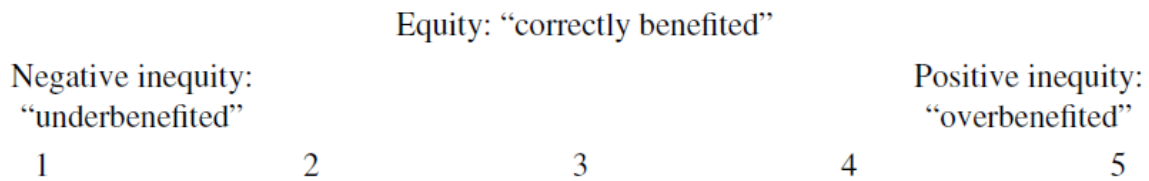
All cultures have cultural norms that define how and how not to behave when behavior oversteps these unwritten boundaries it might not seem as a fair or ok action (Richard L Oliver 2010, p. 213). To break these rules can result in businesses or even business industries getting a negative reputation like for example telemarketing (Richard L Oliver, 2010, p 213).

Essentially the concept of fairness is in accordance with the “rule of justice” expressed by George Homans saying, “(A person’s) rewards in exchange with others should be proportional to his investments” (Richard L Oliver, 2010, p.212). Thus what needs to be sensed in a transaction from the perspective of the consumer is, that the reward for an investment needs to be proportional with that what is to be bought (Richard L Oliver, 2010, p. 212).

As a result of the fact that fairness fundamentally is about what is right or wrong and therefore the concept of fairness is influenced by a lot of different inputs from the surrounding society. Therefore fairness as such is a social construct and differs from culture to culture (Richard L Oliver, 2010, p. 213)

The perception of fairness or equity is logically closely bound “by negative inequity where outcomes are less than deserved, through equity where outcomes are justly deserved, to positive

inequity where outcomes are greater than deserved as illustrated below (Richard L Oliver, 2010 p. 214).



Additionally the perception of fairness related to any transaction is unique in that the two parties of the transaction also apply the “rule of justice” in comparison to the loss or gain of the one they are conducting business with (Richard L Oliver, 2010, p. 215). In relation to this the vendor in a transaction has to satisfy two different aspects from a consumer perspective. One, to simply deliver both a service level and a product that justifies the price. Two to ensure that what is earned compared to the cost of producing a product is not unconscionable profit (Richard L. Oliver, 2010, p. 217).

Additionally there is a third aspect of fairness that seems relevant to this study being the Richard L Oliver defines as procedural fairness. Procedural fairness is generally consists of 3 different evaluations related to the outcome:

“First the ability to participate in the distribution decision, including the chance to provide information; second is the belief that this information is used in the decision; and the third is the feeling that one’s participation influenced the outcome” (Richard L Oliver, 2010, p. 224).

In relation to this it is interesting that within computer user satisfaction research has come to show that the distribution and production of a product or service strongly influence the user satisfaction (Richard L Oliver, 2010, p. 225).

Regret

Per definition regret “is a negative reaction to the belief that another decision would have been better” (Richard L Oliver, 2010, p. 244). Thereby regret occurs through an evaluation by the consumers by comparing the outcome of what has happened to other outcomes that might as well have occurred or outcomes that happened to other consumers (Richard L Oliver, 2010, p. 237).

Generally speaking regret is closely related to expectations and will be expressed in retrospective in relation to the expectations beforehand as illustrated below:

Retrospective Likelihood of Negative Consequences	Typical Consumer Retrospective Reaction	Retrospective Response
Certain (or almost so)	Knew It Would Happen! (But hoped it wouldn't)	Hindsight
High	Feared It Would	Strong Regret
	Thought It Might	
	Thought It Could	
Moderate	Just a Possibility	Moderate Regret
	One of Many Possibilities	
	Remote Chance	
	Shouldn't Have Happened	
Low	Never Thought It Would	Weak Regret
Impossible	Never Beyond My Wildest Dreams! (Did I expect this to happen)	Surprise, Shock (No Regret)

This clearly illustrate that regret is strongly related to the expectation of what might have been. Furthermore in relation to the model in the above it is interesting to look closer at the certain (or almost so). I knew it would happen imply that what happened was for seeable and chosen consciously even though the outcome most likely would be regrettable (Richard L Oliver, 2010, p. 245). What this basically means is that the more an outcome could have been for seen, the more responsible one is for that outcome and therefore it is one's own fault so to speak (Richard L Oliver, 2010, p. 245).

An interesting aspect of regret is that actions that have been taken are more prone to foster regret on short term where an inactions, things that have not been done are more prone to foster regret in the long run (Richard L Oliver, 2010, p. 249).

As a result of the fact that regret is an evaluation of an outcome compared to other possible outcomes there are two phases of the regret that can be accounted for. One being anticipated regret

the other being realized regret (Richard L Oliver, 2010, p.251). Below is an example of how to account for these on Likert scales regarding regret:

What are your feelings concerning your decision to buy _____?

Regrettable decision	1	2	3	4	5	Excellent decision
Many doubts about choice	1	2	3	4	5	No doubts about choice
Sorry I made the decision	1	2	3	4	5	I have no regrets
Will never buy again	1	2	3	4	5	Would buy again
I should have chosen another	1	2	3	4	5	My choice was correct
Do not want to do it again	1	2	3	4	5	Want to do it again
Choice was a <i>really bad</i> mistake	1	2	3	4	5	Choice was <i>one of my best</i>
Always thinking about missed choices I had	1	2	3	4	5	Never think about my past choices
Damn, that was a terrible choice I made	1	2	3	4	5	Wow, what a great choice I made!
This choice made my life terribly gloomy	1	2	3	4	5	I'm basking in the sun over my choice

In contrast to regret and the all the previous 7 comparison operators the following section about dissonance differs from these in that “dissonance is not an outcome comparison operator. Rather it is a core process running through the consumption experience (Richard L Oliver, 2010, p. 254).

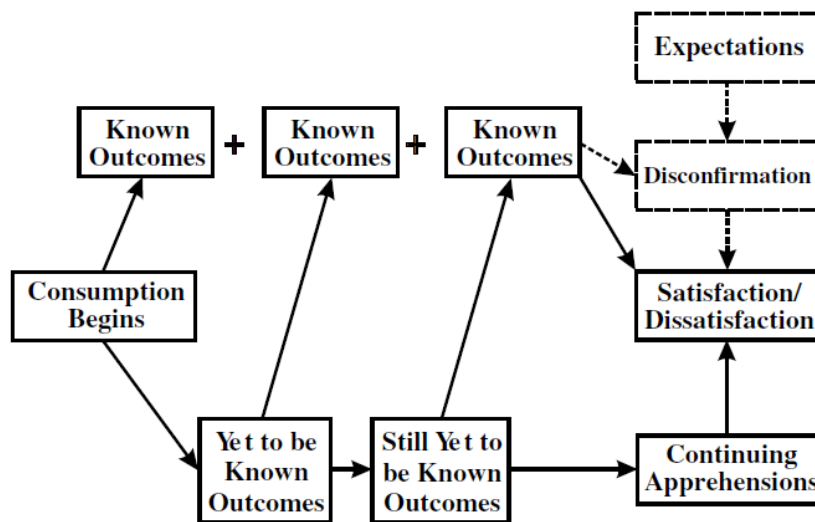
Cognitive Dissonance

In order to encompass exactly how cognitive dissonance can be perceived as a process that runs through the consumption experience Richard L Oliver divides the process into 4 phases’ alpha, beta, gamma and delta as illustrated in the below.

In the alpha phase two phenomenon’s that have implications for the experience of satisfaction related to the decision to purchase or not. One that “easy decisions are more pleasant (satisfying) than difficult decisions. Two that “forced decision decisions are less pleasant than those with freedom of choice” (Richard L Oliver, 2010, p. 266). “Paradoxically research shows” that while freedom of choice opens up for regret, forced decisions “limits responsibility for the decision and permits greater focus on positive aspects of the outcome” (Richard L Oliver, 2010, p. 266).

Phase	Description	Focus of uncertainty	Psychological response
Alpha	Predecision	Desirability of alternatives	Decision conflict
Beta	Postdecision, prepurchase	Desirability of chosen versus forgone alternatives	Apprehension
Gamma	Postpurchase, prepossession and postpossession, preusage	Desirability of forgone alternatives Performance adequacy of chosen alternative	Apprehension, performance adequacy, self-doubt
Delta	Usage, postusage	Consequences of performance, future performance	Regret, guilt, resignation, (dis)satisfaction

If a product or service demands for repeated purchases to be conducted “apprehension over future performance cannot be ignored (Richard L Oliver, 2010, p. 267).



As a result of this the outcome of each purchase gives either “immediate satisfaction or dissatisfaction and pleasant anticipations or unpleasant apprehensions of future outcomes (Richard L Oliver, 2010, p. 266). The theory of cognitive dissonance will be explained in full later on in this thesis (See Theory – Cognitive Dissonance).

It is important to understand that not all decisions are prone to dissonance, but there are three different aspects that can function as indicators in this regard:

“The importance of the decision”

“Personal violation or responsibility”

Whether a decision is revocable or not (Richard L. Oliver, 2010, p. 272).

Interestingly enough revocable decisions are not as satisfying as permanent ones (Richard L Oliver, 2010, p. 273).

Being that cognitive dissonance in essence is conflict related to the decision which results in uncertainty regarding said decision that can foster a feeling of apprehension. Human beings have a tendency to try decrease the negative feeling of apprehension by for example:

- “Eliminating dissonant elements” in essence is to psychologically remove some of contrasting aspects that create the cognitive dissonance. Thus making the decision easier and less apprehensive.
- “Denying responsibility for the decision” basically proclaiming that others are to blame for what happened or that one simply had no choice.
- “Minimizing the importance of the decision” thereby it does not seem as crucial thus decision become easier to make and less apprehensive.
- “Selective exposure” is only acknowledging information that is attuned to one already existing belief system otherwise known as confirmation bias (Richard L Oliver, 2010, p. 277).

In order to measure dissonance in regards to consumer behavior it is crucial to encompass the four dimensions of dissonance being:

- Expected satisfaction or dissatisfaction
- Anxiety and apprehension
- Uncertainty in the decision
- “Tendency to seek decision support” (Richard L Oliver, 2010, p. 281).

In order to measure cognitive dissonance it is important to account for the feelings in the pointers above in relation to the aforementioned phases of the experience of cognitive dissonance alpha, beta, delta and gamma (Richard L Oliver, 2010, p. 282). In order to do so a Likert scales could be conducted in accordance with the examples illustrated below.

Regarding my decision to buy this product (patronize this service):

Difficult decision	1	2	3	4	5	Easy decision
Important decision	1	2	3	4	5	Unimportant decision
Irrevocable decision	1	2	3	4	5	Reversible decision
Personally committed to decision	1	2	3	4	5	Not committed to decision
Many alternatives available	1	2	3	4	5	Few alternatives available
Personally responsible for decision	1	2	3	4	5	Not responsible for decision

As a result of my decision, I am feeling:

Uncomfortable	1	2	3	4	5	Comfortable
Uneasy	1	2	3	4	5	Not uneasy
Bothered	1	2	3	4	5	Not bothered

It is noteworthy that the result of the decision can lead to feelings that are somewhat related to regret therefore according to Richard L Oliver the “regret scale proposed” in the section regarding regret “would qualify as a consequence measure (2010, p. 283).

That was the last of Richard L Oliver’s seven comparison operators the following will regard different research journals about long term customer satisfaction.

Customer Satisfaction and its Importance for Long-Term Relationships with Service provider: the Case of Odontology Services.

By Aiste Dovaliene, Agne Gadeikiene & Zaneta Piligrimiene

In the study of customer satisfaction and its importance for long-term relationships with case provider: the case of odontology services. Aiste Dovaliene, Agne Gadeikiene and Zaneta Piligrimiene look into the quality of the services that is provided, how it is provided and try and establish a framework for creating long-term customer satisfaction.

The aim of the study is through a perspective where quality is the “main predictor of customer satisfaction” and establish the “relations between satisfaction and intentions to pursue long-term relationships” between customer and company (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 59).

Service quality has been defined as “what customers receive in their interaction with the service provider (i.e. technical quality) and how this technical quality is provided to the customers (i.e. functional quality) (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 61).

A literature analysis was conducted in order to determine the behavioral intention of customers. This showed that there generally was two ways of looking at customer satisfaction, either a one or multidimensional as the study decided to work with. This resulted in an analysis of multiple items related to satisfaction (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 61).

The literature analysis found arguments that customer intention regarding companies and organizations are related to the effect in which the company can get the customer to state positive views about said company or organization. These positive views can according to the literature analysis enforce a volunteering recommendation of the product or service to other possible customers, which can lead to usage of the service or product more repeatedly (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 61).

The study was conducted by grouping quality features related to service through a factor analysis. Then the importance of the different features were established by defining the weight of influence that the features had in relation to the choice of the consumers (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 59). The way in which this was done was by getting the participants to state their perceived importance of the different features related to the quality dimensions regarding a satisfying experience (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 62).

Regarding the weight of influence on the choice of the consumers it is important to know that it is very context driven and therefore dependent of the “specifics of the selected field of investigation (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 59).

There were 177 participants who were asked to rate the importance of the individual features related to their influence of the satisfaction (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 63). Firstly 34 quality features was established. These were then condensed into 6 quality dimensions (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 63). The first 3 are technical whereas the last 3 are functional features:

- Reliability and competence
- Tangibility

- Promptness
- Customization
- Empathy, politeness and desirability
- Similarity and fairness

Then a regression analysis was performed in order to define which quality dimensions has most influence on customer satisfaction. In relation to the context of this study the results of the regression analysis showed that most important features related to satisfaction with odontology services is reliability and competence and that tangibility is the most likely reason for dissatisfaction (Dovaliene, Gadeikiene & Piligrimiene, 2007, p. 65).

It is important to note that the focal point of this study is regarding customer satisfaction measured on the basis of different quality dimensions. In that regard it is worth mentioning that quality is but one aspect of satisfaction which will be elaborated on later in the analysis of this thesis. Therefore it is important in relation to the results to mention that even though reliability and competence is the most important aspect in creating a satisfying experience for the customers based on quality dimensions. There might be other aspect of satisfaction not based on quality that influence even more.

In the context of this study the above has been applied in relation to the main framework of Richard L Oliver in order to add more weight regarding the experience of satisfaction by establishing commonalities across different approaches regarding a satisfying experience.

The Opposite of Satiation: Motivational Priming As an Aftereffect of a Pleasurable Consumption Experience

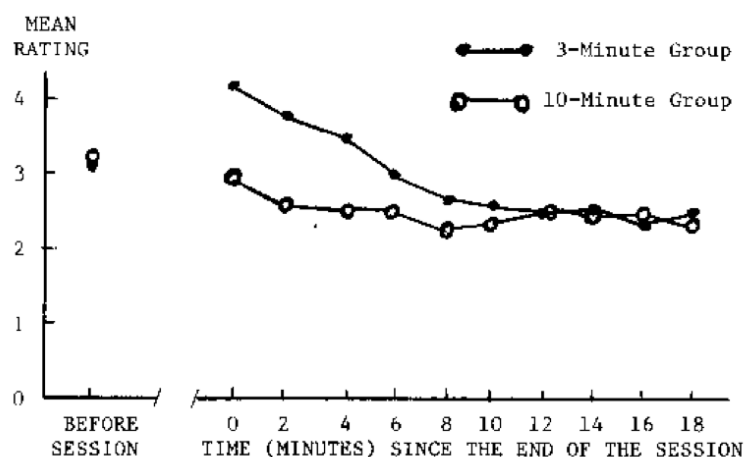
By Peter J. DePaulo

In this study by Peter J. DePaulo the idea of priming as an aftereffect of a pleasurable consumption experience is examined. The idea is that priming is an effect that occurs when someone consumes an experience in a certain way, is put up against satiation. Priming, in this case, a term used in psychology, which describes the implicit memory effect in which exposure to a stimulus influences response to a later stimulus. Whereas satiation can be described as a process in where consumption of a product results in a temporary reduction in motivation to consume the product again. The

bottom line is that in order to get continued use of a product, one should consider the priming effect, and explore what factors may lead to satiation or priming. The study explores how these two effects can possibly be achieved, and how they are limited in each of their respects. Depending on the experience of consumption, what factors play a role in terms of whether the experience will come out as priming or satiation.

This notion is interesting in the context of this study, as one way of approaching the way the users who consume video games, is to see what triggers the wants and needs of playing a game. The study includes an example, where an experiment was conveyed, in which students were told to play Pac-Man (a retro 2D video game) for a certain amount of time, and when finished with their play session, they were then asked what their current desire was to play Pac-Man again. Their desire to play again was measured on a Likert scale. The students were divided into two groups. One played a short amount of time (3 minute play time), and a group who played a longer amount of time (10 minute play time). The results showed that the group who played the less amount of time had a higher desire to play again, whereas the group who played for a longer period of time did not have just as great desire to play again. See figure 1. (DePaulo, 1985, p. 4)

FIGURE 1
EFFECT OF SHORT VS. LONG GAME-PLAYING
SESSIONS ON DESIRE TO RESUME PLAYING
PAC-MAN (FROM DEPAULO 1985)



What is interesting, however, is that the author found the idea of video games having the ability to generate both priming and satiation, because the ones who played for a short amount of time were inclined to play again (priming), whereas the ones who played for a longer time duration were not as likely (satiation).

It is acknowledged that the fact that this study is old, as it is from 1985, but the idea of priming connected to a video game experience seems very credible, especially within the fields of F2P. This is due the correlation between the longer and shorter playtimes, which was mentioned in the study. Smaller amounts of playtime showed a greater lust to return to the game, whereas longer exposure to gameplay initially showed much lower lust to return to the game. This is also a method, which is used within F2P games, where they limit the player's time to play the game, in order for the game to seem more appealing, and up the chances of the player using money within the game.

Area 2 Summary

In relation to Area 2 it is important to understand that satisfaction generally speaking can stem from two different points which leads to very different feelings. One feeling is plain and simple satisfaction the other is relief related to frustration. Furthermore it is important to notice that satisfaction can both be related to single occurring events as well as the overall experience of something like say a F2P mobile game.

Additionally when evaluating the experience of satisfaction it is necessary to have a minimum of two stimuli, an outcome and a comparison referent. One of the main points of reference in regards of the evaluation of whether an experience or purchase is satisfying is performance since it is able to help create the reference and define if it is positive or negative in comparison in relation to one of the seven comparison operators as defined by Richard L Oliver.

- Expectations
- Needs
- Excellence
- Sacrifice
- Fairness
- Events that might have happened
- Nothing (Unappraised Cognition)

In order for this comparison to be possible disconfirmation theory can be applied to most of the comparison operators.

In regards of expectations it as mentioned can be defined as “anticipation of future consequences based on prior experiences, current circumstances or other sources of information”. And as such can be applied as a point of reference regarding for example performance.

In relation to needs it is important to distinguish between a need and a want in that needs generally are related to the feeling of relief whereas want generally relate to the experience of satisfaction. In relation to this it is interesting that needs function in accordance with the lower levels of Herzberg’s as well as Marlow’s hierarchy of needs whereas want generally are attuned to the upper levels of said hierarchies.

In relation to the comparison operator of quality and the fact that as mentioned in the previous section of the literature review (See Literature Review – Area 1) the perception of quality of free product or service this might correlate with the fact that the price of the product or service also influence the perception of the quality of a product or service.

Furthermore regarding quality it is important to understand that the comparison exist on two level the optimal level which what is dreamt of by the consumer and a realistic level that is a comparison to the performance existing similar products or services. In relation to the overall goal of this study it is interesting that quality on short term is related to specific encounters whereas long term it is the sum of all the encounters with a product or service.

In relation to sacrifice it is interesting that it can be evaluated either prior to the experience with a product or service or in retrospective. Fundamentally value is evaluated as a gain versus sacrifice calculation.

Fairness function as a form of judgment between right or wrong and in general the definition of this is a social construct dependent on culture and likewise. Furthermore in relation to business transactions the consideration of what the other party is to gain or lose compared to oneself is important.

In accordance to the above mentioned and in relation to the fact that breaking the unwritten rules according to Richard L Oliver sometimes can affect the consumer perception of businesses. Since there have a lot of discussion regarding F2P games in regards of their way of conducting businesses, it is interesting that the F2P industry might have a reputation regarding not being fair and that that might influence the perception of the consumers.

Furthermore it is interesting in the context of F2P mobile games that the sense of fairness within a transaction as mentioned by Richard L Oliver is also connected to the outcome of cost versus earned revenue for the seller. The reason both of the aforementioned regarding fairness are interesting is simply because there might be a connection between these two concepts and quite a lot of the negative publicity regarding F2P mobile games. It might be that a F2P game is not judged by the quite a few amount of consumers/games as to being priced fair compared to the revenue they generate on some players as for example the previously mentioned case of Ashley Feinberg who spent 236 American dollars on Candy Crush (Ashlie Feinberg, 2013).

One last aspect that seems quite interesting regarding the perception of fairness in relation to F2P mobile games are previous researches regarding user satisfaction within computer software. Where it as mentioned has come to show that “distributional fairness (being provided the right equipment on a fair basis)” strongly influence the user satisfaction (Richard L Oliver, 2010, p. 225). In relation to this it is interesting that the way of implementing some of the IAPs (more specifically some of the functional IAPs) might be in contrast with the perception of fairness.

Regret is closely related to the following cognitive dissonance in that regret is essentially a comparison between what happened to what possible could have happened. Thereby regret is also an evaluation related to the expectations beforehand. Interestingly enough regret on a short term is mostly related to actions taken whereas on the long run it is more related to inaction.

In relation to the decreasing of the consideration of whether or not a purchase is worth it or not from a consumer perspective mentioned in the summary of Area 1. Gives rise to further questions regarding the experience of satisfaction in regards of those purchases. The reasoning behind this is that in accordance with cognitive dissonance and related to the feeling of regret there are some important aspects that might influence said experience of satisfaction. First of all if easy or impulsive decisions decrease satisfaction of a purchase because it is not perceived as a “deliberate” action and thereby the consumer does not feel responsible for said action. Then an easy or impulsive purchase process might increase player/consumer purchases while at the same time decreasing the satisfaction of the purchase.

An interesting point related to this is the contrast related to cognitive dissonance that personal responsibility is both a factor in relation to the level of satisfaction as well as cognitive dissonance. But where the level of satisfaction decreases the lesser personal responsibility there is related to the

decision making. Cognitive dissonance increases the more personal responsibility there is in the decision making. Thus if the decision becomes too easy it will not be satisfying and in contrast if the decision is too difficult it will create apprehension in relation to the decision making.

Furthermore in relation to cognitive dissonance it is important to understand that this is a process related to all of the processes of evaluation that accumulate the experience of satisfaction or dissatisfaction. The crucial thing to grasp is that it is a way of eliminating apprehensive state related to decision making.

According to Aiste Dovaliene, Agne Gadeikiene and Zaneta Piligrimiene there are two ways to go about customer satisfaction. Being either as a one or multidimensional where satisfaction is the construction of several different attributes as chosen in this study.

Previous work state that customer intention for long term relationships can be related to the whether a company can get the customers to state positive thing regarding their product or service. This as has been mentioned previously is to some extent a challenge for F2P games for several reasons some which have been explained previously in this study.

In their journal Aiste Dovaliene, Agne Gadeikiene & Zaneta Piligrimiene defines 6 features that constitute quality being:

- Reliability and competence
- Tangibility
- Promptness
- Customization
- Empathy, politeness and desirability
- Similarity and fairness

Fairness and similarity (comparing to similar products or services) are attributes that also feature in Richard L Oliver method.

The scope of this study by Aiste Dovaliene, Agne Gadeikiene & Zaneta Piligrimiene seems a bit too narrow in relation to establish the overall satisfaction regarding a product or service being that it only encompasses quality and that is basically saying that quality and satisfaction is one and the

same which in the context of this study is not being that quality seems to be only one part of a much more complicated experience of satisfaction.

In regards of the last article in area 2 it revolves around two contrasting aspects priming and satiation. Priming is when a player wants to play more whereas satiation is when players are less inclined to play again.

Interestingly enough research shows that players who play for shorter amounts of time feel more inclined to play again compared to players who have played for longer periods of time. In relation to this it is interesting that F2P mobile games often have incorporated IAPs that hinder too long play sessions unless the player chooses to conduct IAPs. Therefore some of the negativity regarding the implementation might be related to the amount of playing time that is possible without paying is quite short and therefore leaves the players wanting more. Where some of the criticism might be even stronger considering the player might have played for quite a while if a bigger amount of money has been spent on IAPs and as a result the player might see less value in what has been paid for because they do not feel just as excited regarding future play at that moment.

Area 3: Consumers motivations for purchasing virtual products

As previously explained one of the crucial aspects regarding the measuring the experience of satisfaction is to have an anchor of comparison. As a way of creating such anchor the following section will establish motivations for conducting IAPs, because when there is a motive there are expectations related to the outcome and thus a comparison can be made.

Why do Teens Spend Real Money in Virtual worlds? A Consumption Values and Developmental Psychology Perspective on Virtual Consumption

By Matti Mäntymäki & Jari Salo

This study is about teenagers and their consumption habits within social virtual worlds. The aim of this study is to get a better understanding of virtual consumption in general (Mäntymäki & Salo, 2015, p. 2). More specifically it is to investigate the value teenagers generate through the purchase of “virtual items and premium user accounts in a social world and how does this relate to their development stage (Mäntymäki & Jari Salo, 2015, p. 4).

The study is based on Habbo Hotel. In Habbo Hotel it is possible to interaction with other users, play different games and customize virtual rooms.

Initially this study was conducted by looking into the already existing but scarce literature regarding virtual consumption. And the approach to evaluate the value regarding virtual items was based on the Theory of Consumption Values (See theory) (Mäntymäki & Jari Salo, 2015, p. 7).

Then a questionnaire was conducted within the Finnish Habbo Hotel, which consisted of open ended questions and had 1604 useful respondent's between the age of 13 to 18 (Mäntymäki & Jari Salo, 2015, p. 13). 58.4 percent of the respondents were male and 41.6 percent female. Furthermore the primary researcher observed the users Habbo Hotel and collected quantitative data in form of discussions and interviews (Mäntymäki & Jari Salo, 2015, p. 13).

Then a content analysis was conducted in order to code the responses in relation to why users buy virtual items in social virtual worlds. When such a reason was found a code regarding that reason was established. In the end when different codes had been condensed into overall categories there was a total of 24 codes (Mäntymäki & Jari Salo, 2015, p. 14).

Consumption in virtual worlds does not fulfil the fundamental needs in accordance with both Herzberg and Maslow's hierarchy of needs. What this means is that the purchases of virtual items is related to self esteem, self actualization and self expression (Mäntymäki & Jari Salo, 2015, p. 5) In relation to this there generally speaking are 3 reasons for consumption within virtual worlds:

- **Functional drivers** e.g. game performance.
- **Hedonic drivers** e.g. aesthetic appeal.
- **Social drivers** e.g. visual appearance (Mäntymäki & Jari Salo, 2015, p. 5).

The previously conducted studies of purchasing virtual items have defined the social and emotional values as being the main reasons for conducting purchases in virtual worlds (Mäntymäki & Jari

Salo, 2015, p. 10). In relation to the overall user experience of social virtual worlds the consumption of virtual items is not the overall reason for user engagement, rather it is a means to an end. What this means is that virtual items help users obtain the image that they wish for (Mäntymäki & Jari Salo, 2015, p. 5).

The results of the study showed that the benefits of being a premium member was the primary reasoning behind obtaining a premium account (Mäntymäki & Jari Salo, 2015, p. 14). In relation to purchasing virtual items the most frequent answer was the ability to decorate followed by fun (Mäntymäki & Jari Salo, 2015, p. 14).

All in all the results support the fact that purchasing virtual items within social virtual worlds corresponds to the top levels of Herzberg's as well as Maslow's hierarchy of needs. Thereby when conducting these purchases it is mostly related to self-expression and likewise (Mäntymäki & Jari Salo, 2015, p. 20). Furthermore the results also support the fact that consumption of virtual item is mostly related to emotional and social values (Mäntymäki & Jari Salo, 2015, p. 24).

In relation to the study explained in the above it is worth considering the fact that the study only included members of the Finnish portal of Habbo Hotel and therefore only consist of Finnish teenagers. Therefore the results might not be generalizable in that the sample group most likely is not attuned to the population of global social virtual worlds, but rather of Finnish members of virtual worlds. This might have affected the results to some extent because of for example cultural differences between Finland and other countries.

In the context of this study the motivational factors being either functional or decorative has helped define certain aspects of the satisfying experience in relation to what was needed to be investigated.

Exploring the value of purchasing online game items

By Bong-Won Park & Kun Chang Lee

In the study "Exploring the value of purchasing online game items", Bong-Won Park and Kun Chang Lee apply the theory of consumption values as a means to look into what players of free to play online games gain by purchasing virtual goods. Park and Lee investigate and define different aspects that trigger player purchases of game related items.

The purpose of the study by Park and Lees was to: “(1) modify the theory of consumption values in order to investigate online game users’ perceived value of purchasable game items, and (2) develop a new construct – the ‘integrated value of purchasing game items’ – based on the modified theory of consumption values” (Park & Lee, 2011, p. 1).

In order to investigate this Park and Lee set up 3 hypothesis based existing literature:

Hypothesis 1:

“The integrated consumption value of an online game item is positively related with a user’s intentions to purchase that item”.

This hypothesis was founded on the basis of previous research regarding purchases in games inclining that players have a tendency to buy game items based on their perceived value. Park and Lee divide these values into four main categories

- **Enjoyment categories:** items that increase the fun of the game.
- **Character competency:** items that increase the power of the character.
- **Visual authority:** items that add extra visual dimensions to the character.
- **Monetary:** items that are cost efficient (Park & Lee, 2011, p. 2).

Hypothesis 2:

“Character identification is positively related to the intention to purchase game items”.

This hypothesis was founded on the basis that previous research regarding consumers showed a tendency for consumers who identify with a product or company to stay loyal to that brand (Park & Lee, 2011, p. 3).

Hypothesis 3:

“Satisfaction about a game is positively related to the intention to purchase game items”.

This hypothesis is based on the fact that consumers who enjoy the experience of a product tend be more inclined to spend money on other products from the same company (Park & Lee, 2011, p. 3).

The research was conducted in South Korea and the data was collected via an online questionnaire. There were 327 participants and the majority being male. Furthermore the participants were solely teenagers and young adult students from middle school to college. The argument for choosing these participants is that these are the primary age groups that play computer games (Park & Lee, 2011, p. 4).

Park and Lee conducted a statistical analysis regarding as to why players of online games purchased game related items. The result supports their hypothesis in that players primarily buy items in free to play online games related to one of the four categorizations as described in the above. Park and Lee establish that the player identification to the characters increase the chance of purchases (Park & Lee, 2011, P. 5). Additionally Park and Lee establish that the player satisfaction, in contrast to traditional consumer research, does not lead to an increased intention to purchases game items (Park & Lee, 2011, p. 6).

It is worth mentioning that even though Park and Lee establish the limitations of their research in relation to their sampling group, by stating that not all players that play are young adults (Park & Lee, 2011, P. 7), they still choose them as the sampling group to their research, which might affect generalizability of their results. It would have been possible to account for this by broadening the sampling, so it involved a more diverse group of gamers.

This might have created a challenge in relation to their method of analyzing the data. This is because the group would not be as homogeneous and therefore the feedback might also have been more diverse, which could have yielded different results.

Park and Lee mention that player satisfaction does not increase the intention of purchases of game related items. Other studies have shown that a frustrating experience can yield more revenue as will be even more evident in the following study of self-control in casual games. In the context of this study the 4 main categories of motivation for why players conduct IAPs function as guidance as to what these might need to satisfy and whether they do so.

Self-Control in Casual Games

By Milad Soroush, Mark Hancock and Vanessa K. Bohns

In the study about self-control in casual games Milad Soroush, Mark Hancock and Vanessa K. Bohns investigate the relation between players with low self-control and whether they have more tendencies to conduct in game purchases The premises of this study is based on the fact that “a person’s self-control plays a major role in interrupting and overriding existing desires and changing current behaviors in all experiences, including games” (Soroush, Hancock & Bohns, 2014, p. 1). There are 3 hypotheses that are investigated related to the aforementioned premises:

- 1. Participants with a higher level of self-control spend less money on in-app purchases.**
- 2. Participants who spend more money on in-app purchases spend more time in the game.**
- 3. Participants with a lower level of self-control have a higher level of addiction to the game.**

The aim of the study is to look at the effect on players, and the player experience when they have to face the decisions of in game purchases on a regular basis. Furthermore the goal of this study is to conduct a set of design guidelines regarding how to capitalize on players with low self-control so that they will spend more money or get a better player experience overall (Soroush, Hancock & Bohns, 2014, p. 1).

The study was based on The Candy Crush Saga and was conducted in form of an online questionnaire with the purpose of clarifying the general self-control of individual players as well as the how much money each of them tended to spend within the game (Soroush, Hancock & Bohns, 2014, p. 2).

The questionnaire consisted of questions regarding player experience while playing. Additionally the participants had to complete a Self-Control Scale, Game addiction Scale as well as a Problem Video Game Playing (a scale that will assess whether a player has problems of excessive use of video games). The study also established how much money each player spent while playing based on related question regarding how, and when the players spent money (Soroush, Hancock & Bohns, 2014, p. 2).

The sample group consisted of 88 participants solely from North America, 54 of them were female and 34 male (Soroush, Hancock & Bohns, 2014, p. 2). “Of the 88 participants only 30 reported spending money in the game (Soroush, Hancock & Bohns, 2014, p. 3)”. The first hypothesis; that players with higher level of self-control spend less money on in-app purchases was confirmed. The second and third hypothesis was neither confirmed nor disconfirmed (Soroush, Hancock & Bohns, 2014, p. 3).

There were some overall categories in relation to the in game purchase:

- “Skipping frustration of being stuck in the game”.
- “Enjoying playing more of the game”.
- “Skipping the experience of one or repeated failures at the verge of winning”.

It is worth mentioning that the majority of the participants (71) did not report an answer to the questions related to the three aforementioned categories (Soroush, Hancock & Bohns, 2014, p. 3). Even so the results of this study do indicate a relation between the self-control of the player and the amount of money spent in the game (Soroush, Hancosk & Bohns, 2014, p. 3).

All in all the participants’ tendencies to spend money in the game is connected to a removal of or limitation of players’ undesired feelings. “A small payment helps to skip the considerable amount of frustration associated with their experience in the game (Soroush, Hancock & Bohns, 2014, p. 3)”. This actually indicates, as mentioned in the above, that a good player experience does indeed not foster more revenue through in game purchases. There are some limitations in relation to that statement though. First and foremost this was only tested on one game; The Candy Crush Saga and therefore, for several reasons might not be generalizable in relation to free to play games.

The game design and gameplay of The Candy Crush Saga tend to revolve around frustration measures within the game, which might not be applicable for other F2P games. Therefore it tends to focus on in game purchases related to the aforementioned aspects related to self-control. If this was to be tested on a totally different free to play game the results might have been different depending on the integration of the business model, gameplay and game design.

In the context of this study it is interesting to investigate whether the satisfaction related to the IAPs are similar no matter if they are related to a frustrating experience or not.

Why do people buy virtual goods? Attitude towards virtual goods purchases versus game enjoyment

By Juho Hamari

This study examines the reasoning behind players' motivation in terms of purchasing virtual goods within a F2P game. This study focuses mainly on the question whether the motivation of purchasing virtual goods is determined by their eagerness to keep playing and sheer enjoyment of the game, or that they perceive IAPs as something favorable, and acceptable amongst their peers. Furthermore it tries to examine the notion of why game developers might strive for game design that harbors negative attitudes towards their products, as they include artificial gaps or other incentives that can degrade the game experience. It is then speculated that this degradation of the game experience is in reality a major link to the current business model of many F2P games (Hamari, 2015, p. 1).

To clarify the problem, Hamari set up two areas that cover the intentions of the study. The first area 1) how enjoyment and continued use of a product or service affects the purchasing behavior of virtual goods, he hypothesizes that:

- Perceived enjoyment of the game is positively associated with continuous use intentions for the game.
- Perceived enjoyment of the game is negatively associated with purchase intentions for virtual goods.
- Continuous use intention for the game is positively associated with purchase intention for virtual goods. (Hamari, 2015, p. 3)

In the second area, related to attitude and normative beliefs in terms of purchasing behavior of virtual goods, he hypothesizes that:

- Subjective norms toward buying virtual goods is positively associated with attitudes toward buying virtual goods.
- Subjective norms toward buying virtual goods is positively associated with buying virtual goods.

- Attitude toward buying virtual goods is positively associated with purchase intentions for virtual goods. (Hamari, 2015, p. 4)

The study conducted a survey, in which they got 2791 responses across three different games. The surveys latent variables were all measured on a 7-point Likert scale. The games in question are as following: a virtual world game, Habbo hotel, a first-person shooter (FPS), and last being SNS (social networking services/games) as in Facebook games(Hamari, 2015, p. 5).

It has to be mentioned that the vast majority of answers came from the virtual world game, Habbo hotel – 2156 responses. This is due that the surveys were done in cooperation with Sulake Corporation, who is the firm behind the game(Hamari, 2015, p. 5).

Upon collecting the data, and analyzing it, the results displayed that the enjoyment of the game reduces the willingness to buy virtual goods while at the same time, it also increases the willingness to play the game. A prolonged use does however hint at purchase intentions for virtual goods (Hamari, 2015, p. 6).

When investigating one's peers and one's attitude towards virtual goods, the results showed that these two factors increase the willingness to buy virtual goods. One interesting note is that players who do not enjoy the game that they are playing (satisfaction) might be more inclined to purchase virtual goods.

This means that the postulated hypothesis were mainly true, but it has to be kept in mind that this study might not be entirely applicable to any market, demographic or culture, as the majority of responses came from a single type of game.

In the context of our study this is related to what was previously mentioned regarding frustrating elements and how these function as triggers related to purchases. As such this study will also be part of the foundation for investigating whether satisfaction related to how this kind of strategy for IAPs manifest itself and if it is indeed a satisfying experience.

Summary Area 3

In relation to the motivation for purchasing virtual items it is interesting that these can be divided into three main categories as following:

- Functional drivers e.g. game performance.
- Hedonic drivers e.g. aesthetic appeal.
- Social drivers e.g. visual appearance

The research show that the main motivation for purchasing virtual items is triggered by reasoning's that can be accumulated to the top half of both Marslow's as well Hertzberg's hierarchy of needs. Thereby saying that the motivations a closely attuned to self-realization and likewise which put them under the category of wants in accordance with Richard L Olivers comparison operator needs.

In regard to these facts in the context of this study it is important to say that there is quite a difference between a virtual world and a F2P game even though a F2P game can be perceived as a virtual world it is much more than just that. And as a result of this difference the functional drivers might be much more decisive in the context of this study.

In regards of the research conducted by Bong-Won Park and Kun Chang Lee it found that the motivation for purchasing online game item was closely related to the perceived value of those items. Furthermore it was found that the value could be put into four main categories being:

- Enjoyment categories: items that increase the fun of the game.
- Character competency: items that increase the power of the character.
- Visual authority: items that add extra visual dimensions to the character.
- Monetary: items that are cost efficient

This is very much related to the aforementioned hedonic as well as functional driver. Furthermore it is noteworthy that the motivation for purchasing is regarding the perceived value of said item or purchase. This is in accordance with the way in which value is regarded by Richard L Oliver's comparison operator sacrifice being a calculation of gain versus loss.

An interesting fact from the research of Park and Lee is the fact that satisfaction with the game does not necessarily equal intention to purchase which is contradicting with traditional consumer behavior. Therefore the overall player experience might not have to be positive in order for the players to be satisfied with the IAPs as satisfaction with the overall game does not increase the

amount of purchases. In relation to this and in accordance with the fact that satisfaction exist on different levels it was crucial to investigate the overall experience and satisfaction of the game as well as each purchase experience.

In relation to the research conducted by Milad Soroush, Mark Hancock and Vanessa K. Bohns regarding Self-Control in Casual Games the second hypotheses Participants who spend more money on in-app purchases spend more time in the game. In relation to the satisfaction of the overall experience of the game it is interesting because as mentioned in Area 2 more playing time might foster satiation and therefore the player might feel less satisfied with the overall experience.

In relation to the motivation to conduct IAPs three overall categories was established being:”

- “Skipping frustration of being stuck in the game”.
- “Enjoying playing more of the game”.
- “Skipping the experience of one or repeated failures at the verge of winning”.

In relation to the first and third category and the different feelings that can be accumulated regarding “satisfaction” as mentioned in Area 2 being either satisfaction or relief. It is important that in relation to this previous research within Area 3 show that some players generally do not feel satisfied when conducting what in this study is defined as functional IAPs. Rather they feel relief with a hint of what might be regret regarding the purchase as they express that they as mentioned in Self-Control in Casual Games feel like cheating.

In regards of the second category it would be interesting to see if players who are in the beginning of the game and thus has not played so much conduct purchases in order to enjoy more of the game. Furthermore it would be interesting to investigate whether these players then change motivation for purchasing to the first and third category over time. This would also be somewhat in accordance with satiation.

In relation to the above mentioned the research conducted by Juho Hamari it tries to establish whether the motivation of IAP are related to and affected by the enjoyment of a game and furthermore why some game developer might strive for a game design that foster less positive or even negative player experiences.

The result show that enjoyment of the game actually decreases the amount of IAPs conducted where as a more prolonged experience increases the amount of IAPs conducted. Furthermore players who a dissatisfied with the game experience actually tends to purchase more IAPs. This might be an inclination that the feeling of relief related to a frustrating experience seems to be stronger motivational trigger to conduct IAPs than the experience of satisfaction.

Literature summary

All in all in the context of this study in regards to Area 1 it is important to understand the concepts of direct monetization, which is basically the application of IAPs and virtual currency. Furthermore it is important to know that there generally is a mistrust regarding the concepts of free which seems to correlate to the fact that price is a deciding matter in the evaluating of quality. Thus low quality generally is perceived as being of lower quality than high priced products.

In regards of the methods for getting players to spend money on IAPs especially in relation to the concept of sell time e.g. functional IAPs where consumers/players can pay in order to speed up processes might affect the perception of fairness in relation to the advantages that paying player gain from these purchases.

Additionally in relation to this the implementation of functional IAPs is more aligned with the concept of negative reinforcements (needs) whereas the implementation decorative IAPs is more aligned with reinforcements (wants).

It is crucial to understand that satisfaction can be accounted for in related to single occurring event as well as the sum of an overall experience. Therefor it was important to conduct a method that accounted for both the single IAPs as well as the overall experience of the game (See – Method). Furthermore in order to account for the experience of satisfaction it is necessary to have two stimuli an outcome and a comparison referent. In relation to this seven comparison operators have been established in accordance with Richard L Oliver.

- Expectations
- Needs
- Excellence

- Sacrifice
- Fairness
- Events that might have been
- Nothing (Unappraised cognition)

In relation to these comparison operators and in accordance with the need for two stimuli when accounting for the experience of satisfaction it is possible to apply disconfirmation theory in relation to the majority of the comparison operators (See – Theory).

In relation to the comparison operator of expectations it can be accounted for by comparing the beforehand expectations to the actual performance of a products or service. In relation to this it is important to understand that consumers generally have expectation in different levels. One be the ideally wished for and the second being the realistic expectations based in experience with similar products and services.

In regards if needs it is important to distinguish between wants and needs where need are attuned to the bottom half of Maslow's as well as Herzberg hierarchy of needs wants are attuned to the top half. In relation to this it is interesting that functional IAPs are more in accordance with needs and therefore the feeling of satisfaction that are the outcome of these IAPs are more a feeling of relief from frustration whereas decorative IAPs are more in accordance with wants and the outcome of these are a feeling of satisfaction. Furthermore it is interesting that an overall satisfactory experience of F2P games generally generate less IAPs than a dissatisfying game experience hence it might seem as if relief from frustration is a stronger trigger in motivating a in game purchase.

In regards of excellence which is quality it is a concept that often is misinterpreted as satisfaction but it is a too narrow definition as satisfaction regards more than the mere quality of a product. Furthermore it is important to know that on a short term quality is evaluated by specific encounters whereas long term it is the sum of all the encounters that is evaluated.

The evaluation of sacrifice or values is a form of calculation of gains versus loss and this can be evaluated both prior and after the experience.

In relation to fairness it was previously mentioned that the application of functional IAPs might disrupt the feeling of fairness in that the way they are applied can seem to give an unfair advantage to paying players. In this regard it is interesting that fairness generally is evaluated as a sense of

right or wrong and therefore is affected by cultural norms and if one steps out in regard to what is accepted by these norms then the feeling of fair versus unfair will be triggered. This as mentioned could be part of why some players feel that paying players get an unfair advantage which seems to be what lie behind an expression as pay to win.

Additionally in accordance with what was suggested regarding differentiating prices in the paper Self-Control in Casual Games. It is important to note that this might strongly influence the perception of satisfaction in that it will perhaps be perceived as a step further where the players will be able to compare what they have paid for certain IAPs to other player segmentations and if there were to be a difference would it then be fair or not?

Regret is a result of an evaluation of alternative outcomes or things that might have been. It is interesting that on short term regret is related to actions that have been taken thereby expressions like why did I say that whereas in the long run regret is fostered by inaction and dreams that have not been fulfilled thereby expressions like I should have gotten children. Furthermore it is important to know that regret is closely related to the last comparison operator cognitive dissonance in that regret or the lack thereof can be a result of the cognitive dissonance.

In relation to cognitive dissonance it is a process that runs throughout the process of satisfaction. The process basically has to do with decision making and the way in which human beings evaluate choices before, during and after they have been taken. Furthermore cognitive dissonance is related to the difficulty or ease of a decision. In that difficult decisions foster anxiety and that humans try to remove this feeling by for elimination the contradicting aspects that make that decision difficult on a physiological basis, thereby making the decision easier. Interestingly enough difficult decisions foster more satisfaction whereas easy decisions foster less satisfaction in that the decision maker will not feel as responsible for the outcome.

Additionally it is interesting to consider the fact that the satisfaction or dissatisfaction of each repeated purchase influences the following anticipation in a positive or negative way. This fact can be related to some of the facts from area 3 for example the fact that some of the IAPs does not result in satisfaction, but rather a sense of relief this feeling and thereby not necessarily a positive feeling this could actually be part of what constitutes some of the negative attitudes towards F2P games.

In relation to area 3 it was established that generally speaking there are three main motivations for Conducting IAPs.

- Functional drivers e.g. game performance.
- Hedonic drivers e.g. aesthetic appeal.
- Social drivers e.g. visual appearance

Furthermore it comes to show that enjoyment of the game experience does not foster more IAPs, rather is it the opposite and that might be why game developers to some extent tend to develop games with frustrating elements simply because as previously mentioned these might be more motivational for conducting a purchase.

Furthermore it is important to note that some players as a result of conducting IAPs not only feel relief but actually feel like they are cheating or that they did not accomplish the goal themselves.

It is also interesting that players that have played a short amount of time tend to be more inclined to play again than players who have played for longer periods of time. As such there might be a threshold where the player goes from game playing for game enjoyment and being satisfied in the beginning to later in the game where the player will simply feel relief regarding different frustrating elements of the game.

Lastly it is important to mention that in the context of this study the focal point will mostly be about function drivers as the game under investigation WinterForts (See – Analysis – WinterForts) are mostly based up on that form of monetization. But an initial survey where Hedonic drivers were included was conducted.

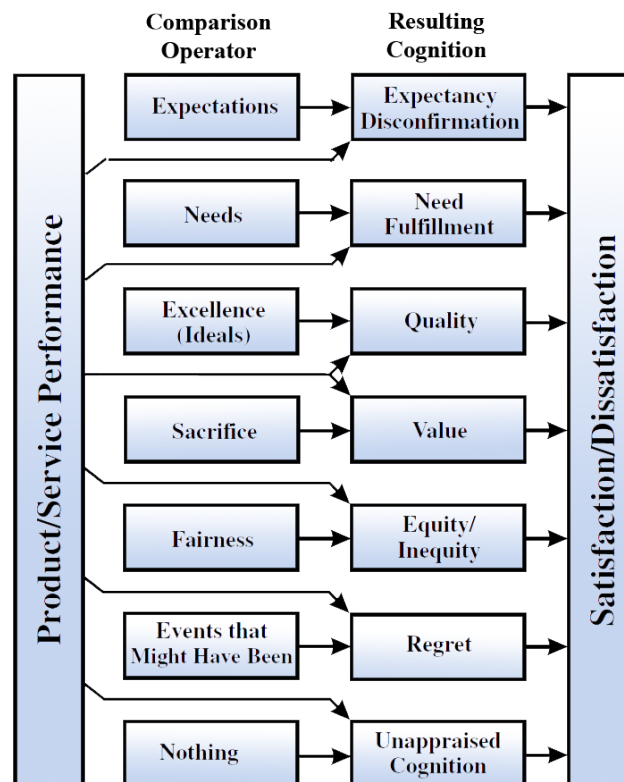
Theory

In the context of this study the emphasis as aforementioned has been on the experience of satisfaction related to IAPs in F2P mobile games.

In order to establishing some kind of measurement regarding satisfaction related to IAPs in F2P mobile games it was crucial to define what essentially constitute the experience of satisfaction. There exists a general misconception regarding satisfaction in that it is often confused with other terms such as product or service performance, quality, value and attitude etc. Although these concepts and more does regard different aspect of satisfaction they are not satisfying in themselves

and as such should only be perceived as individual parts of a complete satisfying experience (Richard L. Oliver, 2010, p. 10).

In relation to this Richard L Oliver defines 7 comparison operators as mentioned in the literature review (and illustrated in the model below). These seven comparison operators laid the foundation for the choice of theory which will be described in the following section as well as the methodological approach that will follow right after the theoretical section.



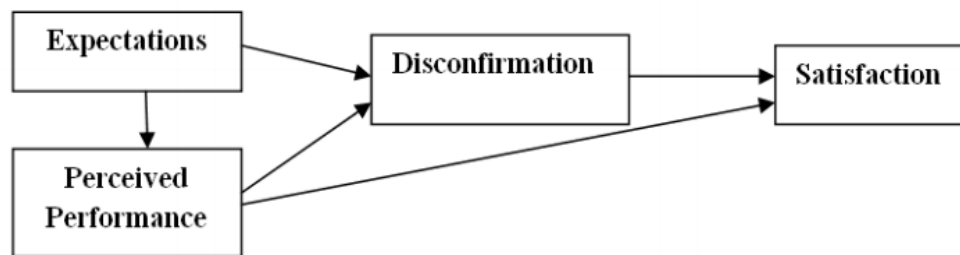
The 7 comparison operators together constitute different aspects of the consumption satisfaction experience. Therefore the theories that were chosen and applied were done so in order to accommodate for one or more of these comparison operators. It is important to note that even though all of the seven comparison operators do play a role in the constitution of the overall experience of satisfaction not all of these are important to every consumer.

Disconfirmation Theory

In order to evaluate the experience of satisfaction it is as previously mentioned in the literature review in accordance with Richard L Oliver necessary to establish some form of reference point in regards to the actual outcome. Disconfirmation Theory help in that regard in that it establishes this comparison referent as will be explained in the following.

There are two different aspects that constitute Disconfirmation Theory in relation to commerce:

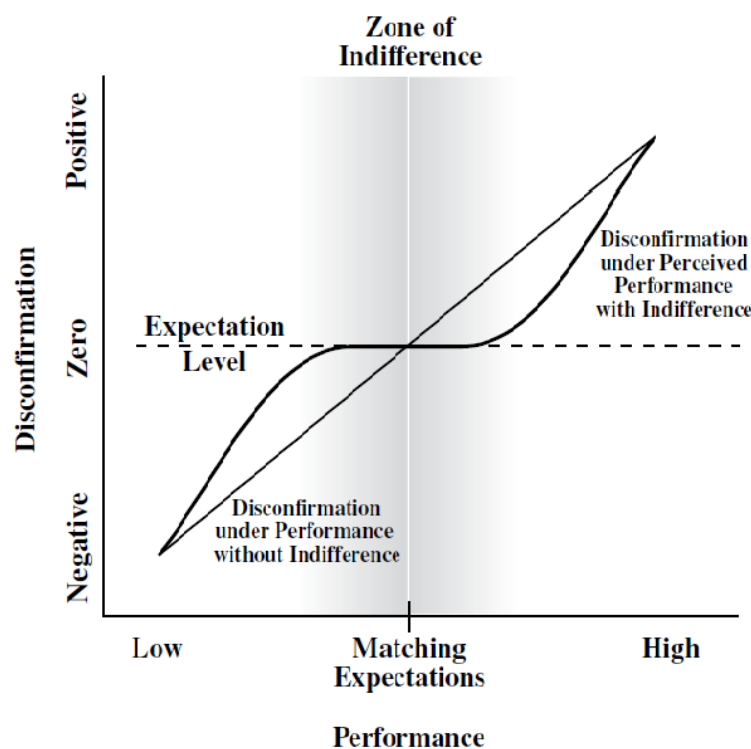
- The expectations beforehand
- “The perceived performance” and how well this is aligned with the beforehand expectations. In other words is the performance better or worse than the expectations.
- Disconfirmation is the difference between the expectations and the actual outcome as illustrated below (Elkhani & Bakri, 2015, p. 97).



In other words Disconfirmation Theory consists of 3 distinct elements: “the event, its probability of occurrence, and its desirability or undesirability” (Richard L Oliver, 2010, p. 100). In relation to this disconfirmation can be either negative, positive or zero. Negative disconfirmation occurs when performance does not live up to the expectations at all. Positive disconfirmation occurs when performance more than live up to the expectation and zero disconfirmation occur when the expectations are attuned with what actually happens as explained in the model below (Richard L Oliver, 2010, p. 100 – 101).

State of disconfirmation	Consumer's experience
Positive	Low-probability desirable events occur and/or high-probability undesirable events do not occur.
Zero	Low- and high-probability events do or do not occur as expected.
Negative	High-probability desirable events do not occur and/or low-probability undesirable events occur.

Thereby disconfirmation can be perceived as a kind of mathematical structure as such: “Expectancy discrepancies (d) are differences between performance (p) and prior expectations (e), researchers can use either (p – e) or more simply (d)” (Richard L Oliver, 2010, p. 101). As a result of this a questionnaire can be designed so the it accommodate for this ”mathematical” approach in the individual questions. In other words the participants of a survey can be “forced” to consider the evaluation of a product or service as a comparison of expectations versus actual outcome and as a result of this either feel satisfied, neither satisfied nor dissatisfied, or completely dissatisfied as illustrated in the model below.



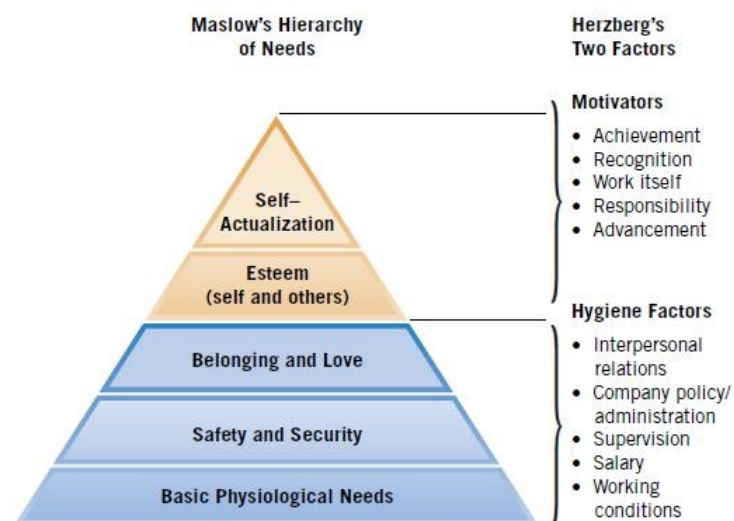
Disconfirmation Theory which has been explained in the above has been applied in relation to the following 6 of the 7 comparison operators.

- Expectations
- Needs
- Excellence (Quality)
- Sacrifice (Value)
- Fairness
- Events that might have been (Unappraised cognition)

This basically means that any questions asked have been formed in accordance with Disconfirmations Theory. This approach “forces” the participants to firstly observe performance and secondly evaluate this compared to expectations, needs, excellence, sacrifice, fairness and other possible outcomes that might have occurred (Richard L. Oliver, 2010, p. 261). The way in which this was done will be elaborated on in the Methodology, which will explain how each of the comparison operators has been measured and what was to be accomplished by this. For now it suffice to know that in order to measure satisfaction as mentioned in the literature review an anchor of comparison is necessary. Disconfirmation Theory delivers that comparison because “expectancy disconfirmation involves a comparison of performance observations to expectations and a subsequent judgment of the degree of discrepancy (disconfirmation)” (Richard L Oliver, 2010, p. 17).

Herzbergs Two Factor Theory

Herzberg’s Two-Factor Theory defines 5 different areas of need in accordance with Maslow’s hierarchy of needs in that the bottom levels are fundamental needs for survival. The fundamental needs in the lower levels have to be covered in order to move up the ladder and reach the self-fulfilling needs in the top two levels as illustrated in the model below. In regards to this it is interesting as mentioned in the literature review that the bottom levels are more attuned to needs and the top levels are more in accordance with wants and desires.



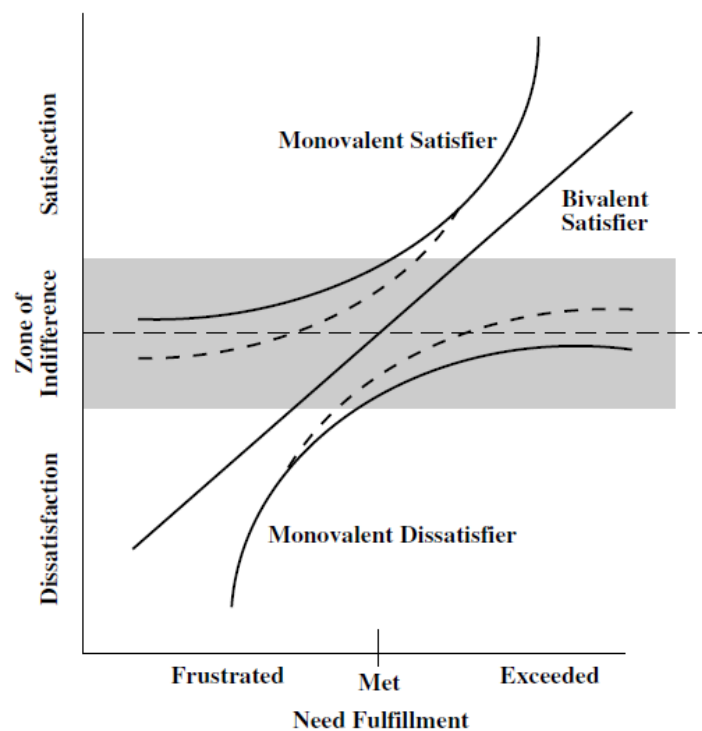
Two-Factor Theory states that there are two distinguish factors that namely motivation and hygiene factors. Motivation factors are intrinsic factors that help increase satisfaction whereas hygiene

factors are extrinsic factors that prevent dissatisfaction (Yusoff, Kian & Idris, 2013, p. 19). In relation to this it is important to note that hygiene factors does not foster satisfaction, rather they merely prevent dissatisfaction whereas motivation as mentioned foster satisfaction, but the lack of motivation factors does not necessarily result in dissatisfaction (Yusoff, Kian & Idris, 2013, p. 19).

Additionally Two-Factor Theory defines 3 different kinds of needs that can be distinguished as satisfaction categories.

- “Bivalent satisfaction: the upward and downward translatable attributes that can cause both satisfaction and dissatisfaction.
- Monovalent dissatisfiers: essential but unprocessed attributes capable of causing dissatisfaction only when flawed.
- Monovalent satisfiers: Psychological “extras” processed at a higher level of the need hierarchy” (Richard L Oliver, 2010, p. 149).

Thereby the monovalent dissatisfies manifest the negative perspectives regarding the product or service whereas monovalent satisfiers manifest the positive perspectives and bivalent satisfiers accounts for everything in between as illustrated below (Richard L Oliver, 2010, p. 149).



As a result of this dissatisfaction cannot be perceived as the bipolar to satisfaction rather the opposite of being satisfied is mainly just not being satisfied.

In the context of this study Herzberg's Two-Factor Theory has been applied in relation to the construction of the questionnaires in that the questions regarding the experience of satisfaction in relation to the IAPs accommodate for the fact that satisfaction and dissatisfaction are unipolar as mentioned in the above (See Method).

Furthermore it is important to note that there is a difference in regards of needs and wants as explained in the above and in accordance with previous work regarding customer satisfaction. In that regard that needs being satisfied will generate a form of relief whereas wants or desires being achieved will generate satisfaction (See Literature Review – Area 2). As a result of this and as described in the literature review (Area 3) it seems the functional IAPs are more attuned to needs and related to a feeling of relief whereas the decorative IAPs are in accordance with wants and desires and related to a feeling of satisfaction.

Cognitive Dissonance

Cognition may be “defined as any belief, opinion, attitude, perception or piece of knowledge about anything (Adam Kowol, 2008, p. 2). In relation to this there are three possible relationships between two cognitions:

- Irrelevant where neither one of the cognitions affect the other.
- Consistent where the two cognitions are aligned with each other.
- Inconsistent also known as dissonant where the two cognitions are in opposition of each other (Adam Kowol, 2008, p. 4).

According to the theory of Cognitive Dissonance human beings who “hold two cognitions that are inconsistent with one another” tend to feel anxiety or pressure regarding these inconsistencies. It is this pressure that is defined a Cognitive Dissonance (Adam Kowol, 2008, p. 2). When human beings are exposed to this they tend to try and limit the “aversive state that occurs as a result of these opposing cognitions (Adam Kowol, 2008, p. 2). The level of dissonance is dependent on two factors:

- “The relative proportion of consistent and dissonant elements”
- “The importance of the elements or issue” (Adam Kowol, 2008, p. 4).

In relation to the apprehension regarding the experience of dissonance it is important to note that human beings as shortly mentioned in the literature review psychologically tend to change the perception of the different elements that create the aversive state of mind by for example:

- Decreasing the importance of the decision or issue.
- Adjusting different attributes related to the issue so that the issue seems less magnificent.
- Adding completely new attributes to one side of the cognitive equation
- Only acknowledging information that is consistent current belief, perception etc. (Adam Kowol, 2008, p. 4).

Furthermore in regards of the fact that this study is conducted in retrospective it is important to understand the concept of post decision dissonance. The level of this form of dissonance is dependent on the following:

- The importance of the issue.
- “delays in choosing between two equally attractive options”
- Whether the decision is revocable or not. As mentioned in the literature review revocable decisions are not as prone to cognitive dissonance.
- “Attractiveness of the chosen alternative” compared to the other possible alternatives.
- The similarities and overlapping of the different alternatives.
- The number of options available (Adam Kowol, 2008, p. 4).

Another aspect in relation to Cognitive Dissonance that seems to be important in the context of this study is the fact that the likelihood human beings committing themselves deeply vastly increases when they are committed in a small matter at first (Adam Kowol, 2008, p. 4). This seems to correlate to the way in which the F2P games apply the different IAPs in the beginning of the game compared to on the long run.

Additionally in the context of this study and as previously mentioned in the limitations the subject under investigation being satisfaction regarding IAPs of F2P mobile games is a subjective matter. In that regard Cognitive Dissonance plays a crucial role in that this theory as described in the above

account for the way in which human beings perceive and evaluate different aspects related to current beliefs, attitudes etc.

In relation to this some of the criticism regarding F2P games as mentioned previously relates to the business model of these games especially the way in which they monetize. Part of this criticism as mentioned in the literature review might be related to the concept of fairness. The existing concept of fairness within the gaming environment might be challenged by the F2P games and the way in which they affect the player experience. This might result in a predetermined belief that these games are not fair because they are pay to win which could generate a confirmation bias regarding this belief.

Additionally in regards of confirmation bias it is interesting to consider the fact that the price as mentioned in the literature review generally affects the perceived quality of a product in that low price equals low quality. Is this perception also true in relation to F2P games are they generally perceived as being of lower quality? If this is the case then this aspect might also be victim of confirmation bias.

These considerations are the reasoning behind why Cognitive Dissonance plays a crucial role in relation to this study. Being that the subject under investigation is a subjective matter the concept of Cognitive Dissonance will be part of the perception of the overall game as well as the evaluation individual IAPs.

Flow Theory

At the core of an engaging, fun and exciting game, one can look upon the theory of *flow*. Our understanding of it has derived from research of Mihaly Csikszentmihalyi, a psychology professor, known for his studies of happiness and creativity. Achieving flow, or being “in the zone” indicates a player’s state between anxiety and boredom, meeting his own motivational level in that experience. Flow is an intricate zone that game developers strive to indulge players in, and completely immerse their players in the game. It is a challenging task, as the transition to flow has to be seamless. Achieving this requires several things from the developer, but the most important thing is the interplay between player and system, where the interactions between are constantly tested to get to

the zone that lies between anxiety and boredom. (Nicole Lazzaro, 2007)

The elements of enjoyment

To get a better grasp of the different elements of enjoyment within flow, one should realize the importance of the different aspects of an experience in where flow is present, and from there try to dismantle the different aspects, to get a clearer view of what they are. Upon observing activities that are going well, they are often described in a similar manner, despite maybe these activities being very different in nature. This could range from playing a video game to riding a bike. Even though the experiences may vary in application; the description of the way people felt during these activities are virtually identical, and the factors why they enjoyed the given experience shared more similarities than differences (Optimal, flow, p. 48). This understanding of experience is not exclusive to individuals, but goes across cultures, age and other demographic factors. With that being said this points to the fact that these factors are not prevalent in how enjoyment is perceived. The optimal experience is setup by the same psychological conditions no matter the demographic location (Optimal, flow, p. 48). According to Csikszentmihalyi, the phenomenology of enjoyment has eight major components. When people reflect upon their feelings during the most positive part of their experiences, they mention at least one, and often all of the following:

- The experience occurs when they are confronted with tasks they have a chance of completing.
- They must be able to concentrate on what they are doing.
- The concentration is possible because the task undertaken has clear goals and provides immediate results.
- One acts with a deep but effortless involvement that removes from awareness the worries and frustrations of everyday life.
- Enjoyable exercises allow people to exercise a sense of control over their actions.
- Concern for the self disappears, yet paradoxically the sense of self emerges stronger after the flow experience is over.
- The sense of duration of time is altered; hours pass by in minutes, and minutes can stretch out to seem like hours (Optimal, flow, p. 48).

Critical Incidents Technique

The critical incident technique is a method in which a set of procedures are linked to collecting direct observations of human behavior that have some sort of critical significance, and are within the realm of the methodical defined criteria. The observations are called incidents, and this method is applied to the idea of trying to solve practical problems and develop a broad psychological principle or more. A critical incident can be defined as one that has significance in contribution. This contribution can either be a positive or negative activity or phenomenon. Critical incidents can be tracked in several different ways, but in general the participants are asked to explain about an experience they had. So it is generally done in a retrospective manner.

The critical incident technique (CIT) came out from studies that were carried out in the Aviation Psychology Program of the Army Air Forces in World War 2. This technique provided important information and a ground for a method that would make the researchers be able to analyze activities such as combat leadership and disorientation in pilots during flights. This paved way for further development and extension of the method after the war. The development was primarily carried out at the American Institute for Research and the University of Pittsburgh. The summary of the reports are as follows:

The CIT is a flexible method and covers five areas, but more accurately it involves five steps which are the critical incident procedure. These steps are still most commonly used today. They are as follows:

- Determination of the general aim of the activity. This general aim is intended to be a brief statement, which is obtained from the authorities in the field which expresses in simple terms those objectives to which most people would agree.
- Development of plans and specifications for collecting factual incidents regarding the activity. The instructions to the people who are to report their observations need to be specific as possible, meanwhile keeping the standards in mind that are used in evaluating and classifying the behavior observed.
- Collection of data. The incident may be have detailed in an interview or written up by the observer himself. In either case it is essential that the reporting to be objective and include all relevant details.

- Analysis of the data. The purpose of the analysis is to summarize and describe the data in an efficient manner, so that it can be effectively used for various practical purposes. In this respect, it is however not as possible to obtain as much objectivity as the previous step, but that is all well when considering the nature of the task.
- Interpretation and reporting of the statement of the requirement of the activity. The possible biases and implications of decisions and procedures made in each of the four previous steps should be clearly reported. The researcher is responsible for not only pointing out the limitations and constraints, but also the degree of credibility and the value of the final results obtained (Flanagan, 1954, p. 29).

In terms of the flexibility that was previously mentioned in regards of the method, the CIT also has principles underlying it that has many types of applications. The two basic principles are as such:

- (a) Reporting of facts regarding behavior is preferable to the collection of interpretations, rating and opinions based on general impressions
- (b) Reporting should be limited to those behaviors, which according to competent observers, make a significant contribution to the activity (Flanagan, 1954, p. 29).

It needs to be underlined that critical incidents only represent raw data and do not automatically provide solutions to problems. However, it provides with a procedure which assists in collecting representative samples of data that are directly relevant to important issues such as establishing standards, determining requirements or evaluating results should have a wide applicability.

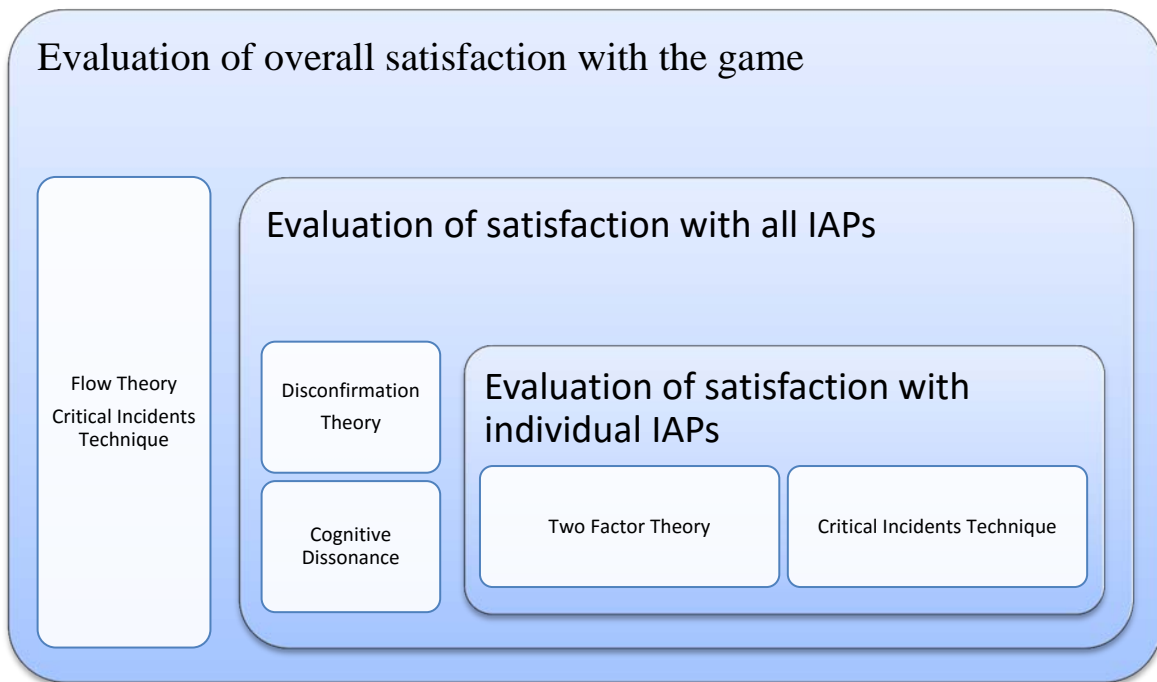
The applications of the critical incident technique which have been made to date are underlined in the following nine headings:

- (a) Measures of typical performance (criteria)

- (b) measures of proficiency (standard samples)
- (c) training
- (d) selection and classification
- (e) job design and purification
- (f) operating procedures
- (g) equipment design
- (h) motivation and leadership (attitudes)
- (i) counseling and psychotherapy(Flanagan, 1954, p. 29).

In short terms, the critical incident technique is a useful technique, as its flexibility as a method, and the focus on obtaining records of particular behaviors from those who are in the best position to make the accurate observations and evaluations, provide the researcher with an insight that is unparalleled in contrast to a more lenient approach where collecting opinions, hunches and estimates may not give an as such precise indication. The collection and tabulations of these observations allows the researcher to elaborate the critical requirement of an activity. By doing so the researcher can create a strong basis for making inferences as to making requirements in terms of aptitudes, training and related characteristics.

Theory model



Method

This is a non-experimental correlational study in that it did not involve any manipulated dependent variables. Particularly in this study, the frequency method is applied in what is observed. By looking at the number of times a certain behavior is recorded, one can determine the frequency of the behavior and thereby infer conclusions. Even though this study in essence refers to plural events in that it is a study of how the satisfaction with IAPs in F2P mobile games changes over time and how said IAPs might affect the overall experience of the game. It is still more attuned to the single events behavior sequences in that it is a retrospective study and as such as previously mentioned human beings tend to refer to single positive or negative events in retrospective thereby letting these determine their perceptions of the occurred. As a result of this, this study is investigating a subjective matter, which as it has been mentioned in the context of this study might actually hold more truth than what actually has occurred in that the subjective experience is what is perceived as being the truth for the participants. This is simply the single positive or negative events as mentioned in the above are what will be remembered by said participants. The aforementioned events can of course as previously explained be related to both the overall experience as well as singular episodes. In the context of this study it has therefore been a necessity to account for both

the overall experiences of satisfaction of the game as well as the individual experience of satisfaction of each IAP.

The study will be elaborated on later but for now it is suffice to say that it was conducted in two separated parts. The first part was an online survey regarding the satisfaction of IAPs in three different F2P mobile games being Candy Crush Sage, Heartstone and Clash Of Clans. The second part of the study was a long term research regarding the experience and the IAPs of a F2P game called WinterForts.

Setting

The focal point of this study is as mentioned regarding the satisfaction of IAPs as well as the game experience of F2P mobile games and how the perception of said experiences might change over time. Thus this study was a long term study; and as a result of this the participants of this study then had to conduct several play sessions in which the IAPs as well as the overall experience of each play session as well as the final evaluation of the overall player experience were the primary factors of investigation.

Therefore the play sessions were done on mobile smartphones, which resulted in difficulty pinpointing the precise demographic setting of where the research was conducted due the ubiquitous proponents of usage. That essentially means that the participants could be engaged in these sessions anywhere from the confines of their own home, workplace or anywhere in between.

Participants

In accordance to the sampling done for the participants of the initial online survey regarding Candy Crush Sage, Heartstone or Clash Of Clans, the participants were chosen on behalf of certain criteria e.g. purposive sample. First criteria being that the participants were playing one of three aforementioned mobile games. Second criteria being that the participants, in order to be a part of the survey, had to have conducted IAPs in one or more of these games, as they were the focal point of the survey. Other than that, the sampling is albeit random e.g. convenience sample, in where the

participants were drawn from several different Internet forums, in which a larger mass of these types of players were accessible.

There were 150 participants in the initial questionnaire of those 138 were male and 12 female. The survey asked the participants to state their age in predefined sections of 9 years e.g. 15-24 or 25-34 years of age. 83 and thereby the majority of the participants were between 15 to 25 years of age. The second largest group of participants in the initial questionnaire was 47 between 25 to 34 years of age. The third largest participant group divided by age consisted of 16 participants between 35 to 44 years of age. The two smallest participant groups being 3 participants between 45 to 54 and 1 being 64+.

Furthermore the majority of the participants, being 93 were primarily playing Heartstone. The second largest group of participants in this regard consisted of 56 players of Clash Of Clans. Finally the last and significantly smaller participant group that played Candy Crush Saga or similar games from King consisted of a total of 1.

In relation to the level the different participants were playing at in the different games there was generally an even distribution of experienced players (that had played the game quite a lot) and inexperienced players (that were somewhat new to the game).

Additionally the participants were asked what different devices they play games on. In order to try and see if the perception of F2P games would deviate between players who only played on mobile devices and players who played on other devices such as a console or pc. Of all the 150 participants 122 played on mobile phones, 62 played on tablets, 61 played on consoles and finally 123 played on pc. Thus there were a majority (minimum 123) of the participants in this questionnaire that in the context of this study were classified as experienced games because they play do not only play on mobile devices.

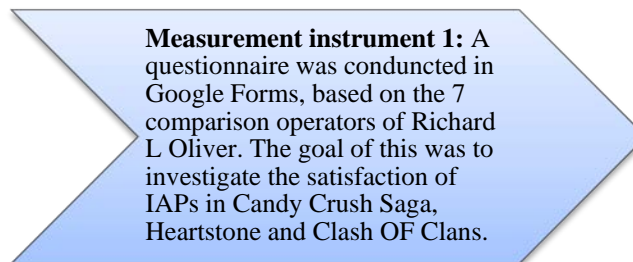
In the second part of the study being the long term research of the satisfaction of the IAPs as well as the overall player experience of the F2P game WinterForts. In relation to the sampling of the participants in this part of the study they were chosen by convenience sampling, basically including whomever would accept to be part of this study.

All in all there were 34 participants, 31 male and 3 female. The majority of the participant, 24 were, from Denmark. 4 of the participants were from Scotland, 1 from USA and 1 from Finland. None of

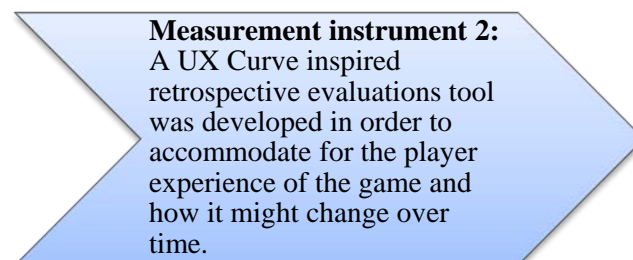
the participants had any previous experience with the game WinterForts, but 23 are classified as experienced gamers in that they play on other devices than mobile phones or tablets. Thus there were 11 participants that were classified as inexperienced gamers. Of the 34 participants 14 were between the age of 15 to 24, 16 were between 25 to 34 and 1 was between 35 to 44.

Measurement Instruments

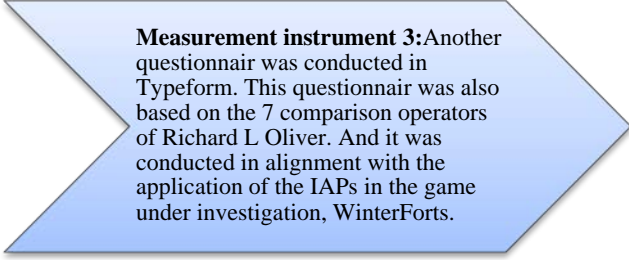
In this study, several measurement instruments have been used in order to accommodate the aforementioned goal of evaluating the experiences of satisfaction of the individual IAPs as well as how these might affect the satisfaction of the overall game over time. Firstly an online questionnaire was conducted by using Google Forms (See – Appendence 3). Secondly a method for long term user evaluation was constructed on the basis of the design of the UX Curve and iScale (See Appendence – 4, 5 & 6). Lastly a second online questionnaire was constructed in Typeform on the basis of the F2P mobile game under investigation, WinterForts and the implementation of IAPs in said game.



Measurement instrument 1: A questionnaire was conducted in Google Forms, based on the 7 comparison operators of Richard L Oliver. The goal of this was to investigate the satisfaction of IAPs in Candy Crush Saga, Heartstone and Clash OF Clans.



Measurement instrument 2: A UX Curve inspired retrospective evaluations tool was developed in order to accommodate for the player experience of the game and how it might change over time.



Measurement instrument 3: Another questionnaire was conducted in Typeform. This questionnaire was also based on the 7 comparison operators of Richard L Oliver. And it was conducted in alignment with the application of the IAPs in the game under investigation, WinterForts.

In relation to the construction of both the aforementioned questionnaires the Two Factor Theory as previously described was applied in that it as mentioned does not define the opposite of satisfaction as dissatisfaction but rather as not being satisfied. Therefore it was necessary to construct the questions so that the positive and negative aspects regarding the IAPs was separated as for example asking regarding drawbacks in relation to functional IAPs in one question and then a similar question regarding the advantages regarding functional IAPs in another (this will be elaborated on later in this chapter (See – Procedure)).

In relation to the choice of Google Forms as the tool for the first questionnaire there were some considerations. First of all Google Forms did constrain the survey due to two technical aspects as described in the limitations (See - Limitations).

First being the construction of questions where one question would have several columns of rating scales rating from positive to negative related to the one question. This was only possible in a certain way in Google Forms, whereas other survey tools would not allow this type of structure. Here's an example of the original question version to the one that was created in Forms.

Please rate this product or service on the following scales:

Poor					Excellent
1	2	3	4	5	
One of the best					One of the worst
1	2	3	4	5	
Inferior					Superior
1	2	3	4	5	

Original question setup from Richard L. Oliver, Satisfaction (2010)

Please rate the progression in-game purchases on the following scales

	1	2	3	4	5	
Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent
	1	2	3	4	5	
One of the best	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	One of the worst
	1	2	3	4	5	
Inferior	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Superior

Google Forms question setup (2016)

Second constraint being that one type of question, namely a linear scale model question, only allowed a left and right label on the scale as illustrated below. This was limiting for the survey, as the plan was to include a third center label that would help illustrate a sense of worse than, just as good as or better than to the participants which as mentioned in the literature review is important in order for the feeling of satisfaction to be comparable as illustrated below.

My expectations for this product/service were:

Too high		Accurate			Too low	
It was <i>poorer</i> than I thought.		It was just as I thought.			It was <i>better</i> than I thought.	
1	2	3	4	5	6	7

Overall, this product or service or feature or attribute was:

Much worse than expected		Just as expected			Much better than expected	
1	2	3	4	5	6	7

Original question setup from Richard L. Oliver, Satisfaction (2010)

The benefits of in-game purchases, were they...

	1	2	3	4	5	6	7	
Much worse (less) than expected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Much better (more) than expected

Google Forms question setup without the middle label (2016)

Despite the limitations of Google Forms, it still held up as the most viable and appropriate tool, as the questionnaire consisted of 40 questions, in which they were best, displayed and represented on 89

the Google Forms. The main reasoning behind this was that even though there as aforementioned was constraints regarding several rating scales for one question Google Forms still allowed for the construction to visually seem like it was one question with more scales beneath whereas all the other possible questionnaire tools “forced” the construction of a new question for each scale. As a result of this the other survey tools would have added several questions to the questionnaire thereby possible affecting the number of participant that would complete the questionnaire vastly.

The Google Forms questionnaire as mentioned in the above consisted of 40 questions overall, the questionnaire was divided into 8 separate sections. The first section regarded the general information and helped in the more specific segmentations of the participants e.g. gender age and so on. The last 7 sections of the questionnaire were conducted in accordance with the 7 comparison operators of Richard L Oliver, and they were used in relation to how satisfying or dissatisfying players were with IAPs. The questions in Google Forms were based on the Likert scale type. The 7 comparison operators are as previously mentioned:

- Expectations
- Needs
- Quality
- Value
- Fairness
- Regret
- Unappraised cognition (Richard L Oliver, 2010, p. 19)

In regards of the questions within expectations, needs, value, fairness and the first question in quality they were all constructed in accordance with the aim of generating of a feeling of worse than, just as and better than as explained in the Literature Review.

In relation to the Google Forms questionnaire as aforementioned in the above due to technical reasons were some constraints as to how this was possible in Google Forms The questions within regret, unappraised cognition and the remaining questions related to quality were all constructed as one question with multiple similar rating scales also previously explained in the Literature Review. In addition to this an approach in form of an interactive tool for conducting a long term user evaluation was created. This approach was inspired by two already existing methods called the UX

curve and iScale (See – Appendences 4 & 6). In relation to the UX Curve what was deemed important was the conception of positive and negative on the y axis, as it has been established the human beings tend to emphasize the extremes in retrospective as described in the limitations (See – Limotations). In regards to the second tool that was an inspiration, the iScale tool had a reference point from zero and up. Thus there was no negative point available for the participants. What the the iScale tool did add to the tool developed for this study was the fact that the tool divided the curving process into more specifically defined intervals which seemed very user friendly in regards of easily defining how to put in several of the magnificent positive or negative experiences. In addition to the division inspired by the iScale tool it also contributed in that it mire clearly signified each extreme positive or negative experience thereby making it easier to relate each point to the critical incidents which is described in the field with the same number as the related mark in the plus and minus scale as illustrated below.

+							
÷							
	1	2	3	4	5	6	7
	1: _____						
	2: _____						
	3: _____						
	4: _____						
	5: _____						
	6: _____						
	7: _____						

Even though this approach does deviate from the fact that this study in accordance with Hertzbergs Two Factor Theory, which was influential in relation to the construction of the questions and their application in the questionnaires. This approach is very much inspired by the Critical Incidents Technique additionally it is in accordance with the fact that human beings as mentioned previously tend to put emphasizes on the extreme positive or negative.

In relation to the aforementioned constraints of Google Forms, and its inability to display more than two labels on a linear scale question, the choice for long term user evaluation of the satisfaction with the IAPs was conducted with a survey tool called Typeform (Typeform, 2016). The reasoning

for the choice of Typeform was that the long term user evaluation consists of less questions, 14 to 21 depending on whether the participant is in the initial part of the game or not, and it allows 3 labels on a linear scale question - with the added center label that was not possible in Google Forms. And as the questionnaire was shorter the extra volume of that the multiple answers to one question added in the aforementioned questionnaire would not cause nearly as much trouble in the content of this questionnaire. Additionally as this questionnaire would be related to the long term study and as such the participants would be in closer contact with the researchers making it possible for them to explain specifically how the questionnaire was to be conducted thus putting a limitation of the misunderstandings in regards to the questionnaire.

Validity & Reliability

As aforementioned in the Literature Review it is only possible to evaluate and assess satisfaction in relation to two stimuli. As a result of this, each question has been conducted as such in that the participants had to consider their answers in relation to two specific reference points. For example the expectations were evaluated based on the expectation beforehand compared to how well the performance of the IAP lived up to said expectation. Additionally it was chosen to conduct the question so that there were more perspectives regarding each element. Meaning that instead of asking only one question in regards of a certain element, more similar questions are asked in order to try to precise and frame the results.

In relation to this, satisfaction regarding a product or service is subjectively related to the individual expectations. And as a result thereof consumption of the exact same product or service satisfaction can and will most likely still vary. This is almost assured to influence the reliability of the research (Richard L. Oliver, 2010, p. 104). As mentioned in the constraints, this is not a problem due to the fact that the subjective memory is what will be perceived as the way it occurred and thereby be perceived as what actually happend.

Additionally as previously explained some of the questions within the online survey were conducted as single questions with more rating scales related to each question. This approach was chosen quite simply because it makes it possible to calculate the reliability of the answers regarding these subjects.

Furthermore the Google Forms questionnaire also functioned as a form of pilot study, in which participants from diverse backgrounds were given the opportunity to give feedback on the survey. Feedback was given by students, experts and people with no academic ties. The Typeform questionnaire has then been molded in accordance to their critique and in regards of the two books that have been used as guidelines by Bordens & Abbot, *Research Design and Methods*, and by Richard L. Oliver, *Satisfaction - A Behavioral Perspective on The Consumer* Routledge.

Additionally as previously mentioned in the constraints humans tend to put extra emphasis on the extreme experiences in retrospective research. This is as such not a problem when analyzing subjective experiences such as satisfaction. What is important however is, consistent regarding the answers related to a subjective experience such as satisfaction. Therefore repetitive testing is necessary to ensure validity of the results related to the long term experience of satisfaction.

Procedure

The first measurement instrument was an online questionnaire that was to encompass the 7 comparison operators of Richard L Oliver and relate these to IAPs in F2P mobile games. In regards of questionnaires different limitations related to utilization has been raised. One being that the utilization of a questionnaire already from the beginning presets some limitations as to how each question is formulated or scaled. This might affect whether the questionnaire actually measure what it is purposed to measure (Nordin, Denisova, & Cairns, 2014, p. 2).

Therefore it was important to consider what the questionnaire was supposed to measure in order to ensure that the questionnaire revolve around the right focal point (Bordens & Abbott, 2014, p. 258). In the context of this study the questionnaire was supposed to measure the overall experience of satisfaction in the context of IAPs in F2P mobile games.

Additionally it was important to consider the range of the questions in order to both ensure that the subject was well covered, yet not so broadly that questionnaire reach outside the area of investigation (Bordens & Abbott, 2014, p. 258). To ensure this the 7 comparison operators helped in guiding the questions and describe their relation to satisfaction throughout the study.

The questionnaire consists of closed ended items and is thereby formed in accordance with the restricted items approach (Bordens & Abbott, 2014, p. 258). What this basically means is that the participants have not been able to formulate their own answers related to the questions. This does put some limitations to the information obtained in that the same amount of information as in open ended questionnaires will not be available (Bordens & Abbott, 2014, p. 260).

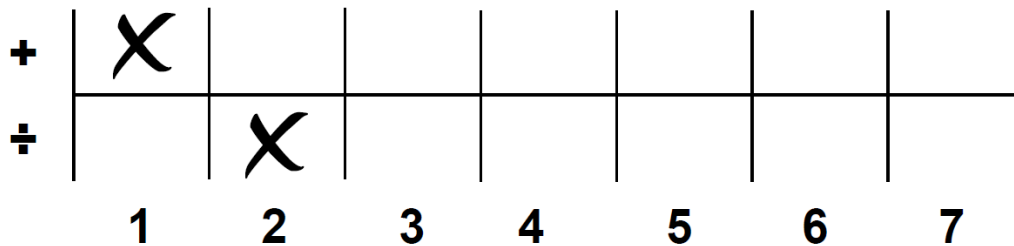
The questionnaire was conducted as rating scales from 1 – 7 because a scale of 7 has wide enough possible answers to account for significant differences yet not so much that it becomes incomprehensible for the human perception (Bordens & Abbott, 2014, p. 261) (Richard L Oliver, 2010, p. 48). Besides a rating scale from 1 – 7 created an easily understood midpoint for the participants (Richard L Oliver, 2010, p. 48). That allowed for them to show neutrality in relation to the questions if they did not perceive them as of any crucial importance regarding their experience of satisfaction. In other words it did not force the participants to choose a positive or negative stance (Richard L Oliver, 2010, p. 49).

The Questionnaire consisted of 40 questions regarding decorative and functional IAPs and the feeling conducting these IAPs in one of the 3 games (Candy Crush Sage, Heartstone or Clash Of Clans) provided the players with. This questionnaire was pilot tested and adjusted accordingly to ensure that the understanding of each question in the next measurement instrument were clear. This was in order to ensure that what was to be measured in the long term study was actually what was being measured. Additionally the results of the first questionnaire were utilized as a comparison referent to the second measurement instrument, the second questionnaire.

The second step in the process was to conduct a questionnaire based on the feedback from the first one. Additionally it was important to remove questions from the first questionnaire that did not fit the way in which the IAPs was implemented within the game under investigation, WinterForts (which will be elaborated on later). As a result of this the emphasis of the second measurement instrument, the second questionnaire revolve solely around functional IAPs. As these are the ones that are applied within the aforementioned game, WinterForts, in other words the second questionnaire does not include any questions regarding decorative IAPs.

The second measurement instrument, the long term evaluation tool was as mentioned inspired by the UX Curve and the iScale tool. The study was conducted over a period of 14 days where each participant was asked to play the game under investigation, WinterForts a minimum of 5 times.

After each play session each participant filled out the third measurement instrument, the UX Curve and iScale inspired long term evaluation tool. First each participant were to put in the marks in the positive and or negative e.g. plus and or minus and then describe why each point was marked as it was as illustrated below.



- 1:** It was really engaging and fun from the start

- 2:** Due to the difficulty collecting survival point in this game I get stuck in level 3.

Additionally each participant had to conduct IAPs although it is worth mentioning that the participants of this long term user evaluation were given in-game credits which could be traded for items in the game. These credits were free to spend, and they were given the opportunity to spend them as they wished. The number of purchases was not defined in order to let the participant act as naturally as possible in spite the fact that it as it was mentioned not was their “own” money they were spending.

The third measurement instrument was related to these IAPs and was a Typeform questionnaire that consisted of 15 questions depending on how far in the game the player was. Generally speaking there were 2 questions in relation to each comparison operator except the ones with several scales related to one question (excellence, regret and unappraised cognition).

All of this was conducted in retrospective which affect the way in which the experiences is a subjective perception of what actually occurred as previously described (See – Limitations). This affect the way in which the data and the results should be analyzed. Therefor the approach to analyzing the date will be elaborated on in the following section.

Data Analysis

As this is a mixed method the data collected is both quantitative in form of the two questionnaires. Additionally the long term evaluation tool includes some quantitative data the way in which these was analyzed did distinguish from each other.

In regards of the quantitative data it was analyzed by extravagating the measures of central tendency, mode the, the mean and the median etc. mode being the rating that is given by most participants. The median is found by sorting the ratings from the lowest to the highest numbers and finding the number in the middle of them all. Finally the mean is the average and thus found by adding all the values that was rated and divide it by the number of participants. Thus a descriptive analysis regarding the overall date was conducted. This related to the individual question as well as the individual comparison operator and the overall the experience of satisfaction in relation to the IAPs of each game. Additionally the result in regard to the satisfaction with the overall IAPs of the different games was compared on the basis of the way the IAPs were implemented within each of these games.

What was looked into in regards to the quantitative data was whether the hypothesis that there were differences of huge impact in relation to the decorative versus the functional IAPs and the experience of satisfaction with the game as well as the individual IAPs. This was done by dividing the questions into decorative, functional and an overall impression in form a combination of both decorative and functional IAPs in some questions.

Additionally some of the questions that were raised sought to give indication regarding the satisfaction with the IAPs in the initial part of the game and separate these from questions regarding IAPs later in the game. This was in order to compare the satisfaction of the IAPs in the beginning and later stages of the game. Thus it was possible to establish if changes regarding the satisfaction with the IAPs had occurred over time.

Furthermore it was sought to be established whether F2P game in general were perceived as being of lower quality than paid games by asking whether the participants in the first measurement tool, the Google Forms questionnaire perceived the quality to be better or worse than paid games. This was among other things in order to establish whether the was an overall bias in relation the perceived quality of F2P game suffered from a negative predefined reputation in this regard. This would also indicate something about whether F2P games already beforehand suffer under lower

expectations kind of like how telemarketing is already perceived as being not trustworthy as described in the literature review (See – Literature Review – Area 2).

In the literature review and in accordance with Richard L Oliver it was explained that satisfaction can be perceived as feedback regarding how well an individual has evaluated a certain situation. If a one is satisfied the feedback of that situation is that one did good if there is no satisfaction one did ok, it went as expected and lastly if there is a feedback is dissatisfaction then one took a bad decision and it did not go as expected. In relation to this the quantitative data also try to establish whether the players feel that the conducted a conscious choice and thereby feel responsible for the outcome. This was in order to establish if some of the expressed negative publicity regarding players who has been surprised in relation to how much they have actually spend in the game. Was actually related to them not evaluating the situation correctly thereby not feeling the chose to conduct the IAPs themselves but was “lured” to do so. Or perhaps they were subject to cognitive dissonance of some sorts.

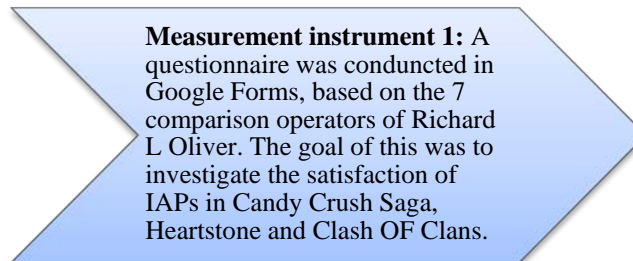
In regards of the qualitative data related to the written description of the positive and negative points in the long term UX Curve and iScale inspired evaluation tool. This data was coded and divided into different coding themes. Overall these were coded in relation to whether it was a negative or a positive coding category. These were then in relation to if they regarded the IAPs, the gameplay etc. These themes were then analyzed in accordance with the quantitative data in that the mode, the mean and the median etc. of these themes were extravagated.

The overall data was compared in relation to how the experience of satisfaction with both IAPs as well as the game experience was perceived overall. Furthermore the date was look at in regards to the individual participant in order to establish if there was a change in the experience of satisfaction with the IAPs as well each player’s engagement and satisfaction with the game over time.

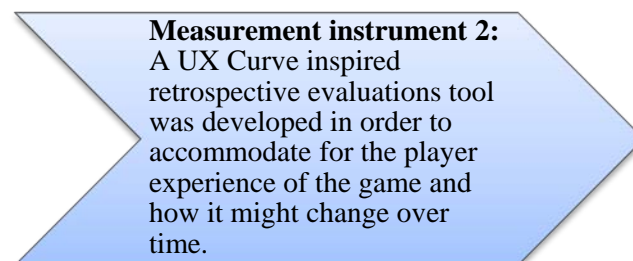
Additionally the experience of satisfaction regarding individual IAPs was analyzed in that it was sought to establish which of the seven comparison operators that held significance in relation to the satisfying experience of IAPs in F2P mobile games and how said IAPs affected the player experience in a good a or a bad way.

Analysis

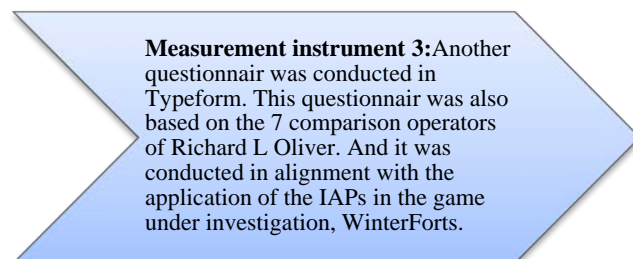
This analysis will be conducted in accordance with the different measurement instruments as illustrated below. Thereby it will start with measurement instrument 1, then 2 and lastly 3.



Measurement instrument 1: A questionnaire was conducted in Google Forms, based on the 7 comparison operators of Richard L Oliver. The goal of this was to investigate the satisfaction of IAPs in Candy Crush Saga, Heartstone and Clash OF Clans.



Measurement instrument 2: A UX Curve inspired retrospective evaluations tool was developed in order to accommodate for the player experience of the game and how it might change over time.



Measurement instrument 3: Another questionnaire was conducted in Typeform. This questionnaire was also based on the 7 comparison operators of Richard L Oliver. And it was conducted in alignment with the application of the IAPs in the game under investigation, WinterForts.

This is a descriptive analysis that as mentioned in the previous section will focus on extract the measures of central tendencies in relation to the different questions as well as try to conclude on the tendencies in the following conclusion.

The following analysis has divided into three different sections in relation to the ladder above. As a result of this the following section will be describing measurement instrument one, the Google Forms Questionnaire.

Measurement Instrument 1: Google Forms

The focal point of the analysis of the first measurement instrument, the Google Forms questionnaire will firstly be about what can be inferred in relation to the overall results of the questionnaire. In other words, the overall results of the questionnaire. Secondly finding the mode, the median and the mean as mentioned in the method and look into the development of these in regards to the level of the player segmentations. Thus helping in discovering differences in relation to the experience of satisfaction depending on what how far the player is in said game. Additionally the second part of the analysis has been segmented in relation to which game the participant of the Google Forms questionnaire plays. This is simply because there is a difference between the way in which the IAPs are implemented into the game depending on the gameplay and game mechanics.

In relation to the aforementioned challenge regarding the question in the Google Forms questionnaire regarding what level the participant is currently playing at it is as previously mentioned important to note that 54 of the 156 participants were excluded from the following part of the analysis. The reason being that their answer to the aforementioned question of what level they were playing at were either not specific enough or were regarding games that were not F2P mobile games.

Additionally it is important to note that Candy Crush has been excluded from this analysis due to the fact that only one participant answered the Google Forms questionnaire in relation that game. Therefore it was not possible to establish an overall development regarding the satisfaction of the IAPs in that game.

The following analysis will start from the levels in the initial phase (or at least the earliest possible phase available in the data) of the different games and move along in accordance with the games evolvment. Basically meaning that in Clash of Clans it will go from the lowest to the highest town hall number whereas in Hearthstone it will go from the highest to the lowest rank number.

Being that the majority of the participants in the Google Forms questionnaire were Hearthstone players that is where the analysis will set off. In relation to the answers related to Heartstone it was chosen to establish some segmentation regarding the different levels. This was simple because some of the levels only had one participant in the questionnaire. Therefore the different segmentations have been established in order to be able to make it more feasible to compare the experience of

satisfaction with the IAPs in the different phases of the game. The segmentations were defined as following:

- 20 – 15
- 14 – 10
- 9 – 5
- 5 – 0

In relation to these segmentations the following will try and establish different measures of central tendencies.

The analysis was conducted in accordance with the order of measurement instrument 1, the Google Forms questionnaire which was conducted in accordance with the order of the seven comparison operators of Richard L Oliver. This basically mean that the first subject in relation to the analysis of the Google Forms questionnaire will be the comparison operator expectation then need and then excellence etc. as illustrated below.

- Expectations
- Needs
- Excellence (quality)
- Sacrifice (value)
- Fairness
- Events that might have been (regret)
- Nothing (unappraised cognition)

It is important to mention that there in relation to measurement instrument 3 the Typeform questionnaire were some limitations regarding the last two comparison operators regret and unappraised cognition. The limitation were that some of the participants in the long term study did not feel any regret or anxiety in regards to their decision of conducting a purchase simply because they did not use their own money. As a result of this the comparison operators regres and unappraised cognition were excluded from the long term study.

Due to the fact that the Google Forms questionnaire were to function as a comparison to the third measurement instrument, the Typeform questionnaire the comparison operators regret and unappraised cognition was excluded from the first measurement instrument as well.

Additionally it is important to note that appendix 8 has been ordered in relation to the comparison operators as well as the Google Forms questionnaire in that it runs from C, question 1 to BN, question 33. In other words the questions are numbered as illustrated below in appendix 8:

Expectations

1. The benefits of in-game purchases were they...
2. The benefits of progression (functional) in-game purchases were they...
3. Considering that this game is free-to-play you feel the drawbacks for not paying for progression items are...
4. Considering the benefits of the game being free-to-play, you feel the quality of the game is...
5. You expect the quality of free-to-play games to be...

Needs

6. Considering your needs as a player, you felt the purchases you conducted...
7. Considering your needs as a player, you felt the initial purchases of progression in-game items...
8. Considering your needs as a player, you felt the later purchases of progression in-game items...
9. Considering your desires as a player, you felt the initial purchases of decorative/cosmetic in game items...
10. Considering your desires as a player, you felt the later purchases of decorative/cosmetic in game items...

Excellence (quality)

11. You feel the quality of free-to-play games are...
12. Please rate the perceived quality of the in-game purchases on the following scales
13. Please rate the progressional (functional) in-game purchases on the following scales
14. Please rate the decorative/cosmetic in-game purchases on the following scales

Sacrifice (value)

15. In regards of the in-game purchases throughout the game you felt...
16. In regards of the initial in-game progressional (functional) purchases of the game, you felt...
17. In regards of the later in-game progressional purchases of the game, you felt...
18. In regards of the initial in-game decorative/cosmetic purchases of the game, you felt...
19. In regards of the later in-game decorative/cosmetic purchases of the game, you felt...
20. Considering the price of the progressional (functional) in-game purchases throughout the game you felt...
21. Considering the price of the decorative/cosmetic in-game purchases throughout the game you felt...

Fairness

22. Considering the benefits of this game being free to play you feel the way of monetizing(make money) is...
23. Considering the benefits of this game being free to play you felt the way of monetizing on progressional (functional) items were...
24. Considering that this game is free to play, you feel the drawbacks for not paying for progressional (functional) items are...
25. Considering the benefits of this game being free to play you feel the way of monetizing on decorative/cosmetic items are...
26. Considering that this game is free to play you feel you feel the drawbacks for not paying for decorative/cosmetic items are...
27. You feel the way this free to play game guides players towards the shop is...
28. Considering the way the game guides you towards the shop you felt...

The first part of the analysis regarding measurement instrument 1, the Google Forms questionnaire will be data regarding players of the F2P mobile game Hearthstone. The following will shortly explain different aspects of Hearthstone with an emphasis on the implementation of the IAPs.

Hearthstone

Hearthstone is a free to play arena card game in where players can battle each other with their decks of cards in spectacular battles online. As a player you have the option of playing against other players, but there is also the option of playing against the computer. Upon starting the game for the first time a player receives a standard 'deck' (a bunch of cards) from which the player can play with. The player can then, by playing, attain more cards and further customize his deck to be best prepared for any type of opponent. This approach of attain cards is rather slow, but can be helped a bit by completing daily quests such as "Win X amount of battles with X class". Attaining cards is the soul of the game, as this is a huge part of the game, because it revolves around customizing your card decks to best suit the class that you are playing, and your play "style" (aggressive, passive for example). There are several different classes within Hearthstone which all have their individual perks that can be combined with the aforementioned decks. The game is very much about the synergy between the cards, play style and class, so compiling a strategy that can knock most opponents out is vital. Players also have the opportunity to attain cards by spending real money within the game to purchase decks. These decks can be attained by playing as well, but as previously mentioned, it takes a lot of time to gather enough 'gold' for one to purchase a deck, so it is much easier and time convenient to purchase a deck or two. They also have deals, which means that the more decks you purchase (bundles) the more you save. The developers of the game also frequently update the aspect of playing against the computer, in which they add new cards and new 'content' as expansions to the game. These expansions can also be purchased for real money, and the gold that you collect in the game, but again, it takes a great amount of time to gather enough gold for an expansion, so the easy approach is to purchase it with real money.

Now that the approach in applying the IAPs in Heartstone has been clarified the following will look into the data regarding the players of Heartstone from level 20 to 15.

Hearthstone Level 20 - 15

There were 14 participants of the Google Forms questionnaire that play Hearthstone at level(rank) 20 to 15. Of the 14 participants, 14 also play games on devices that are not mobile e.g. PC or console (See – Appendix 7). This is important to note due the fact that some of the criticism regarding the monetization of F2P games as previously mentioned seems to be somewhat depended on whether or not a player only plays mobile games. The reasoning behind this is that the majority of games for PC or console are not F2P and thus players who play on other devices are more accustomed to the traditional pay to play business model. Therefore the fact the majority of participants also play on other devices than mobile might influence the results due to confirmation bias regarding F2P games in general.

In relation to this it is also noteworthy that 13 out of 14 participants that play Hearthstone within level 20 to 15 also play paid games (See – Appendix 7). Thus only 1 participant plays only F2P games which might also influence the results due to the same confirmation bias.

The answers from the group are done in accordance to the questionnaire based on the 7 comparison operators as previously mentioned. A walkthrough of the different answers and their central tendencies will now be reviewed.

Expectations

Question 1

Mean 4,07

Mode 4 & 5

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicates the general benefits of conducting IAPs in Hearthstone are just as good as expected.

Question 2

Mean 4,1

Mode 3 & 5

Median 4 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode shows an equal amount of 3 and 5, which indicates that the answers hover around the positive and negative side of the spectrum. This indicates that the participant perspective of the general benefits of conducting functional IAPs in Hearthstone are just as good as expected mostly, but also have tendencies leaning towards the negative and positive sides.

Question 3

Mean 3,6

Mode 2

Median 3 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective of the drawbacks of not conducting functional IAPs in Hearthstone are leaning towards much worse than expected.

Question 4

Mean 6

Mode 6 & 7

Median 6 (See - Appendix 8)

The above measures of central tendency are in accordance with each other, and therefore it indicates that perceived expectations for the quality of free to play games are much better than expected.

Question 5

Mean 2,9

Mode 2

Median 2,5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the quality of free to play games are lower than paid games.

Needs

Question 6

Mean 4,9

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players felt that the purchases they conducted in general just met their needs, with an inclination towards more than met them.

Question 7

Mean 4,8

Mode 6

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the initial purchases of functional items lean towards the notion of that it more than met their needs.

Question 8

Mean 4,4

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the later purchases of functional items lean towards the notion of that it more than met their needs, but is still closely aligned with just met their needs.

Question 9

Mean 4

Mode 3, 4 & 5

Median 4 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode shows an equal amount of 3, 4 and 5, which indicates that the answers hover around the positive and negative side of the spectrum. This indicates that the initial purchases of decorative/cosmetic items lean towards the notion of that it just met their needs, but there are also tendencies to the negative and positive spectrums as well.

Question 10

Mean 4,2

Mode 3 & 4

Median 4 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode shows an equal amount of 3 & 4, which indicates that the answers hover around the positive and negative side of the spectrum. This indicates that the later purchases of decorative/cosmetic items lean towards the notion of that it just met their needs, but there are also tendencies to the negative spectrum as well.

Quality

Question 11

Mean 3,5

Mode 2, 3 & 4

Median 3,5 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode shows an equal amount of 2, 3 & 4, which indicates that the answers hover around the negative side of the spectrum. This indicates that the perceived quality of free to play games are lower than paid games.

Question 12

Mean 4

Mode 4

Median 4 (See - Appendix 8)

Mean 2,7

Mode 2

Median 2,5 (See - Appendix 8)

Mean 4	Mode 4	Median 4 (See - Appendix 8)
Mean 4	Mode 4	Median 4 (See - Appendix 8)
Mean 1,9	Mode 1	Median 2 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that quality of in game purchases are held in a high regard, as all of the answers are on a high note (It is a 1-5 scale here). It has to noted that the low numbers equal the positive side of the spectrum, as in the questionnaire the answers are shifted from left to right and vice versa to validate that the participants are paying attention to their answers - in which they are.

Question 13

Mean 4	Mode 5	Median 4 (See - Appendix 8)
Mean 2,2	Mode 1	Median 2 (See - Appendix 8)
Mean 4	Mode 5	Median 4 (See - Appendix 8)
Mean 3,8	Mode 4	Median 4 (See - Appendix 8)
Mean 2,1	Mode 1	Median 2 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that purchases of functional in game items are held in a high regard, as all of the answers are on a high note. As previously mentioned, the low numbers are positive in this regard.

Question 14

Mean 3,5	Mode 3	Median 3,5 (See - Appendix 8)
Mean 2,5	Mode 1 & 3	Median 2,5 (See - Appendix 8)
Mean 3,3	Mode 3	Median 3 (See - Appendix 8)
Mean 3,3	Mode 3	Median 3 (See - Appendix 8)
Mean 2,5	Mode 1 & 3	Median 2,5 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. The participant perspective indicates that purchases of decorative/cosmetic in game items are held in a neutral stance, but there are two questions in which the mode has an equal amount of 1 and 3, which is leaned towards the very positive side. As previously mentioned, the low numbers are positive in this regard.

Value

Question 15

Mean 4,5

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the purchases they conducted throughout the game left them with the feeling that they got what they wanted. These answers also slightly incline towards the positive side of the spectrum in which they got more than what they wanted.

Question 16

Mean 4,3

Mode 4 & 5

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the initial functional purchases they conducted left them with the feeling that they got what they wanted. These answers also slightly incline towards the positive side of the spectrum in which they got more than what they wanted.

Question 17

Mean 4,2

Mode 4

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the later functional purchases they conducted left them with the feeling that they got what they wanted.

Question 18

Mean 4,3

Mode 5

Median 4,5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the initial decorative/cosmetic purchases they conducted left them with the feeling that they got what they wanted with a slight increase towards the positive side of the spectrum.

Question 19

Mean 4,1

Mode 4 & 5

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the later decorative/cosmetic purchases they conducted left them with the feeling that they got what they wanted with a slight increase towards the positive side of the spectrum.

Question 20

Mean 4,6

Mode 3 & 6

Median 4,5 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode shows an equal amount of 3 & 6, which indicates that the answers lean towards either slightly negative or very positive sides of the spectrum. This indicates that the perception that the purchases of in-game functional items were worth the money spent, but also more worth than the money spent.

Question 21

Mean 3

Mode 4

Median 3,5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the decorative/cosmetic purchases they conducted throughout the game worth the money spent.

Fairness

Question 22

Mean 4,2

Mode 5

Median 4,5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players feel that the way that the game they are playing monetizes is fair enough with a slight leaning towards more than fair.

Question 23

Mean 4,2

Mode 4

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players feel that the way that the game they are playing monetizes functional items is fair.

Question 24

Mean 3,8

Mode 3

Median 3 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players feel that the drawbacks for not purchasing functional items are fair, but more leaning towards not fair at all.

Question 25

Mean 5

Mode 4, 5 & 7

Median 5 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode shows an equal amount of 4, 5 & 7, which indicates that the answers lean towards either fair or more than fair sides of the spectrum. This indicates that the monetization of decorative/cosmetic items in the free to play game are more than fair.

Question 26

Mean 5,5

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players feel that the drawbacks for not purchasing decorative/cosmetic items are fair, but more leaning towards more than fair.

Question 27

Mean 5,1

Mode 4 & 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players feel that the way the game guides the players towards the shop is fair, but also is leaning towards more than fair.

Question 28

Mean 4

Mode 4

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players feel that they were influenced to purchase in the way they were guided to the shop.

Hearthstone Level 14 - 10

There were 22 participants of the Google Forms questionnaire that play Heartstone at level 14 to 10. Of the 22 participant the vast majority, 20 also play games on devices that are not mobile e.g. PC or console (See – Appendix 7). This is important to note due the fact that some of the criticism regarding the monetization of F2P games as previously mentioned seems to be somewhat depended on whether or not a player only play mobile games. The reasoning behind this is that the majority of games for PC or console are not F2P and thus players who play on other devices are more accustomed to the traditional pay to play business model. Therefore the fact the majority of participants also play on other devices than mobile might influence the results due to confirmation bias regarding F2P games in general.

In relation to this it is also noteworthy that 18 out of 22 participants that play Heartstone within level 14 to 10 also play paid games (See – Appendix 7). Thus only 4 participants only play F2P games which might also influence the results due to the same confirmation bias.

Expectations

Question 1

Mean 4,7

Mode 4

Median 4,5 (See - Appendix 8)

In relation to the measures of central tendency regarding the expected benefits of IAPs the mean and the median are somewhat in accordance with each other being that they are both closely to 4,5. This indicate that the expectation regarding the benefits of conducting IAPs were slightly more than

fulfilled. In regards of the mode being 4 it indicate that the expectations regarding the aforementioned benefits were just met.

Question 2

Mean 4,4

Mode 4

Median 4 (See - Appendix 8)

The central measure of tendency in relation to functional items are generally in accordance with each other in that they are all close to being 4. Generally indicating that the functional IAPs are almost just as expected even though the mean do deviate in that it is almost a 1/2 to point higher on the scale.

Question 3

Mean 3,5

Mode 3 & 4

Median 3,5 (See - Appendix 8)

In relation to the drawbacks for not paying for IAPs the measures of central tendency are generally in accordance with each other in that the mean and median are both the same and as such indicate the drawbacks for not paying for functional items are slightly worse than expected. Whereas the mode consist of both 3 and 4 and thus some of the participants indicate that the drawbacks for not paying for functional items are either slightly worse than expected or just as expected

Question 4

Mean 5,9

Mode 6

Median 6 (See - Appendix 8)

In regards to the expected quality of the game the central measures of tendency are all approximately the same and they are all almost only one point from being the top score of the scale. from 1 to 7 thereby indicating the quality is way better than expected.

Question 5

Mean 3,1

Mode 3

Median 3 (See - Appendix 8)

In relation to the measures of central tendency in the above both the mean the mode and the median are almost in accordance with each other in that all of them are 3. Thus in regards of the expected quality of F2P games compared to paid games the general perception indicate that they are of lower quality then paid games.

Needs

Question 6

Mean 4,8

Mode 5

Median 5 (See - Appendix 8)

In relation to the measures of central tendency in the above regarding whether the IAPs generally met the needs or not the different measures are almost in accordance with each other with a slight deviation in that the mean is 4,8 and thereby is a little lower than the mode and the median which are 5. Thus the indication is that all the measures just more than met the needs of the participants being that they are all above 4.

Question 7

Mean 4,6

Mode 4

Median 5 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the functional IAPs in the initial phase of Hearthstone the mean and the median are almost in accordance with each other in that they are both approximately 5 whereas the mode is 4. Thus the mean and the median indicate that the needs of the player were more met when conducting IAPs in the initial stages of the game. In relation to this the mode indicate that the needs were just met being that it is the score of 4.

Question 8

Mean 4,4

Mode 5

Median 5 (See - Appendix 8)

In relation to the central measures of tendency in the above regarding the functional IAPs in the later stages of Hearthstone the mean, mode and the median are almost all in accordance with each other. Being that the mean is 4,4 whereas the mode and the median are both 5. Thus all the measures indicate that the needs of the players were slightly more than met in that the score is 5 or in between 4 and 5.

Question 9

Mean 3,6

Mode 4

Median 4 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the decorative IAPs in the initial stages of the game the mean, mode and median are closely in accordance in that the mode and the median are both 4. Thus indicating that the desires in relation to the decorative IAPs were just met. The mean is slightly less than 4 thus indicating that the decorative IAPs in the initial stages of the game were almost met, but not quite.

Question 10

Mean 3,9

Mode 4

Median 4 (See - Appendix 8)

In relation to the central measures of tendency in the above regarding the decorative IAPs in the later stages of the game the different measure are in accordance with each other. As such they all indicate that the desires were just met in that all of the measures are closely attuned to the neutral point of 4.

Quality

Question 11

Mean 3,5

Mode 4

Median 4 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the comparison of the perceived quality of F2P games compared to paid games the mode and median are 100 percent in accordance with each other being that they are both 4. They both indicate that the quality of F2P games are the same as paid games. The mean is on the other hand slightly indicate that paid games are generally perceived as being of a little lower quality than paid games.

Question 12

Mean 3,7

Mode 4

Median 4 (See - Appendix 8)

Mean 2,6

Mode 2

Median 2,5 (See - Appendix 8)

Mean 3,4

Mode 4

Median 4 (See - Appendix 8)

Mean 3,4

Mode 4

Median 4 (See - Appendix 8)

Mean 2,2

Mode 2

Median 2 (See - Appendix 8)

In relation to the different measurements of central tendency in the above regarding the perceived quality of the different IAPs within Heartstone they indicate that the quality is quite high in that these scales only went from 1 to 5 and generally was set in the next highest score. In the first scale all of the different measurements of tendency are approximately 4 meaning the they are close to being the second highest score. Thus indicating that the perceived quality of the different IAPs is quite high. This is further supported by the second scale in that this has been flipped so that low scores equal good quality. and since the score is generally even lower than the first scale was high it further support the perceived quality as being good. The following scales third and fourth for are in accordance with the first. Thus supporting the perceived quality even further. Lastly the fifth is in accordance with the second scale in the low scores equal the perception of higher quality.

Question 13

Mean 3,7

Mode 4

Median 4 (See - Appendix 8)

Mean 2,4	Mode 2	Median 2 (See - Appendix 8)
Mean 3,5	Mode 4	Median 4 (See - Appendix 8)
Mean 3,6	Mode 4	Median 4 (See - Appendix 8)
Mean 2,4	Mode 3	Median 3 (See - Appendix 8)

In regards to the different measurements of central tendency regarding the perceived quality of the functional IAPs in the game Hearthstone the mean of the first, third and fourth scale are relatively in accordance with each other. They all indicate that the perceived quality of the functional IAPs are slightly inclining towards being of high quality in that they all are a little above 3 which indicate the middle point of ok quality. In regards of the second and last scale the are as mentioned flipped and as such the lower numbers will indicate high quality. The mean of the two scales are 100 percent in accordance with each other. This support the indication of the quality of the functional IAPs in the game as being perceived as being of relatively high quality. In relation to the mode of the first, third and fourth scale they are all in accordance with each other. Thus all of them being 4 even further support the perception of the IAPs being of high quality. This even indicate that they are perceived as being of very high quality. In relation to the second and last scale the mode does deviate from each other in that in scale two the mode is two which support the indication of high quality as well, whereas the last scale the mode is 3 which indicate that the quality is perceived as being ok. The exactly same pattern as just described is accounted for in the median thereby the indication also support what was just mentioned.

Question 14

Mean 2,6	Mode 3	Median 3 (See - Appendix 8)
Mean 3,3	Mode 4	Median 3,5 (See - Appendix 8)
Mean 2,6	Mode 2	Median 2,5 (See - Appendix 8)
Mean 3,4	Mode 3	Median 3 (See - Appendix 8)
Mean 2,7	Mode 2	Median 3 (See - Appendix 8)

In regards to the different measurements of central tendency regarding the perceived quality of the decorative IAPs in Hearthstone the mean of the first, the third and the last scale are in accordance with each other. Additionally they all go from low to high quality in contrast to the remaining

scales. All of the aforementioned scales indicate that the quality of the decorative IAPs in the game are perceived as being a little less than ok. This indication becomes even stronger in the second and fourth scale where the inclination of the quality becomes even lower. In regards to the mode of the first and fourth scale they are in accordance with each other and indicate that the quality of the decorative IAPs a ok. Whereas the third and last scale indicate that the perceived quality of the decorative IAPs are in contrast with each other. Being that the mode in third indicate that the quality of the IAPs are rather low and the last scale indicate that the quality is rather high. The second scale support the indication that the quality of the decorative IAPs is low even further in that it has the second highest score on a scale where high scores equal low quality. The median in the first, fourth and the last scale are all 3. thus they all indicate that the quality of the decorative IAPs are ok. In the second scale the median indicate that the quality of the decorative IAPs are ok with an inclination towards not being of high quality. This is further supported by the median in the third scale in that it further incline that the quality of the decorative IAPs are perceived as being relatively low.

Value

Question 15

Mean 4,5

Mode 5

Median 5 (See - Appendix 8)

In regard to the measures of central tendency related to the perceived value of the different IAPs in Hearthstone the different measures are generally in accordance with each other in that the mode and the median are both 5 whereas the mean is 4,5. And they all indicate that the participants did get what they thought their money was worth with an inclination towards actually getting a little more than what is was worth.

Question 16

Mean 4,8

Mode 5

Median 5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the functional IAPs in the initial phases of the the game Hearthstone there are consistencies i that the mode and the median are in accordance being 5 both of them. The mean is also close to being in accordance in that it is 4,8. Thus all of them indicating that the functional IAPs in the initial phases of game are perceived as being more than just worth the money spend.

Question 17

Mean 4,6

Mode 5

Median 5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the functional IAPs in later stages of the game Hearthstone the mean being 4,6 indicate that the participant fell the got what they paid for, but that with a slight inclination towards actually getting a little more. The mode and the median are in accordance with each other and support the inclination of getting more than what they paid for even further.

Question 18

Mean 4,5

Mode 5

Median 4,5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the decorative IAPs in initial stages of the game Hearthstone they are all somewhat in accordance with each other in that the mean and the median are both the same being 4,5 whereas the mode is slightly higher being 5. Thus the general tendency of the measurements indicate that the different participants feel like that got a little more than what they thought the purchase was worth.

Question 19

Mean 3,8

Mode 4

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the decorative IAPs in later stages of the game Hearthstone the mode and the median are in accordance with each

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other being 4. Thus indicating that the participants feel they got exactly what they paid for. Additionally the mean is 3,6 which indicates that some participants feel they got a little less than what they paid for.

Question 20

Mean 4,2

Mode 4

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values in comparison to the price of the functional IAPs throughout the game Hearthstone the mean, median and the mode are almost in accordance with each other. This thus indicates that the participants feel they got exactly what they thought the purchase was worth. The mean is very slightly inclined towards getting a little more than what was paid for.

Question 21

Mean 3

Mode 2

Median 3 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values in comparison to the price of the decorative IAPs throughout the game Hearthstone the mean and median are in accordance with each other being 3. This thus indicates that the participants feel they got slightly less than what they thought the purchase was worth. In regards of the mode it supports the indication of getting less than what was bargained for in that it is 2.

Fairness

Question 22

Mean 4,4

Mode 5

Median 5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the the fairness of the way of monetizing and whether this is fair compared to paid games the mean, mode and median are all somewhat in accordance with each other. The general tendency indicate that the way of monetizing in F2P games are perceived as being more fair than paid games.

Question 23

Mean 4,5

Mode 4

Median 5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the the fairness of the way of monetizing the functional IAPs the mean indicate that the way of monetizing in F2P games are perceived as being fair enough with a slight inclination towards being more than fair. this inclination of being more than fair is even stronger supported by the median. whereas the mode indicate that the functional IAPs are just fair enough.

Question 24

Mean4,4

Mode 4 & 7

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the the fairness in relation to the drawbacks for not paying for functional items the mean, one of the modes and the median are somewhat in accordance with each other. And indicate that the drawbacks for not paying for functional IAPs are fair enough. Additionally there is a second mode which indicate that the drawbacks is more than fair.

Question 25

Mean 4,5

Mode 7

Median 5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the the fairness of the way of monetizing the decorative IAPs the mean and the median indicate that the way of generating revenue based on decorative IAPs in F2P games are perceived as being slightly more than fair. The

mode does indicate that the way of monetizing the decorative IAPs are more than fair enough. This does show that there have been quite a few participant that have this feeling, but it also indicate that there are quite a few participants that feel the opposite in that the mean is 4,5. This means that there must have been more than a few lower scores to pull the average down to 4,5.

Question 26

Mean 6

Mode 7

Median 7 (See - Appendix 8)

In relation to the measurements of central tendency regarding the fairness in relation to the drawbacks for not paying for decorative items the mode and the median are in accordance with each other. The mean is slightly less being 6 and indicate that the drawback for not paying for decorative items are more than fair. This is even further indicated by the mode and the median which are both 7.

Question 27

Mean 5

Mode 7

Median 5,5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the participants fairness in relation to the way in which the player is guided towards the shop the mean and the median are more or less in accordance with each other. they indicate that the way in which the player is guided towards the shop is perceived as being fair enough. The mode even further support this perception in that it indicate that it is more than fair.

Question 28

Mean 4,1

Mode 5

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the participants felt influenced in relation to the way in which the player was guided towards the shop in the game Hearthstone the mean and the median are almost in accordance with each other. They both indicate that the player

felt a little influenced towards going to the shop. The mode further support this perception in that it indicate the participant felt the were influenced to go to the shop a even more than the mean and the median.

Hearthstone Level 9 - 5

There were 24 participants of the Google Forms questionnaire that play Hearthstone at level(rank) 9 to 5. Of the 24 participants, 24 also play games on devices that are not mobile e.g. PC or console (See – Appendix 7). As previously mentioned, this is an important factor in terms of the criticism regarding the monetization of F2P games related to whether a player only played mobile games or not. The reasoning behind this is that the majority of games for PC or console are not F2P and thus players who play on other devices are more accustomed to the traditional pay to play business model. Therefore the fact the majority of participants also play on other devices than mobile might influence the results due to confirmation bias regarding F2P games in general.

In relation to this it is also noteworthy that 13 out of 14 participants that play Hearthstone within level 9 to 5 also play paid games (See – Appendix 7). Thus only 3 participants play only F2P games which might also influence the results due to the same confirmation bias.

The answers from the group are done in accordance to the questionnaire based on the 7 comparison operators as previously mentioned. A walkthrough of the different answers and their central tendencies will now be reviewed.

Expectations

The measurements of the central tendencies are in:

Question 1

Mean 4,5

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicates that the general benefits of conducting IAPs in Hearthstone are just as good as expected, with a small leaning towards much better than expected.

Question 2

Mean 4,2

Mode 4

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicates that the general benefits of conducting progression item purchases were just as expected.

Question 3

Mean 3,5

Mode 3

Median 3 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective indicate that the the drawbacks of not conducting functional purchases leaning towards worse than expected, but is closer to the middle ground just as expected.

Question 4

Mean 6,1

Mode 6

Median 6 (See - Appendix 8)

The above measures of central tendency are in accordance with each other, and therefore it indicates that perceived expectations for the quality of free to play games are much better than expected.

Question 5

Mean 3,1

Mode 3

Median 3 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the quality of free to play games are lower than paid games.

Needs

Question 6

Mean 4,7

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players felt that the purchases they conducted in general just met their needs, with an inclination towards more than met them.

Question 7

Mean 4,7

Mode 4

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the initial purchases of functional items lean towards the notion of that it more than met their needs, but only slightly.

Question 8

Mean 4,3

Mode 4

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the later purchases of functional items lean towards the notion of that it just met their needs.

Question 9

Mean 4,1

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the initial purchases of decorative/cosmetic items met their needs, with a slight leaning towards the positive spectrum that it more than met their needs.

Question 10

Mean 4

Mode 5

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the later purchases of decorative/cosmetic items met their needs, with a slight leaning towards the positive spectrum that it more than met their needs.

Quality

Question 11

Mean 3,2

Mode 4

Median 3,5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the perception of free to play games are viewed the same quality as paid games. There is however a slight tendency towards the notion of them being lower quality than paid games.

Question 12

Mean 3,9	Mode 4	Median 4 (See - Appendix 8)
Mean 2,5	Mode 3	Median 3 (See - Appendix 8)
Mean 3,6	Mode 4	Median 4 (See - Appendix 8)
Mean 3,6	Mode 3	Median 3,5 (See - Appendix 8)
Mean 2	Mode 2	Median 2 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the answers are positive mixed with neutral, but in general they are positive. As previously mentioned, where the threshold seems lower, it is because the answers have changed sides to make answers more accurate. Overall this means that the quality of the in game purchases in general are held in a positive regard.

Question 13

Mean 3,4	Mode 3 & 4	Median 3 (See - Appendix 8)
Mean 2,5	Mode 2 & 3	Median 3 (See - Appendix 8)
Mean 3,4	Mode 3	Median 3 (See - Appendix 8)
Mean 3,5	Mode 3	Median 3 (See - Appendix 8)
Mean 2,4	Mode 3	Median 3 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that purchases of functional in game items are held in a neutral regard, as all the answers hover around the center value 3. As previously mentioned, the low numbers are positive in regard of the second and last MMM (Mean, Mode, Median).

Question 14

Mean 3,6	Mode 4	Median 4 (See - Appendix 8)
Mean 2,6	Mode 2	Median 2 (See - Appendix 8)

Mean 3,6	Mode 4	Median 4 (See - Appendix 8)
Mean 3,5	Mode 4	Median 4 (See - Appendix 8)
Mean 2,5	Mode 1, 2 & 4	Median 2 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. The participant perspective indicates that purchases of decorative/cosmetic in game items are held in a higher regard, but also close to a neutral stance. As previously mentioned, the low numbers are positive in this regard of the second and last MMM.

Value

Question 15

Mean 4,7	Mode 4 & 5	Median 5 (See - Appendix 8)
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The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the purchases they conducted throughout the game left them with the feeling that they just got what they wanted. These answers also slightly incline towards the positive side of the spectrum in which they got more than what they wanted.

Question 16

Mean 4,3	Mode 5	Median 4,5 (See - Appendix 8)
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The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the initial purchases of functional items left them with a feeling of that they got what they wanted. These answers also slightly lean towards the positive side of the spectrum, which is that they got more than what they wanted.

Question 17

Mean 4,1

Mode 4

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the purchases of functional items that occurred later left them with the feeling that they got what they wanted.

Question 18

Mean 4,4

Mode 4

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the initial decorative/cosmetic purchases they conducted left them with the feeling that they got what they wanted, but with a slight increase towards the positive side of the spectrum.

Question 19

Mean 4,3

Mode 4

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the later decorative/cosmetic purchases they conducted left them with the feeling that they got what they wanted.

Question 20

Mean 4

Mode 5

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the purchases of functional in game

items were worth the money spent, but there is also a tendency for a slight incline in the positive spectrum of the scale.

Question 21

Mean 3,7

Mode 4

Median 4 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the decorative/cosmetic purchases they conducted throughout the game are worth the money spent.

Fairness

Question 22

Mean 4,4

Mode 5

Median 4,5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players feel that the way that the game they are playing monetizes is fair with a slight leaning towards more than fair.

Question 23

Mean 4,7

Mode 3

Median 5 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. The participant perspective indicates that the players feel the way the way the game monetizes functional items is fair, but the mode indicates that there was quite a lot of players who felt that the way was leaning towards less than fair.

Question 24

Mean 4,5

Mode 3 & 6

Median 4,5 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. The participant perspective indicates that there is a rift between the participants in how they perceive the drawbacks for not purchasing functional items. As the mode is 3 and 6 shows that it is skewed rather very positively or just below fair. The mean and the median are showing that the curve is just above fair in that case.

Question 25

Mean 5

Mode 7

Median 5,5 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode is 7, which indicates that the answers are focused on more than fair side of the spectrum. This indicates that the monetization of decorative/cosmetic items in the free to play game are more than fair.

Question 26

Mean 5,6

Mode 7

Median 6 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode is 7, which indicates that the answers tell us that the players feel the drawbacks of not purchasing decorative/cosmetic items is more than fair.

Question 27

Mean 5,6

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency are all in accordance with each other and as such all of them are attuned to a participant perspective that indicate that the players feel that the way the game guides the players towards the shop is leaning towards more than fair.

Question 28

Mean 3,8

Mode 3 & 5

Median 4 (See - Appendix 8)

The above measures of central tendency differ a bit in how they are perceived by the players. Mean and median are in accordance to each other, but the mode is 3 and 5. This indicates that players are on the fence in terms of how influenced they were to purchase in the shop. They were influenced, but some were more and some were less.

Hearthstone Level 4 - 0

There were 7 participants of the Google Forms questionnaire that play Hearthstone at level 4 to 0. All of the 7 participants play games on devices that are not mobile e.g. PC or console (See – Appendix 7). This is as previously mentioned important to note due the fact that some of the criticism regarding the monetization of F2P games seems to be somewhat depended on whether or not a player only play mobile games.

It is also noteworthy that 5 out of 7 participants that play Hearthstone within level 4 to 0 also play paid games (See – Appendix 7). Thus only 4 participants only play F2P games which might also influence the results due to the same confirmation bias.

Expectations

Question 1

Mean 4,2

Mode 5

Median 5 (See - Appendix 8)

In regards to the above measures of central tendency the mean and the median are in accordance with each other and both indicate that the benefits of conducting IAPs generally indicate a perception of exceeding the expectations a little bit. In relation to the mean it is more attuned to the neutral point and thus is attuned to delivering the benefits which was expected.

Question 2

Mean 5

Mode 5

Median 5 (See - Appendix 8)

The central measure of tendency in relation to functional items as shown in the above are all in accordance with each other. And thus all generally indicating that the benefits of the functional IAPs are a slightly better than expected.

Question 3

Mean 3,8

Mode 4

Median 4 (See - Appendix 8)

In relation to the drawbacks for not paying for IAPs the measures of central tendency are generally in accordance with each other in that the mode and median are both the same whereas the mean is slightly less. Even though they all still indicate that the drawbacks are just as expected.

Question 4

Mean 5,8

Mode 7

Median 7 (See - Appendix 8)

In regards to the expected quality of the game the central measures of tendency the mode and the median are in accordance with each other whereas the mean is a little over one point less as illustrated in the above. All of the measurements still indicate that the quality is much better than expected.

Question 5

Mean 3,8

Mode 4

Median 4 (See - Appendix 8)

In relation to the measures of central tendency in the above in regards of the expected quality of F2P games compared to paid games the general perception indicate that the quality of F2P game are just as good as paid games.

Needs

Question 6

Mean 4,7

Mode 4

Median 4 (See - Appendix 8)

In relation to the measures of central tendency in the above regarding whether the IAPs generally met the needs of the players or not the mode and median are in accordance with each other whereas the mean is slightly higher. Even though there is a slight difference the tendency indicate that the IAPs generally met the needs.

Question 7

Mean 4,2

Mode 3, 5 & 6

Median 5 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the functional IAPs in the initial phase of the game the mean is in accordance with the the neutral point thus indicating just meeting the needs of the players. In regards of the mode there are three different point on the scale that occur the same amount of times. Showing that some participants feel their needs were not met whereas some feel the were slightly more than met and lastly some feel their needs were more than met. The median indicate that the needs were slightly more than met.

Question 8

Mean 3,5

Mode 4

Median 4 (See - Appendix 8)

In relation to the central measures of tendency in the above regarding the functional IAPs in the latter stages of Hearthstone the measures are generally in accordance with each other. The general perception indicate that the needs were just met, but the mean very slightly indicate an inclination towards the needs not being met. Compared to the initial phases of the game there is a slight decrease in the feeling that they were met.

Question 9

Mean 2

Mode 1, 2 & 4

Median 2 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the decorative IAPs in the initial stages of the game the mean and the median are in accordance with each other and both indicate that the desires were not met. In relation to the mode there is an equal amount of participants giving the scores 1, 2 and 4 indicating that the participants desires were either not met at all or just met.

Question 10

Mean 2,8

Mode 1, 2 & 5

Median 2 (See - Appendix 8)

In relation to the central measures of tendency in the above regarding the decorative IAPs in the later stages of the game the mean and the mode are more or less in accordance with each other and indicating that the needs were not met at all. Additionally the mode is divided between 1, 2 and 5 where the first two indicate the same as the mean and the median, but last number, 5 in contrast indicate then some of the participants needs are slightly more than met.

Quality

Question 11

Mean 4,1

Mode 6

Median 4 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the comparison of the perceived quality of F2P games compared to paid games the mean and the median are in accordance with each other and both indicate that the quality is just as good as paid games. Whereas the mode indicate that the quality of F2P games are vastly better than paid games.

Question 12

Mean 3,4

Mode 4

Median 4 (See - Appendix 8)

Mean 2,7

Mode 2,3 & 4

Median 3 (See - Appendix 8)

Mean 3,4

Mode 3

Median 3 (See - Appendix 8)

Mean 3,4

Mode 4

Median 4 (See - Appendix 8)

Mean 2,8

Mode 4

Median 3 (See - Appendix 8)

In relation to the different measurements of central tendency in the above regarding the perceived quality of the different IAPs within Hearthstone the different means indicate that the quality is either being perceived as being of an ok quality in that they are all closely to 3. In regards to the mode the indication can be both good and bad in that the second and fourth scales as explained earlier are flipped meaning the 2 in the mode in the second scale is an indication that some player feel the quality of the IAPs are of relatively high. Whereas 3 is indicating that the quality is ok and four is inclining towards that the quality is not so good. The other scales that have four in the mode is an indication that quite a few participant feel that the IAPs were of relatively high quality. In regards of the median is generally in the neutral point of 3 but in the first scale where it is 4 four indicate that the quality is good whereas the fourth indicate the opposite.

Question 13

Mean 3,7

Mode 4

Median 4 (See - Appendix 8)

Mean 3

Mode 4

Median 3 (See - Appendix 8)

Mean 3,4	Mode 3	Median 3 (See - Appendix 8)
Mean 3,4	Mode 4	Median 4 (See - Appendix 8)
Mean 3,1	Mode 4	Median 4 (See - Appendix 8)

In regards to the different measurements of central tendency regarding the perceived quality of the functional IAPs in the game Hearthstone the mean in the first, third and fourth scale indicate that the quality is perceived as being a little more than ok. The mean in the second and last scales indicate that the quality is just ok. The mode in the first and last scale indicate that the quality is perceived as being quite high. Whereas the mode in the second and forth indicate that the quality is perceived as being quite low. In relation to the median in the first and last scale the indicate that the quality is perceived as being quite high, but in contrast the median in the fourth scale indicate the quality as being quite low. Lastly the median in scale 3 indicate that the quality is neither good nor bad.

Question 14

Mean 2,1	Mode 1	Median 2 (See - Appendix 8)
Mean 3,7	Mode 3, 4 & 5	Median 4 (See - Appendix 8)
Mean 2,1	Mode 1	Median 2 (See - Appendix 8)
Mean 2,5	Mode 1	Median 3 (See - Appendix 8)
Mean 3,5	Mode 3	Median 3 (See - Appendix 8)

In regards to the different measurements of central tendency regarding the perceived quality of the decorative IAPs in Hearthstone the mean in the first, second and third scale gives the inclination that the quality is generally perceived as being quite low. Whereas the mean in the fourth and fifth scale indicate that the quality is if not good then at least ok. In regards to the mode in the first, second and third indicate that the quality is low. Additionally the second scale in accordance with the fifth indicate that the quality is ok. Lastly the fourth scale indicate that the quality of these IAPs are of very low quality. In relation to the median the first second and third scale indicate that the quality is perceived as being quite low. The last two scales in relation to the median indicate the the quality is neither good nor bad.

Value

Question 15

Mean 4,7

Mode 4 & 5

Median 5 (See - Appendix 8)

In regard to the measures of central tendency related to the perceived value of the different IAPs in Hearthstone the mean, mode and median are in accordance with each other in that they are all approximately 5. This indicate that the value of the IAPs in general is perceived as being worth the money spend. Additionally in relation to the mode it is important to note that there are also some players that feel the value was only just worth the money spend.

Question 16

Mean 5,1

Mode 6

Median 5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the functional IAPs in initial phases of the the game Hearthstone The mode and the median are closely in accordance with each other. Both of these indicate that the participants feel they get a little more than value than their money spend. Additionally the mode even stronger support the indication that the players feel they get more than they spent when conducting IAPs in the initial phases of the game. that the general tendency indicate that the different participants feel like that got just what they thought it was worth or a little more.

Question 17

Mean 4,1

Mode 4

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the functional IAPs in later stages of the game Hearthstone they are all closely in accordance with each other. As such they all indicate that the participants feel they get just worth the money spent when conducting functional IAPs in the latter stages of the game.

Question 18

Mean 3,2

Mode 4

Median 4 (See - Appendix 8)

In regards to the measurements of central tendency regarding the perceived values of the decorative IAPs in initial stages of the game Hearthstone the mode and the median are in accordance with each other. Both of these measures indicate that the participants feel they got just enough value for their money to feel it was worth it. In regards of the mean it indicate that the participant overall feel the decorative IAPs in the initial phase of the game is worth a little less than what was spend.

Question 19

Mean 3

Mode 4

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the decorative IAPs in later stages of the game Hearthstone the mean indicate that the participants feel like they did not get enough value compared to the money spend. In regards of the to the mode and the median they are identical and both indicate that the participants feel like that got they thought the purchase was worth.

Question 20

Mean 3,2

Mode 1 & 3

Median 3 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values in comparison to the price of the functional IAPs throughout the game Hearthstone the mean, one of the modes as well as the median are in accordance with each other. They all indicate that the participant feel like the got slightly less than what they bargained for. In regards to the last where some participants scored a 1 which indicate that the participants did not get what they bargained for at all.

Question 21

Mean 2,7

Mode 1 & 3

Median 3 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values in comparison to the price of the decorative IAPs throughout the game Hearthstone the mean, one of the modes as well as the median are close to being in accordance with each in that the almost have a score of 3. This indicate that the participants feel they got slightly less than what they thought the purchase was worth. In regards the second mode, 1 it indicates that some of the participant feel like they did not get their money's worth at all.

Fairness

Question 22

Mean 5,8

Mode 7

Median 7 (See - Appendix 8)

In relation to the measurements of central tendency regarding the the fairness of the way of monetizing and whether this is fair compared to paid games the mode and the median are in accordance with each other and both of the score the top score of 7 which indicate that the way of generating revenue is perceived as being much more fair than pair games. The mean which also got quite high a score, 5,8 also indicate that the perception is that the way of monetizing is perceived as being more than fair.

Question 23

Mean 5,2

Mode 6

Median 6 (See - Appendix 8)

In relation to the measurements of central tendency regarding the the fairness of the way of monetizing the functional IAPs the mode and the median are in accordance with each other. They both indicate that the players feel the way of monetizing in regards to the functional items are more

than fair. In relation to this the mean also support this even though the score is somewhat lower it still indicate an acceptance of the way of generating revenue with functional IAPs in F2P games.

Question 24

Mean 3,8

Mode 3

Median 3 (See - Appendix 8)

In relation to the measurements of central tendency regarding the fairness of the drawbacks for not paying for functional items the mode and the median are in accordance with each other. Both of them indicate that it is perceived as slightly unfair in that the both got a score of 3. The mean does support this perspective somewhat in that it is lower than the neutral point of 4, but it is not that much so it is almost attuned to the feeling that it is fair enough.

Question 25

Mean 5,3

Mode 7

Median 5,5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the fairness of the way of monetizing the decorative IAPs the mean and the median are closely to be in accordance. They both indicate that the way of monetizing is perceived a slight more than fair. In regards to the mode is indicate that there are quite a few that has given the highest score of 7 which indicate that there are quite a few participants that feel the way of monetizing are more than fair. In relation to this it is interesting to observe being 7 is the mode there must have been quite a few that had low score as well in order for the mean to get as low as it is.

Question 26

Mean 6,5

Mode 7

Median 7 (See - Appendix 8)

In relation to the measurements of central tendency regarding fairness in relation to the drawbacks for not paying for decorative items the mean, the mode and the median are almost 100 percent in accordance with each other. The only deviation is the mean which is 6,5. Even though there is this

deviation all of the measurements indicate that the participants feel the drawbacks for not paying for decorative items are more than fair.

Question 27

Mean 5,8

Mode 6 & 7

Median 6 (See - Appendix 8)

In relation to the measurements of central tendency regarding fairness in relation to the way in which the player is guided towards the shop the mean, one of the modes as well as the median are all more or less in accordance with one another. Being that the mean is 5,8 and one of the modes as well as the median are 6. This indicate that that the participants all feel the way in which they are guided towards the shop is very fair almost more than fair. This is further supported by the second mode which is the high score of 7 that clearly indicate that the participants fell the guidance towards the shop is more than fair.

Question 28

Mean 5,1

Mode 4

Median 5 (See - Appendix 8)

In relation to the measurements of central tendency regarding whether the participants felt influenced in relation to the way in which the player was guided towards the shop. The mean and the median are close to be 100 percent in accordance with each other in that the mean is 5,1 and the median is 5. This indicates that the participant did feel a little more than somewhat influenced to go to the shop. The mode in the game Hearthstone is more attuned to only being somewhat influenced to go to the shop in that it is the neutral point of four.

Clash of Clans

Clash of Clans is a real time role playing strategy game in where the player takes control of a small village. It is then the players' job to build upon this village to make it stronger, and to garner strength through numbers. The building of object is constrained by 'time gates', where the player has to wait a certain amount of time while building and or creating troops. This can be helped with

in-game currency known as green gems. These green gems can be acquired in several ways. One way is to complete quests that are within the game, another way is that you can collect a gem box that spawns every week and lastly you can also achieve gems by purchasing them for actual money. These gems are a universal trade commodity, as they can be traded in for the other type of resources that are in the game, but also to hurry up progress.

Clash of Clans Town Hall 9

There were 25 participants of the Google Forms questionnaire that play Clash of Clans and have a town hall of level 9. Out of the 25 participants 4 play games on devices that are not mobile e.g. PC or console (See – Appendix 7). This is as previously mentioned important to note due the fact that some of the criticism regarding the monetization of F2P games seems to be somewhat depended on whether or not a player only play mobile games.

It is also noteworthy that 4 out of 25 participants that play Clash of Clans and have a town hall at level 9 within level also only play free to play games (See – Appendix 7). Thus 4 participants only play F2P games which might also influence the results due to the same confirmation bias.

Expectations

Question 1

Mean 4,2

Mode 4

Median 4 (See - Appendix 8)

In regards to the above measures of central tendency the mean, the mode and the median are all in accordance with each other. All of them are the neutral point of 4 which indicate that the benefits of the overall IAPs were just as expected.

Question 2

Mean 4

Mode 4

Median 4 (See - Appendix 8)

In regards to the above measures of central tendency are all in accordance with each other, which indicates that the benefits of purchasing functional items were just as expected.

Question 3

Mean 3,9

Mode 4

Median 4 (See - Appendix 8)

When considering the drawbacks for not purchasing functional in game items in this free to play game, the measures of the central tendency show that the drawbacks were just as expected.

Question 4

Mean 5,2

Mode 5

Median 5 (See - Appendix 8)

In regards of the above measured central tendency the results indicate that the quality of the game is just as expected with a small incline towards the positive side of the scale.

Question 5

Mean 2,8

Mode 3

Median 3 (See - Appendix 8)

In accordance to the central tendency measures above, the expected quality of F2P games are right below the threshold, which is just as expected. Meaning that the quality is just as expected leaning towards the negative side of the scale.

Needs

Question 6

Mean 4,5

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency indicate that the purchase the players conducted met their needs with a slight inclination towards more than met their needs.

Question 7

Mean 4,7

Mode 4 & 5

Median 5 (See - Appendix 8)

In regards to the central measures of tendency in the above, they indicate that the initial functional items met their needs, but also slightly more than met their needs, as the numbers are above 4.

Question 8

Mean 3,8

Mode 5

Median 4 (See - Appendix 8)

In relation to the central measures of tendency in the above the numbers indicate that the later purchases of functional items in free to play games just met their needs, where the mode shows that a lot of players voted for the slight incline towards more than met their needs.

Question 9

Mean 2,9

Mode 1

Median 2 (See - Appendix 8)

The central tendency measures above indicate that the initial purchases of decorative/cosmetic did not meet the players needs. The mode tells us that most answers were cast as did not meet them at all, whereas the median and the mean tell us that there are people who have a slight more feeling towards neutral (met their needs), but it is in the negative scale of the spectrum.

Question 10

Mean 2,3

Mode 1

Median 2 (See - Appendix 8)

The central measures of tendency above indicate that the later purchases of decorative/cosmetic items did not meet the players needs at all.

Quality

Question 11

Mean 3,2	Mode 3 & 4	Median 3 (See - Appendix 8)
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The central measures of tendency in the above indicate that the perceived quality of free to play games compared to paid games is just below threshold, which is just as good as paid games, but leans towards the negative part of the scale, which is that the quality is less than paid games.

Question 12

Mean 3,2	Mode 4	Median 3 (See - Appendix 8)
Mean 2,7	Mode 2	Median 3 (See - Appendix 8)
Mean 3,4	Mode 3 & 4	Median 3 (See - Appendix 8)
Mean 2,9	Mode 3	Median 3 (See - Appendix 8)
Mean 2,6	Mode 3	Median 3 (See - Appendix 8)

The different central tendency measures above indicate that the players felt that the in-game purchases they conducted were positive in terms of quality. The numbers hover mostly around 3, which is the neutral stance, but there are inclinations towards the numbers that turn into the positive. Such as row 1 and 2. It has to be noted that that row 2 and 5 have the scales flipped, so a lower score is positive and a higher is negative in contrast to row 1, 3 and 4. This is done to make sure that the participants are paying attention to the survey, and to validate the claims.

Question 13

Mean 3	Mode 3	Median 3 (See - Appendix 8)
Mean 3,1	Mode 4	Median 3 (See - Appendix 8)
Mean 2,9	Mode 3	Median 3 (See - Appendix 8)
Mean 2,9	Mode 3	Median 3 (See - Appendix 8)
Mean 3,1	Mode 3	Median 3 (See - Appendix 8)

The different central tendency measures above indicate that the players perceive the quality of functional in-game purchases are neither negative nor positive, but they have a neutral stance on it.

Question 14

Mean 1,9	Mode 1	Median 2 (See - Appendix 8)
Mean 3,9	Mode 4	Median 4 (See - Appendix 8)
Mean 1,9	Mode 1	Median 2 (See - Appendix 8)
Mean 1,8	Mode 1	Median 2 (See - Appendix 8)
Mean 4,1	Mode 4	Median 4 (See - Appendix 8)

The different measurements of central tendency in terms of in-game purchases of decorative/cosmetic items and their perceived quality of such in Clash of Clans are held in a very low regard. This is displayed by all 5 rows having numbers in that indicate negative opinions in terms of the scale. Again, the row 2 and 5 have the scales flipped, so high numbers are negative opinions.

Value

Question 15

Mean 3,7	Mode 4	Median 4 (See - Appendix 8)
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The measures of central tendency above indicate that the perceived value of in-game purchases made the players feel that they got just what they wanted. The mean also indicates that there was a slight leaning towards the negative side of the scale, but it is miniscule.

Question 16

Mean 4

Mode 4

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that the perceived value of initial functional in-game purchases made the players feel that they got just what they wanted.

Question 17

Mean 3,5

Mode 4

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that the perceived value of later functional in-game purchases made the players feel that they got just what they wanted. So there is no significant gap between the initial and later purchases, except where perhaps the purchases were deemed a bit less value in the later stages, as the mean changed to 3,5.

Question 18

Mean 3,2

Mode 4

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that the perceived value of the initial decorative/cosmetic in-game purchases made the players feel that they got what they wanted. The mean suggests that it hints towards the negative side of the scale.

Question 19

Mean 2,7

Mode 4

Median 3 (See - Appendix 8)

The measures of central tendency above indicate that the perceived value of the later decorative/cosmetic in-game purchases made the players feel that they got less than what they

wanted. The mode is 4, but the median and mean are selectively 3 and 2,7, which are on the low end of the scale. This suggests that the perceived value of said items lost zest in the later stages of the game.

Question 20

Mean 3

Mode 3

Median 3 (See - Appendix 8)

The measures of central tendency above indicate that the perceived value of functional in-game items in terms of price were closer to worth the money spent than not the worth the money spent, but it has to be noted that the number are still on the negative side of the scale.

Question 21

Mean 1,9

Mode 1

Median 1 (See - Appendix 8)

The measures of central tendency above indicate that the perceived value of decorative/cosmetic in-game purchases were not worth the money spent.

Fairness

Question 22

Mean 3,2

Mode 2

Median 3 (See - Appendix 8)

The measures of central tendency above regarding the the fairness of the way of monetizing in Clash of Clans indicate that players feel it is much less fair than paid games.

Question 23

Mean 3,8

Mode 5

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that players felt the fairness of monetizing functional in-game items is fair, but the mode indicates that there are is a chunk of players who feel a bit more positive about the fairness of monetizing.

Question 24

Mean 4

Mode 4

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that the drawbacks for not purchasing functional in-game items is fair enough.

Question 25

Mean 3,5

Mode 4

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that in light of CoC being a free to play game, the purchases of decorative/cosmetic in-game items functional in-game items is fair enough. The mean points a bit towards less than fair.

Question 26

Mean 3,6

Mode 4

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that the drawbacks for not purchasing decorative/cosmetic in-game items is fair enough. The mean indicates towards less than fair.

Question 27

Mean 4

Mode 3 & 4

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that the way the players are guided towards the shop is fair enough, but there is two factors to the mode which is 3 and 4. As 4 is fair enough, 3 indicates that a good chunk also were leaned towards the negative side of the scale.

Question 28

Mean 4,1

Mode 5

Median 4,5 (See - Appendix 8)

The measurements of central tendency above regarding whether the participants felt influenced to purchase in relation to the way in which the player was guided towards the shop, the players answered that they were influenced to purchase, with a slight leaning towards very influenced to purchase.

Summary & Analysis of Hearthstone

Expectations

In terms of expectations for players and the benefit of the purchases they conducted, the players were content with their purchases of functional items in general as the expectation were generally met. In regards to levels 14 to 10 and 4 to 0 there is an indication of the the expectations being more than met though. When the tone of the question focused on the drawbacks the answers showed that the satisfaction was generally more negatively influenced except in regards to levels 4 to 0 (See - Question 1, 2 & 3).

In regard to the fact that Chris Anderson and Richard L Oliver both mention price as an important factor in relation to the evaluation of quality, it is interesting that it correlates with their thinking as the perceived quality of the F2P games they play became much better than expected. This is further supported by the following question in where the participants emphasized that they expect the quality of free to play games to be lower than paid games(See - Question 4, 5 & 11).

Needs

When looking at the in-game purchases of functional items and decorative/cosmetic items, and the needs that the players feel that they have; they felt that their needs were met, but also a sign that their needs were slightly more than met. It has to be noted that the players from 4-0 indicate that they felt that the decorative/cosmetic items did not meet their needs at all. This goes for both the initial as well as the later stages of the game. In regards of the functional purchases in the initial as well as the later stages of the game the participant all felt that their needs were generally met. It is interesting to note however that there is a slight decrease in relation to the ratings of the scales from the initial to the later purchases that might indicate that the needs is not as satisfied on the long run(See - Question 6, 7, 8, 9 & 10).

Quality

When addressing the perceived quality of the functional as well as the decorative/cosmetic items the players feelings were hovering around the neutral point with a incline towards the positive side of the scale. This indicates that there might be a difference between the perceived quality and experience of functional and decorative/cosmetic items(See - Question 12, 13 & 14).

Value

In relation to the perceived value of the in-game purchases in general, they are perceived as being relatively high. In relation to the functional as well as the decorative/cosmetic purchases in the initial stages of the game versus the later stages of the game they indicate that the participants felt they got what they paid for. It is interesting to note however that there is an indication of a slight decrease in the evaluated worth from the initial to the later in-game purchases in general. This is quite strongly supported by the measures of central tendency in regards to the functional items within levels 4 to 0 where the perception of value received in regards to the IAPs in the initial versus the later stages of the game clearly indicate a decrease in satisfaction (See - Question 15, 16, 17, 18 & 19).

In relation to the perceived worthiness of the functional purchases they were generally perceived as being of quite high value in that they all were evaluated as being worth more than what was paid for them. It is noteworthy that in level 9-4 the perceived value of functional purchases was that they were worth the money spent, but not overly positive. The decorative/cosmetic purchases were evaluated as being just worth with a slight tendency to not being worth the money spend on them. This indicate a difference in relation to the experience of functional and decorative/cosmetic purchases. In relation to this level 0 to 4 the participants indicate felt that they did not get their money's worth in relation to both functional and decorative/cosmetic items (See - Question 20 & 21).

Fairness

When looking at how the F2P game monetizes it becomes apparent that the participants deemed the games approach as fair enough. This goes for functional purchases where in level 4 to 0 it is even perceived as being more than fair.. It is interesting however that in regards to the drawbacks of not conducting functional IAPs, the general perception is that the way of applying the IAPs is perceived as not being fair. However this perception does deviate in regard to the levels 14 to 10 and 9 to 5 in that they generally feel that the drawbacks for not conducting IAPs is fair enough. Additionally in relation to the above it is noteworthy that the IAPs related to both the application as well as the drawbacks for not paying for decorative/cosmetic items the perception is that they are more than fair (See - Question 22, 23, 24, 25 & 26).

When observing on how the players felt the game guided them towards the shop, the players felt that it was fair enough with a slight inclination towards more than fair, but in relation to that the players also felt that that they were influenced to purchase. Though in from level 9-5 there was a smaller deviation in where the players felt influenced to purchase, but it was indicating that they were leaning towards not influenced to purchase.(See - Question 27 & 28).

The following part of measurement instrument 1, the Google forms analysis will revolve around another F2P mobile game, Clash of Clans.

Clash of Clans Town Hall 10

There were 7 participants of the Google Forms questionnaire that play Clash of Clans and have a town hall of level 10. Out of the 7 participants 5 play games on devices that are not mobile e.g. PC or console (See – Appendix 7). This is as previously mentioned important to note due the fact that some of the criticism regarding the monetization of F2P games seems to be somewhat depended on whether or not a player only play mobile games.

It is also noteworthy that 3 out of 7 participants that play Clas of Clans and have a town hall at level 10 within level also play paid games (See – Appendix 7). Thus 4 participants only play F2P games which might also influence the results due to the same confirmation bias.

Expectations

Question 1

Mean 4

Mode 4

Median 4 (See - Appendix 8)

In regards to the above measures of central tendency the mean, the mode and the median are all in accordance with each other. All of them are the neutral point of 4 which indicate that the benefits of the overall IAPs were just as expected.

Question 2

Mean 3,7

Mode 5

Median 4 (See - Appendix 8)

In relation to the central measure of tendency in relation to functional items the mean is 3,7 and thus slightly under the middle point of 4 thereby indicating that the benefits of the overall IAPs slightly did not live up to the expectations. In regards of the mode it is 5 which indicate that the IAPs did more than live up to the expectations of the benefits for conducting IAPs. Lastly the median is four thereby indicating that the benefits of purchasing IAPs did just live up to the expectations.

Question 3

Mean 4,1

Mode 4 & 6

Median 4 (See - Appendix 8)

In relation to the drawbacks for not paying for IAPs the measures of central tendency are generally in accordance with each other in that the mean, one of the modes as well as the median are all approximately 4. Which indicate that the drawbacks for not paying for IAPs were just as expected. The second mode being 6 indicate that the drawbacks for not conducting IAPs are not as bad as expected.

Question 4

Mean 6

Mode 7

Median 7 (See - Appendix 8)

In regards to the expected quality of the game the central measures of tendency the mean and the median are in accordance with each other, 6. Thus indicating that the quality of the game were better than expected. The mode further supports this inclination in that is the top score 7.

Question 5

Mean 3,2

Mode 3 & 4

Median 3 (See - Appendix 8)

In relation to the measures of central tendency in the above in regards of the expected quality of F2P games compared to paid games the mean, one of the modes as well as the median are more or less in accordance with each other. Indicating that the quality of F2P games compared to paid games are perceived as being lower. The last mode being 4 incline that there are some participants that fell like the quality of F2P games are just as good as paid games.

Needs

Question 6

Mean 4

Mode 4

Median 4 (See - Appendix 8)

In relation to the measures of central tendency in the above regarding whether the IAPs generally met the needs of the players or not the mean, mode and median are in accordance with each other. They all indicate that the IAPs generally met the needs.

Question 7

Mean 4,4

Mode 4, 5 & 6

Median 5 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the functional IAPs in the initial phase of the game the mean is in almost in accordance with the the neutral point thus indicating just meeting the needs of the players. In regards of the mode there are three different point on the scale that occur the same amount of times. Showing that some participants feel their needs were just met whereas some feel the were slightly more than met and lastly some feel their needs were more than met. The median indicate that the needs were slightly more than met.

Question 8

Mean 4

Mode 3 & 5

Median 4 (See - Appendix 8)

In relation to the central measures of tendency in the above regarding the functional IAPs in the later stages of Clash of Clans the mean and the median are in accordance with each other. The general perception in relation to these centrality measures indicate that the needs were just met. Additionally there is two modes being 3 and 5. 3 indicating that some participants slightly feel the needs has not been met. Whereas 5 indicate that some participant feel that there needs were slightly more than met.

Question 9

Mean 1,5

Mode 1

Median 1 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the decorative IAPs in the initial stages of the game the mode and the median are in accordance with each other and both indicate that the desires were not met at all. In relation to the mean is 1,5 also indication that the needs were not met.

Question 10

Mean 1,1

Mode 1

Median 1 (See - Appendix 8)

In relation to the central measures of tendency in the above regarding the decorative IAPs in the later stages of the game the mean, mode and the median are all more or less in accordance with each other and indicating that the needs were not met at all.

Quality

Question 11

Mean 3,8

Mode 4

Median 4 (See - Appendix 8)

In regards to the central measures of tendency in the above regarding the comparison of the perceived quality of F2P games compared to paid games the mode and the median are in accordance with each other and both indicate that the quality is just as good as paid games. Whereas the mean indicate that the quality of F2P games very,very slightly leaning towards F2P games being a little less good compared to paid games.

Question 12

Mean 3,2

Mode 3 & 4

Median 3 (See - Appendix 8)

Mean 3

Mode 3

Median 3 (See - Appendix 8)

Mean 3,34

Mode 3

Median 3 (See - Appendix 8)

Mean 3,2

Mode 3 & 4

Median 3 (See - Appendix 8)

Mean 3

Mode 3

Median 3 (See - Appendix 8)

In relation to the different measurements of central tendency in the above regarding the perceived quality of the different IAPs within Clash of Clans the different means indicate that the quality is either being perceived as being of an ok quality in that they are all closely to 3. In regards to the mode the indication can be both good and bad in that the first and fourth scales both have four as one of the scores, but they indicate a very different thing in that the values of the scales in contrast to each other being that 4 in the first scale is a positive measure whereas in the 4 scales it is a negative measure. Again This is because some of the scales as mentioned are flipped meaning that 4 in the mode in the first scale is an indication that some player feel the quality of the IAPs are of relatively high. Whereas 4 in the fourth scale rather inclining towards that the quality is not so good. Additionally in relation to the mode all of the scales have 3 which is the middle point thereby indicating that the quality generally speaking is ok. This is further supported in regards of the different medians in that all of them are 3.

Question 13

Mean 3

Mode 3

Median 3 (See - Appendix 8)

Mean 3,1

Mode 3

Median 3 (See - Appendix 8)

Mean 2,8

Mode3

Median 3 (See - Appendix 8)

Mean 2,8

Mode 3

Median 3 (See - Appendix 8)

Mean 3

Mode 3

Median 3 (See - Appendix 8)

In regards to the different measurements of central tendency regarding the perceived quality of the functional IAPs in the game Clash of Clans. All of the different measures are somewhat in accordance with each other indicating that the participants are neither perceive the quality of being particularly high or particularly low.

Question 14

Mean 1,1

Mode 1

Median 1 (See - Appendix 8)

Mean 4,1

Mode 5

Median 5 (See - Appendix 8)

Mean 1,1	Mode 1	Median 1 (See - Appendix 8)
Mean 1,1	Mode 1	Median 1 (See - Appendix 8)
Mean 4,1	Mode 5	Median 5 (See - Appendix 8)

In regards to the different measurements of central tendency regarding the perceived quality of the decorative IAPs in Clash of Clans. All of the different measures are somewhat in accordance with each other indicating that the participants are really perceive the quality of the decorative IAPs as being of low quality. Again here the high score are negative in that the scales as previously mentioned have been flipped in some places.

Value

Question 15

Mean 4	Mode 5	Median 4 (See - Appendix 8)
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In regard to the the measures of central tendency related to the perceived value of the different IAPs in Clash of Clans the mean and the median are in accordance with each other in that they both have a score of 4. This indicate that the value of the IAPs in general is perceived as being just worth the money spend. Additionally in relation to the mode which is 5 and thereby indicting that the IAPs were worth a little more than what was spend.

Question 16

Mean 5	Mode 5	Median 5 (See - Appendix 8)
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In relation to the measurements of central tendency regarding the perceived values of the functional IAPs in initial phases of the the game Clash of Clans The mean, mode and the median are all in accordance with each other. All of them indicate that the participants feel they get a little more value than the money spend.

Question 17

Mean 3,8

Mode 5

Median 4,5 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the functional IAPs in later stages of the game Clash of Clans the mean is closely relate to the middle point of four thus indicating that the participants almost feel like they got what they paid for. just In contrast to this both the mode and the median indicate that the participant slightly feel like the got a little more than what they bargained for.

Question 18

Mean 1,8

Mode 1

Median 1 (See - Appendix 8)

In regards to the measurements of central tendency regarding the perceived values of the decorative IAPs in initial stages of the game Clash of Clans the mode and the median are in accordance with each other. Both of these measures indicate that the participants feel they did not get what they paid for at all. This is further supported by the mean even though it has a little higher score than the other two measures it still indicate that the participants did not feel like they got what they bargained for.

Question 19

Mean 2

Mode1

Median 2 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values of the decorative IAPs in later stages of the game Clash of Clans the mean and median both indicate that the participants feel like they did not get enough value compared to the money spend. In regards of the to the mode it even further supports the indication that the participants do not feel the got what they bargained for at all.

Question 20

Mean 3,2

Mode 3 & 4

Median 3 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values in comparison to the price of the functional IAPs throughout the game Clash of Clans the mean, one of the modes as well as the median are close to being in accordance with each in that the almost have a score of 3. This indicate that the participants feel they got less than what they thought the purchase was worth. In regards the second mode, 4 it indicates that some of the participant feel like they got just what they paid for nothing more nothing less.

Question 21

Mean 1,1

Mode 1

Median 1 (See - Appendix 8)

In relation to the measurements of central tendency regarding the perceived values in comparison to the price of the decorative IAPs throughout the game Clash of Clans the mean, the mode as well as the median are close to being in accordance with each other in that the almost have a score of 1. This indicate that the participants feel they got a lot less than what they thought the purchase was worth.

Fairness

Question 22

Mean 3,7

Mode 2 & 4

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the the fairness of the way of monetizing in Clash of Clans the mean, one of the modes mode as well as the median are closely to being in accordance with each other. In that they are all close to being 4 they all generally indicate that the participant perceived monetization of the IAPs as being fair enough. Even though it is worth mentioning that the mean do deviate in that it is slightly attuned to feeling it is a little unfair. In relation to this the second mode being 2 even further establishes that there are some players that feel the way of monetizing in general.

Question 23

Mean 4,2

Mode 6

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the the fairness of the way of monetizing the functional IAPs the mean, one of the modes mode as well as the median are closely to being in accordance with each other. The mean and the median are somewhat in accordance with each other. Both of them indicate that it is perceived as fair enough in that the both got a score of approximately 4. In relation to the mode it indicates the way of monetizing the functional IAPs are perceived as more than fair in that it has gotten the rating 6 on a scale to a max of 7.

Question 24

Mean 4

Mode 4

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the fairness of the drawbacks for not paying for functional items all of the different measure are in accordance with each other. And as such all of them indicate that the drawbacks for not paying for functional IAPs are perceived as being fair enough in that they all got the middle score of 4.

Question 25

Mean 4,1

Mode 4

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding the fairness of the way of monetizing the decorative IAPs the mean, mode and the median are closely to be in accordance. They all indicate that the way of monetizing is perceived just fair enough. In the all of the different measures of central tendency are approximately 4 thus again rating the middle point of the scale.

Question 26

Mean 3,8

Mode 4

Median 4 (See - Appendix 8)

In relation to the measurements of central tendency regarding fairness in regards to the drawbacks for not paying for decorative items the mean, the mode and the median are almost in accordance with each other. Again they all are approximately 4 thus again indicating that the participants feel the drawbacks for not paying for decorative items are fair enough.

Question 27

Mean 4,7

Mode 3 & 5

Median 5 (See - Appendix 8)

In relation to the measurements of central tendency regarding fairness in relation to the way in which the player is guided towards the shop the mean, one of the modes as well as the median are all more or less in accordance with one another. Being that the mean is 4,7 and one of the modes as well as the median is 5. This indicates that that the participants all feel the way in which they are guided towards the shop is slightly more than fair. In contrast to this is the other mode which is 3 thus indicating that some of the participants feel the way the game guides the player towards the shop is not totally fair but not as strong as to feel it is not fair at all.

Question 28

Mean 3,2

Mode 2

Median 2 (See - Appendix 8)

In relation to the measurements of central tendency regarding whether the participants felt influenced in relation to the way in which the player was guided towards the shop. The mode and the median are a 100 percent in accordance with each other in that they are both 2. This indicates that the participant did not feel that influenced to go to the shop. The mean is slightly more indicating that there are some feeling of influence occurring.

Summary & Analysis of Clash of Clans

Expectations

In terms of expectations for players and the benefit of the purchases they conducted, the players were content with their purchases of functional items in general as the expectation were generally met. This goes for the questions regarding the expectation to the drawbacks for not paying as well (See - Question 1, 2 & 3).

When considering the expectations for the quality of the F2P game, the participants deemed it much better than expected. This also goes in relation to the following question in where the participants emphasized that they expect the quality of free to play games to be lower than paid games (See - Question 4, 5 & 11).

Needs

When looking at the in-game purchases of functional items and decorative/cosmetic items, and the needs that the players feel that they have; they felt that their needs were met, but also a sign that their needs were slightly more than met. It has to be noted that the participants generally indicate that they felt that the decorative/cosmetic items did not meet their needs at all. This goes for both the initial as well as the later stages of the game. In regards of the functional purchases in the initial as well as the later stages of the game the participant all felt that their needs were generally met. It is interesting to note however that there is a slight decrease in relation to the ratings of the scales from the initial to the later purchases that might indicate that the needs is not as satisfied on the long run(See - Question 6, 7, 8, 9 & 10).

However upon looking whether the needs of the players were met in accordance to the decorative/cosmetic items the players felt that their needs were not met at all. Neither in the initial or the later stages of the game.

Quality

When addressing the perceived quality of the functional items the players feelings were hovering around the neutral point with a incline towards the positive side of the scale. In regard to the decorative/cosmetic items they are perceived as being of very low quality. This clearly indicates that there might be a difference between the perceived quality and experience of functional and decorative/cosmetic items, but it might well be due to the way of implementation in the game (See - Question 12, 13 & 14).

Value

In relation to the functional in-game purchases they are generally perceived as being worth more than what was paid for them in the initial stages of the game. In the later stages of the game there is a slight decrease in the valuated perception in regards to Town Hall 9. This decrease in the perception of the values is even stronger in regards to Town Hall 10. This indicates a general decrease in the evaluated worth of the functional IAPs over time. In terms of the initial and later purchases of decorative/cosmetic items, the players felt that they got what they wanted in the initial part of the game, whereas there was a steady decrease in the later parts of the game. The decrease is even more apparent in Townhall 10, where the perception of initial purchases of decorative/cosmetic items are very low and that they did not get what they wanted, and the later purchases are even lower (See - Question 15, 16, 17, 18 & 19).

In relation to the perceived worthiness of the functional purchases they were generally perceived as being of quite low value in that they all were evaluated as being worth less than what was paid for them.. The decorative/cosmetic purchases were evaluated as not being worth what was paid for them at all. This indicate a difference in relation to the experience of functional and decorative/cosmetic purchases (See - Question 20 & 21).

Fairness

When looking at how the F2P game monetizes it becomes apparent that the participants deemed the games approach as fair enough. This also goes for the drawbacks related to the both the functional decorative items. However when looking at how participants from TH9 answered, they deemed that the way CoC monetizes is less fair than paid games.

(See - Question 22, 23, 24, 25 & 26).

When observing on how the players within Town Hall 9 felt the game guided them towards the shop, the players felt that it was fair enough with a slight inclination towards more than fair, but in relation to that the players also felt that that they were influenced to purchase. In regards to Town Hall 10 there is a slight increase in relation to the perception of being guided towards the shop in that they generally felt they were more than just influenced towards the shop. However in TH10 the way the players are guided towards the shop, the participants felt that it was more than fair, but as they came to the shop, they felt that they were not influenced to purchase. (See - Question 27 & 28).

Winterforts Questionnaire

In relation to the questionnaire related to the long term questionnaire it is important to note that quite a few of the questions have been removed compared to the first measurement instrument, the Google Forms questionnaire. This partly is due to the way in the game under investigation; WinteForts has applied the different IAPs. In relation to this none of the questions regarding the decorative IAPs were implemented into the third measurement instruments, the Typeform questionnaire. Simply because there are no decorative IAPs in the game WinterForts.

All in all, the third measurement instrument, the Typeform questionnaire consisted of 11 question as illustrated below. It is important to note however that in relation to the questions regarding quality, and unappraised cognition there were additional scales as with the first measurement instrument.

1. The benefits of in-game purchases, were they.
2. Considering that this game is free-to-play you feel the drawbacks for not paying for in-game items are.
3. Considering your needs as a player, you felt the purchases you conducted in this play session.
4. Please rate the perceived quality of the in-game purchases in this play session on the following scales.
5. In regards of the in-game purchases throughout the play session you felt.
6. Considering the benefits of this game being free to play you felt the way of monetizing (make money) were.

7. Considering that this game is free to play, you feel the drawbacks for not paying for items are.
8. You feel the way the game guides players towards the shop is.
9. What are your feelings concerning your decisions to buy in-game items in this play session.
10. Your decision to purchase in-game items in this session was.
11. As a result of that decision, to purchase in-game items you are feeling.

Before getting to the analysis it is important to get an understanding of the game thus the following will shortly explain the crucial aspects of Winterforts.

Winterforts

It is important to note that due to the feedback regarding the feeling of regret as well as the unappraised cognition clearly being influenced by the bias that the participants did not spend the own money theses have been excluded from the analysis.

Winterforts is a real time strategy game with role playing game factors. In Winterforts, you take the command of a small base (or city) and from there on you gather resources with your workers, build an army and built upon your base and structures. The game is mainly focus on the base building aspect, but there is also a large feature in where players can battle each other and the computer. The battling is in terms of base 'wars'. A player can attack another players base, and it is up to the player how to defend or attack. An attacking player sends in his troops from different vantage points, whereas the defending player is goaled to build the best structural defense that can best his foes. As previously mentioned, building is a big aspect of this game, and for this the player has workers. Workers come on sparse amounts in the beginning, but as you further progress in the game, and more workers are needed, you can also attain more of them. Because each task takes a certain amount of time to finish, and each task requires the workers full attention. Therefore if two workers are occupied, a player cannot build or upgrade further structures until one of these workers are free. This process can be sped up significantly by using gems, which is the in-game hard currency in the game. Gem can be attained in several ways. Gems can appear randomly across the base, where a player just has to click on them. Gems can also be earned by watching thirty second promotional videos. Lastly, gems can also be earned by purchasing them for real money.

Winterforts Session 1

Expectations

Question 1

Mean 4,2

Mode 4

Median 4 (See - Appendix 10)

In regards to the central measures of tendency regarding the expected benefits of the IAPs the mean, mode and the median are all closely in accordance with each other. Since all the measures are approximately 4 they indicate that the benefits for conducting IAPs were perceived as being just as expected.

Question 2

Mean 4,1

Mode 3 & 4

Median 4 (See - Appendix 10)

In relation to the central measures of tendency in regards of the drawbacks for not paying for IAPs the mean, one of the modes as well as the median are all somewhat in accordance with each other. Being that they are all approximately 4 the indication is that the participants felt the drawbacks for not paying were as expected. In relation to the second mode being 3, this indicate that some of the participant did feel the drawbacks for not paying were worse than expected.

Needs

Question 3

Mean 4

Mode 4

Median 4 (See - Appendix 10)

In regards to the central measures of tendency related to whether the IAPs met the needs of the players all of the measures are in accordance with each other. As all of them are 4 they all of the indicate that the needs of the participants were just met when conducting IAPs.

Quality

Question 4

Mean 2,8	Mode 3	Median 3 (See - Appendix 10)
Mean 2,8	Mode 3	Median 3 (See - Appendix 10)
Mean 3,1	Mode 3 & 4	Median 3 (See - Appendix 10)

Regarding the central measure of tendency related to the perceived quality of the IAPs in WinterForts the first scale goes from low to high quality whereas the other scales go from high quality to low. In regards of the the mean the measures are all somewhat in accordance with each other being that they are approximately 3. Whereas the first and last mean very slight indication of an inclination towards the quality of the IAPs being perceived as a little bit low. The mean for the second scale slightly indicate that the quality of the IAPs is a little bit high. In regards to the modes of all the scales they are generally in accordance with each other being 3. As such they indicate that the perceived quality of the IAPs are ok. All though there is an additional mode in the last scale indicating a leaning towards the IAPs being of relatively low quality. In regards of the median the are all in accordance with each other and as they are all 3 they all indicate that the quality of the IAPs are ok, meaning neither good nor bad.

Value

Question 5

Mean 4,7	Mode 4	Median 4 (See - Appendix 10)
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In relation to the central measures of tendency regarding the IAPs conducted in the first play session the mean indicate a slight inclination towards them being worth a little more than what was spend on them. In regard to the mode and the median they are in accordance with each other in that they are both 4. This indicates that the participants do feel they got exactly what they paid for.

Fairness

Question 6

Mean 3,2

Mode 3

Median 3 (See - Appendix 10)

In regard to the measures of central tendency related to the application of the IAPs in the game the mean, mode and median are closely to be in accordance with each other. Being that the are all approximately 3 the indication is that the way of monetizing is generally perceived as being unfair.

Question 7

Mean 3,2

Mode 2

Median 3 (See - Appendix 10)

Regarding the measures of central tendency related to the drawbacks for not conducting IAPs the mean and the mode are close to being in accordance with each other in that they both are approximately 3. Thus indicating that the drawbacks for not conducting IAPs are perceived as being a little unfair. The mode further support this in that it is 2 and thus indicate that the perception of the drawbacks for not paying is a little more than just unfair.

Question 8

Mean 5,2

Mode 5

Median 5 (See - Appendix 10)

In relation to the central measures related to whether the participants felt influenced in being guided towards the shop the measures are all somewhat in accordance with each other being approximately 5. Thus indicating that the participant do feel a little the influenced in being guided towards the shop.

Winterforts Session 2

Expectations

Question 1

Mean 4

Mode 4

Median 4 (See - Appendix 10)

In regards to the central measures of tendency regarding the expected benefits of the IAPs the mean, mode and the median are all in accordance with each other. Since all the measures are 4 they indicate that the benefits for conducting IAPs were perceived as being just as expected.

Question 2

Mean 4,2

Mode 4

Median 4 (See - Appendix 10)

In relation to the central measures of tendency in regards of the drawbacks for not paying for IAPs the mean mode and the median are in accordance with each other. Being that they are both 4 the indication is that the participants felt the drawbacks for not paying were as expected.

Needs

Question 3

Mean 4,2

Mode 5

Median 5 (See - Appendix 10)

In regards to the central measures of tendency related to whether the IAPs met the needs of the players the mode and median are in accordance with each other being 5. Thus indicating that the

needs of the participants when conducting IAPs were a little more than met. In regards to the mean being 4,2 it indicate that the needs of the participants were just met with slight inclination towards being more than met.

Quality

Question 4

Mean 2,8	Mode3	Median 3 (See - Appendix 10)
Mean 3,2	Mode 3	Median 3 (See - Appendix 10)
Mean 3,6	Mode 3	Median 3 (See - Appendix 10)

Regarding the central measure of tendency related to the perceived quality of the IAPs in WinterForts the first scale goes from low to high quality whereas the other scales go from high quality to low. In regards of the the mean of scale one being 2,8 indicate a very slight inclination towards a perception of the IAPs being of low quality. This is in accordance with the other means where they becuase they are slightly above 3 also indicate an inclination towards a perception of the IAPs being of a little low quality. In regards to the modes as well as the medians of all the scales they are in accordance with each other being 3. As such they indicate that the perceived quality of the IAPs are ok.

Value

Question 5

Mean 5	Mode 5	Median 5 (See - Appendix 10)
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The measures of central tendency regarding the value of the IAPs conducted in the second play session the mean, mode and median are all in accordance with each other being 5. This indicates that the participants do feel they got somewhat more than what they paid for.

Fairness

Question 6

Mean 3,2

Mode 4

Median 4 (See - Appendix 10)

The measures of central tendency related to the application of the IAPs in the game the mode and median are in accordance with each other. Being that they are all 4 the indication is that the way of monetizing is generally perceived as being fair enough. Furthermore the mean is 3,2 which indicates that the perception of the IAPs are that they are slightly unfair.

Question 7

Mean 4

Mode 4

Median 4 (See - Appendix 10)

The measures of central tendency related to the drawbacks for not conducting IAPs the mean mode and the median are all in accordance with each other in that they are all 4. Thus indicating that the drawbacks for not conducting IAPs are perceived as being a fair enough.

Question 8

Mean 4,8

Mode 5

Median 5 (See - Appendix 10)

In relation to the central measures related to whether the participants felt influenced in being guided towards the shop the measures are all somewhat in accordance with each other being approximately 5. Thus indicating that the participant do feel a little the influenced in being guided towards the shop.

Winterforts Session 3

Expectations

Question 1

Mean 4,6

Mode 5

Median 5 (See - Appendix 10)

The measures of central tendency regarding the expected benefits of the IAPs the mean, mode and the median are all closely in accordance with each other. Since all the measures are approximately 5 they indicate that the benefits for conducting IAPs were perceived as being a little better than expected.

Question 2

Mean 4

Mode 3

Median 3 (See - Appendix 10)

The measures of central tendency in regards of the drawbacks for not paying for IAPs the the modes and median are in accordance with each other. Being that they are 3 the indication is that the participants felt the drawbacks for not paying were a little worse than expected. In relation to the second mean being 4 this indicate that some of the participant did feel the drawbacks for not paying were just as expected.

Needs

Question 3

Mean 5,3

Mode 6

Median 6 (See - Appendix 10)

The central measures of tendency related to whether the IAPs met the needs of the players the mode and the median are in accordance with each other being 6. Thus indicating that the needs of the participants were more than just met when conducting IAPs. Additionally the mean being 5,3 also indicate that the needs were more the met even though not to the same extent as the other measures.

Quality

Question 4

Mean 3,6

Mode 4

Median 4 (See - Appendix 10)

Mean 2,6

Mode 3

Median 3 (See - Appendix 10)

Mean 2,6

Mode 3

Median 3 (See - Appendix 10)

Regarding the measure of central tendency related to the perceived quality of the IAPs in WinterForts the first scale goes from low to high quality whereas the other scales go from high quality to low. In regards of the mean the in the first being 2,6 it indicate that the Quality of the IAPs are perceived as being of relatively high quality. This is further supported by the mean in the last scale where 2,6 indicate that the quality is slightly leaning towards being high. In contrast to this the mean in the second scale does slightly indicate that the quality of the IAPs are perceived as being a little low. In regards to the mode and the median in the first scale they are in accordance with each other and indicate that the perceived quality is quite high in that the score is 4. Whereas the mode and median in the two following scales are 3 thus indicating that the quality of the IAPs are perceived as being of ok quality.

Value

Question 5

Mean 5

Mode 5

Median 5 (See - Appendix 10)

The measures of central tendency regarding the IAPs conducted in the first play session they are all in accordance with each other all being 5. Indicating that the IAPs conducted in this session are perceived as being worth slightly more than what was spend on them.

Fairness

Question 6

Mean 3,6

Mode 2, 4 & 5

Median 4 (See - Appendix 10)

The measures of central tendency related to the application of the IAPs in the game the mean being 3,6 thereby slightly indicating that the IAPs are perceived as being slightly unfair. This perception of unfairness is further supported by one of the modes, being 2. In relation to the second mode being 4 this is in accordance with the median which is also 4. Thus indicating the perception of the IAPs being fair enough. Lastly there is the mode of 5 which indicate that some of the participant feel the application of the IAPs are more than fair.

Question 7

Mean 3,6

Mode 2, 3 & 6

Median 3 (See - Appendix 10)

The measures of central tendency related to the drawbacks for not conducting IAPs has a mean of 3,6 which indicate a slight feeling of unfairness regarding these drawbacks. This perception of the drawbacks to not conducting IAPs are further supported by the modes 2 and 3 as well as the median 3. All of these indicate even further perceptions of the drawbacks not being fair at all. In contrast to these indications is the last mode being 6 which indicate that some do perceive the drawbacks for not conducting IAPs as being more than fair.

Question 8

Mean 5,6

Mode 6

Median 6 (See - Appendix 10)

In relation to the central measures related to whether the participants felt influenced in being guided towards the shop the measures are all somewhat in accordance with each other being approximately 6. Thus indicating that the participant do feel a quite influenced in being guided towards the shop.

Expectations

Question 1

Mean 4,2

Mode 5

Median 5 (See - Appendix 8)

The above measures of central tendency indicate that the players felt the benefits of in-game purchases were just as expected, but with an inclination towards the positive side of the scale as the mode and median are both 5.

Question 2

Mean 4,7

Mode 4

Median 4,5 (See - Appendix 8)

Question 5

Mean 5,2

Mode 5

Median 5 (See - Appendix 8)

The measures of central tendency above indicate that the perceived value of in-game purchases made the players feel that they got just what they wanted with a leaning towards that they got more than what they wanted.

Fairness

Question 6

Mean 3,7

Mode 4

Median 4 (See - Appendix 8)

The measures of central tendency above regarding the way that this free to play game makes money is deemed just as fair as paid games.

Question 7

Mean 4,2

Mode 4

Median 4 (See - Appendix 8)

The measures of central tendency above indicate that the players feel that drawbacks for not purchasing in-game items in this game are fair enough.

Question 8

Mean 4,2

Mode 5

Median 5 (See - Appendix 8)

The measures of central tendency above indicate that the players feel that the way the game guides players to the shop is fair enough, with an incline towards more than fair, as both mode and median are both 5.

Winterforts Session 5 – 14

Expectations

Question 1

Mean 4,8

Mode 6

Median 5 (See - Appendix 10)

The measures of central tendency regarding the expected benefits of the IAPs the mean is 4,8 slightly indicating that the benefits were above what was expected. This is further supported by the median in that it is 5, thus indicating the benefits of the IAPs to be even more above the expected. In regards to the mode being 6 this indicate that the benefits are perceived as being much better than the expected.

Question 2

Mean 4,6

Mode 6

Median 5 (See - Appendix 10)

The measures of central tendency in regards of the drawbacks for not paying for IAPs the mean being 4,6 indicate that the drawbacks are slightly worse than expected. The median being 5 indicate that the drawbacks are not just slightly worse than expected and the mode being 6 indicate that the drawbacks for not paying are much worse than expected.

Needs

Question 3

Mean 5

Mode 5

Median 5 (See - Appendix 10)

The central measures of tendency related to whether the IAPs met the needs of the players they have a mean, mode and a median that are in accordance with each other being 5. Thus indicating that the needs of the participants were more than just met when conducting IAPs.

Quality

Question 4

Mean 3,5

Mode 3 & 4

Median 3,5 (See - Appendix 10)

Mean 2,6

Mode 2 & 4

Median 2,5 (See - Appendix 10)

Mean 2,6

Mode 3

Median 3 (See - Appendix 10)

The measure of central tendency related to the perceived quality of the IAPs in WinterForts have 3 scales. The first scale goes from low to high quality whereas the other scales go from high quality to low. Regarding the mean in the first scale being 3,5 it indicates that the quality of the IAPs in the game are perceived as being of quite low quality. This is further supported by the mean in the second and last scale being 2,6 it indicates that the quality of the IAPs are perceived as being of relatively low quality. In relation to the mode 4 in the first and second scale these are in contrast with each other in the first it is an indication of relatively high quality whereas in the second scale the mode of 4 indicates a perception of relatively low quality. In regards to the mode 3 in the first and last scale it is an indication of the quality of the IAPs being of ok quality in that it is the

middle point. Related the last mode in the second scale being 2 this is an indication of the quality being relatively high. In regards to the median in the first scale this is an indication of the IAPs being ok with a slight inclination towards being of good quality. This is further supported by the median in the second scale in that in it is 2,5 which indicate a perception of even quite good quality of IAPs. In regards of the last mean it is 3 which indicate that the quality of the IAPs is ok.

Value

Question 5

Mean 5

Mode 4 & 6

Median 6 (See - Appendix 10)

The measures of central tendency regarding the IAPs conducted in the first play sessions 5 to 14 they have a mean of 5. Indicating that the value of the IAPs were perceived as being slightly more worth than what was spend on them. This indication is even further supported by one of the modes and the median which are in accordance in being 6. This indicate that the worth of the IAPs are quite much more than what was paid for them. In relation to the last mode being 4 this indicates that the IAPs conducted in theses play sessions were just worth what was paid for them.

Fairness

Question 6

Mean 3

Mode 1 & 5

Median 4,5 (See - Appendix 10)

The measures of central tendency related to the application of the IAPs in the game the mean being 3 thereby indicating that the IAPs are perceived as being a little unfair. This perception of unfairness is further supported by one of the modes, being 1 which indicate that the application is not fair at all. in relation to the second mode, 5 this indicate that some player do perceive the application of the IAPs as more than fair. In regard to the median it indicate that that the application of the IAPs is fair enough.

Question 7

Mean 3,3

Mode 1

Median 3 (See - Appendix 10)

The measures of central tendency related to the drawbacks for not conducting IAPs has a mean of 3,3 which indicate a slight feeling of unfairness regarding these drawbacks. This perception of the drawbacks to not conducting IAPs are further supported by the mode 1. Thus indicating that the drawbacks are not fair at all. The median 3 indicate a perception of the drawbacks not being fair.

Question 8

Mean 4,6

Mode 4 & 6

Median 6 (See - Appendix 10)

The measures of central tendency related to whether the participants felt influenced in being guided towards the shop the mean and one of the modes are somewhat in accordance with each other in that they are both approximately 4. Thus indicating that the participants did feel influenced, towards the shop but too much. The second mode and the median are also in accordance being 6. The indication of these is vastly different in that they indicate that the participant felt very influenced towards the shop.

Long Term Content Analysis

The second part of the analysis will go through the responses in relation to WinterForts in regards of two different aspects.

1. Being whether it is possible to define different regarding how the IAPs might affect the player experience.
2. Looking into the different play sessions, and try to observe if there are any indications that point towards a change of attitude in terms of how the game is perceived. In other words are there more, less or the same amount of positive or negative statements regarding the experience of WinterForts over time.

In order to analyze this qualitative data, it has be grouped into meaningful patterns that have been observed. This is the core of qualitative data analysis. The type of analysis is therefore highly dependent on the nature of the research questions, and the type of data that we collect. In terms of the answers on the UX Curve, we have concluded that a content analysis is the most appropriate it due the scarce amount of data that is presented.

Content analysis is therefore carried out by:

1. Coding the data for certain words or content
2. Interpret their meanings.

This type of coding is done by examining all the text and labeling of words, phrases and sections of text that relate to your research questions of interest. After the data is coded you can sort and examine the data by code to look for patterns. We can do this by looking into the different play sessions and try to see if there are any recurring patterns, words or content that we can withdraw.

- Words that occur often are: introduction, tutorial, graphics, gems/diamonds, snow, tutorial, easy, time, hurry
- Content: tutorial improvement, gems to hurry, gems acquired, shoveling snow, gameplay, graphics are unlikeable

Session 1

Upon looking at the first session in regards of IAPs, several things indicate that the in-game purchases have people on the fence. The time gating or time barriers on building or gathering is apparent, which means that they realize the use of gems (See – Appendix 11). However cashing in the 25.000 gems seemed to be too much for certain players, as it made the game feel too easy. It has to be noted that the ones who used gems in the first session felt that the progression was steady, and that the low amount of gems needed was appropriate (See – Appendix 11). Though it was also noted that if you do not use gems, you hit the ceiling quite fast. Participants also complained about having to watch commercials in order to attain free gems (See – Appendix 11).

In relation to the general player experience of the first play session there are some comments that indicate the game is easy to navigate and control, but it is hard to understand the game and the introduction is too short. Additionally it feels nice that the progress is going fast (See – Appendix 11).

Session 2

In regards to the second play sessions there are different aspects that seem to indicate something regarding the IAPs within WinterForts in that for example buying a worker in order to speed things up (See – Appendix 11). In relation to speeding thing up it is interesting that there seems to be quite a few comments regarding too much waiting such are gems make things go faster or with gems there is no waiting. Additionally there are some comments regarding the commercials and waiting

for them in order to get gems. These comments were mixed in that some were positive and some were negative (See – Appendix 11).

In terms of the player experience in the second play session it becomes pretty apparent that the participants needed more guidance in how the game functions, and what the different elements in the game do and why. Especially troop movement and deployment proved difficult for the participants (See – Appendix 11). How to defend was also a key point that was hard to understand. Another thing that stood out was the way that the players perceived the shoveling of the snow to make way for your paths in the game (See – Appendix 11). It proved cumbersome. Last thing is that the participants experienced a lot of technical errors with the game, which ruined the flow of the game (See – Appendix 11).

Session 3

In the third play session the players were still aware of the time barriers, and that the game progresses slowly (See – Appendix 11). This made several participants use gems, which ironically made them be turned off from the game, as one participant completely abstained from using gems as it killed the fun. Another participant used gems until the participant lost interest (See – Appendix 11).. There were also mixed feelings on how often the resource nodes spawned. One participant deemed it too slow, whereas another was content with the speed of it (See – Appendix 11).

In regards of the general player experience in session 3 there are some indications that the progress feels slow and there is a lot of waiting, that the rate resource spawn rate is good. Additionally there are still some confusing elements the clan system (See – Appendix 11).

Session 4

In the fourth play session the players began to notice that the time barriers were getting more extensive, and that things took a while to build (See – Appendix 11). Cashing in the 25.000 gems made a participant upgrade a lot, so much in that in fact became boring. Using gems are worth it despite the price (See – Appendix 11).

In the fourth play session there are recurring things that appear, which is that shoveling snow is still confusing for certain participants, and overall the game is hard to understand for someone who is new to this type of game (See – Appendix 11). Furthermore participants experienced more technical errors that made the game experience frustrating (See – Appendix 11). The player versus player aspect is deemed fun, but the matchmaking system in the game was not appropriate, so lower leveled players would face more experienced players and then lose. The campaign however did feel fair (See – Appendix 11).

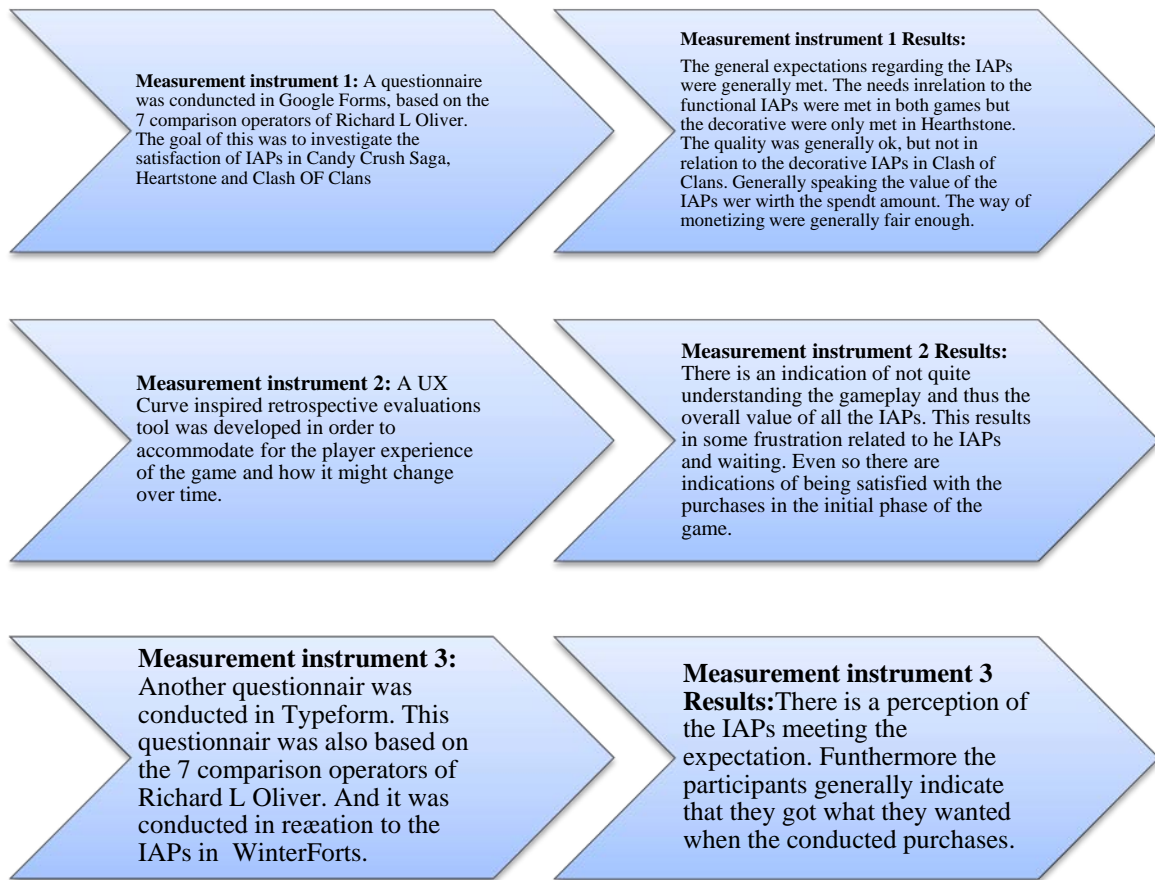
Session 5

In regards to the player experience in session 5 there still are some confusions regarding the general gameplay e.g. learning how to control troops (See – Appendix 11). This affect the player experience in that the battles does not seem fair when the player are unable to defend or attack (See – Appendix 11).

Session 6

In relation to the IAPs in session 6 there are some comments regarding the fact that the gems are used to fast and does not feel like being worth the money. In relation to this there is a statement that it is necessary to purchase with gems to hurry up process (See – Appendix 11).

Results



In regard to the following results in relation to the results of the different measurement instrument they will be combined into one in regards to the satisfaction of the IAPs of the different games. Additionally in regards to measurement instrument 2 the results will be presented afterwards separately from the other two measurement instruments.

Expectations

In relation to the expectations the participants from Hearthstone, Clash of Clans and WinterForts felt that the in game purchases met their expectations. Although they were in contrast to each other in regards of the perception of the drawbacks for not paying, where that the Hearthstone participants felt they were worse than expected, the Clash of Clans and WinterForts participants felt they were just as expected.

When looking at how the players of the two games perceived the expected quality of the F2P

games, they both indicated that the perceived quality of the game was much better than expected. In relation to that they also deemed F2P games to be of lower quality than paid games.

Needs

In regards of the needs related to the functional IAPs in the initial phases of the game the participants of all the F2P mobile games felt that their need were generally met. In regards of the functional in the later stages of the game the participants of Hearthstone as well as Clash of Clans felt that their needs were also met in the later stages of the game. In regards of both of the games there is a slight decrease in relation to how much the needs are met. In contrast to the other two games the participant of WinterForts did not feel their needs were met at all in the later stages of the game.

In regards of the decorative they satisfied the needs of the Hearthstone player in general in all the stages of the game. Whereas in relation to CLash of Clans the did not satisfy the needs of the players at all in any of the stages of the game. This might be due to the implementation of the decorative items not being the focal point in relation to the implementation of IAPs in the game. This goes even further in relation of Decorative IAPs in WinterForts in that they are nonexistent and as such the WinterForts participants were not asked regarding these kinds of IAPs.

Quality

When comparing the participants of the three games, and the quality of the functional in-game purchases all three games participants have a neutral standing that is leaning towards a more positive side of the scale. Especially in WinterForts the shift from neutral to positive is apparent. However, when it comes to decorative/cosmetic items, they were perceived in a much lower light in accordance to Clash of Clans players. As previously mentioned this might be due the limited range of items in that category or the lack of emphasis in that regard. WinterForts has not been included in this factor, as the game does not harbor any decorative/cosmetic items.

Value

When considering the perceived value of purchases of initial and later functional items all three games are similar in that the participants thought that they got what they wanted. Slight changes

were though in the higher levels of both Hearthstone and Clash of Clans (4-0 level and TH10), where the perceived value of the functional purchases decreased in satisfaction. When it comes to the decorative/cosmetic items, the players of Hearthstone were content with their purchases, whereas the Clash of Clans players were very dissatisfied with them. Again, as there are limited decorative/cosmetic items in Clash of Clans this might attribute to the results.

The perceived value in terms of worthiness of functional purchases the players of Hearthstone and Clash of Clans deemed that the functional items were worth the money spent for certain type of players in Hearthstone, but as for Clash of Clans and highly ranked Hearthstone players neither the functional nor the decorative/cosmetic items were deemed as worth the money spent. Especially the cosmetic items in Clash of Clans were not the money's worth.

Fairness

In regards to the functional IAPs the players of both both Hearthstone as well as CLash of Clans felt the way of monetizing were fair. In contrast to this the participants of WinterForts felt it was slightly unfair. In relation to the drawbacks for not paying for functional IAPs the participants of Hearthstone and WinterForts felt it was unfair. Whereas the participants of Clash of Clans felt it was fair enough.

In regard to the decorative IAPs the participants of both Heartstone and Clash of Clans felt that the drawbacks for not paying were more than fair. This is as mentioned not a part of the research in relation to WinterForts in that there were no decorative IAPs in the game.

In regards to the way in which the games guide the participants towards the shop the Hearthstone participants felt it was fair enough whereas the Clash of Clans and WinterForts participants felt it was more than fair.

Long Term Content Results

In regards of in-game purchases and how players perceived the value of the in-game currency there was a clear shift from the first session to the last one that the participants played. In the initial

sessions the players deemed the spendage of gems appropriate in the context of the assignments and tasks that are within the game, but as time progressed and they spent more time with the game, they started to notice the demanded increase in expenditure, and the value of the gems decreased as things got more expensive to upgrade or buy in the later stages of the game. Another thing to note is that most participants were quickly aware of the time gating as a way to spend gems, and this made players try to play around this factor, but the thinking was short lived. In relation to this there are indications that the price of the different IAPs seemed as being too high compared to what the participants felt they got out of the purchases. It is worth mentioning that the amount of gems given to the participants seemed to affect the study in that it is mentioned as a factor in regards to just spending without thinking about it, so the currency was in such abundance that it made the initial game experience trivial. This did affect the player experience which will be elaborated on in the following, in that some of the participants felt bored as a result of just being able to conduct purchases constantly.

Generally the player experience of the game was deemed quite negative, as many participants had a hard time following the different aspects of the game, as they felt they were not properly introduced in the game. Especially how the battle system worked proved a challenge for several participants, as it was not intuitive enough for them to understand. This is particularly true if they were newcomers to this type of games. Another thing that broke the player experience were the numerous glitches and bugs that occurred in the game. What was positive was the introduction to the game, which explained the basics, which is a shame that it did not perpetuate in the other aspects of the game. There were also certain gameplay features which proved more frustrating than fun such as the snow shoveling. This could perhaps again be alleviated by introducing it properly. Another key point is that the matchmaking system did not seem to work properly, as lower ranked players would be faced with higher ranked players and it would end up in an unfair match.

Conclusion

As mentioned in the statement of the problem F2P mobile games affect the way players interact with the game, both in relation to long term as well as short term interactions. More specifically it affects the way in which the relationship between the game and the player is to be accommodated, simply because it is no longer about one but repeated transactions over time. Therefore the player

experiences might be influenced by the application of these IAPs on a long term basis. The reason being that the player experience in F2P mobile games not only is related to the gameplay and game mechanics etc. but also the experience of the in game purchases. This begs the question of **whether or not in game purchases in F2P mobile games satisfy the consumers in short - as well as - long term?**

In relation to the question above it can be concluded that the satisfaction of IAPs in F2P mobile games can be satisfying on both the short and the long term. The results showed us that there was a slight decrease in satisfaction in terms of functional in-game purchases over time, but the results did not decrease enough numerically for it to be concluded as a certain fact. This might not be the case if the study were to be conducted over an even longer period of time - 6 month to a year. It generally depends on whether or not the implementation of the IAPs in the games are perceived as a significant part of the game experience. This comes to show in the results that have been gathered. Being that the functional IAPs are generally perceived as being satisfying in both Clash of Clans, Hearthstone and WinterForts where the gain of conducting IAPs seems to be quite clear for the players.

Additionally in regards of the decorative/cosmetic IAPs they are only perceived as being satisfying for the plays of Hearthstone which seems to be because what is gained by these purchases is quite clear for the players of Hearthstone in contrast to Clash of Clans because the decorative IAPs have some sort of apparent visual function. This seems to indicate that the IAPs are generally only as satisfying as the games allows to in that if the IAPs are not implemented into the game in relation to for example design or gameplay they will not be perceived as being relevant and thus not be satisfying.

In relation to this is the hypotheses from the problem statement **that there is a difference between experiencing functional versus decorative IAPs and how said experience influence consumer/player satisfaction** which this study seems to support in the implementation of the functional IAPs seems to be in relation to some of the fundamental aspects of gameplay and thus as also mentioned in previous literature generating another sense of satisfaction than the decorative IAPs. This indicate that the way in which the functional IAPs are applied seems to be in accordance with the fundamental needs in relation to Hertzbergs as well as Marslows hierarchy of needs.

Whereas the decorative IAPs seems to be more attuned to the self fulfilling upper levels of said hierarchies.

In relation to the research question **of whether or not F2P mobile games are expected or perceived to be of lower quality than paid games.** There seems to be some indications of this being the case in regards of the fact that price generally is a deciding factor in the evaluation of the quality of a product or service. Additionally in relation to the different aspects related to paid games versus F2P games there has been several indication as to the participants feeling that the F2P games were of high quality when they had to consider that they were free, but in comparison to paid games the quality were perceived as being relatively low.

Discussion

With this study there has been an attempt to shine a light on our problem statement and research questions through various methods that were guided by the extensive literature. In retrospect this study could have been shaped differently in some respects that regard our survey and long term user evaluation. Firstly, the survey that was conducted was based on the 7 comparison operators from Richard L. Oliver, and while the operators from his book is suitable for the data that needed to be gathered, the survey itself could have been tailored to work better with both the long term user evaluation, but also to get more specific data. One point to take up is that the games that were chosen could be more aligned to each other in terms of how and what kind of IAPs they offered. This could give the study more streamlined data that would be more comparable.

Another thing to look at is the long-term user evaluation, which in this study could have benefitted from a more rigid structure, as it was extremely difficult to pull off properly. Very certain choice of sample group should have been picked from the overall population. As the long term user evaluation demanded a lot of investment from the participants, it would have been better to have framed the evaluation differently.

Future work

When analyzing a culture according to Mintzberg it can be compared to peeling a onion where the first layer is quite obvious e.g. monuments and symbols, the second layer is the written rules e.g. laws the third layer is the unwritten rules e.g. Janteloven in Denmark. In relation to this and the fact that fairness as mentioned is constructed in relation to the unwritten rules of society it would be to investigate further whether some of the criticism regarding F2P games are related to the concepts of fairness and thus the unwritten rules of gamers. The unwritten rules of adult gamers who have played computer and video games since they might be challenged by the way the F2P games are monetizing thus breaking or at least challenging the concept of fairness within the gaming culture. If this were to be true it might come to show that adult gamers that have played since they were kids would most likely be more opposed to the new way of monetizing than younger gamers and gamers who have not played games for the same amount of time e.g. people who are “new” to gaming.

Furthermore it would be interesting to conduct a study similar to the one conducted her over a longer period of time in order to clarify whether the small indications of decreasing satisfaction related to the IAPs would actually manifest itself or not.

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ndex.php%2Fjis%2Farticle%2Fdownload%2F45696%2F31858&usg=AFQjCNHYsaXy71ox_aC6T
T2i0Lie8vqQhA&sig2=GJpWbDsWl1ZV_Tioy2FdRg&bvm=bv.124817099,d.bGs

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Appendices

Appendix 1



INFORMED CONSENT FORM FOR (INSERT NAME)
RESEARCH TITLE: Measuring satisfaction in free to play games
RESEARCHER/S: Semir Ugljanin & Mogens Barfod

1 The satisfaction of in-game purchases

We are two researchers who are working with Execution Labs, a video game publishing company in Canada, on exploring the satisfaction of in-game purchases within the free mobile game Winterforts. Our main focal point is to try to understand how ones perception of in-game purchases changes over time, or if it even does. This test will take 14 days to complete. The play sessions are constrained in the sense that they are optional to a degree. You, the participant, is free to play whenever and how much you want, but we would require you to log at least 5 play sessions.

1.1 Winterforts – the game

Winterforts is a strategic base building roleplaying game where the player is the

commander of their own fort that they are trying to build. The premise of this game is to collect, battle other people and build your fort stronger.

1.2 Purpose of the research

The purpose of this research is to gain a deeper understanding of how people perceive in-game purchases, and how these purchases affect the satisfaction of said purchases. Do the players feel like they get their bang for the buck, and does this feeling change over time. Through this research we hope to attain insight on the different metrics of in-game purchases, and with that information, help companies make a more viable approach for consumers.

1.3 Data collection and handling

Throughout the 14 day test session, the participant will be obliged to fill out the UX curve after each play session. 14 papers that will be handed to the participant with the UX curve, where the participant will be able to plot their experiences analogously with a pen. The UX Curve part will also feature questions in regards to what play session it was, whether the participant made a purchase or not. Linked to the UX Curve will be a survey in which players will have to answer if they have made a purchase within the game. The survey will consist of 12 questions, and will be online.

1.4 Confidentially and anonymity

The participant is guaranteed total confidentiality concerning anything you say or do during the test. The participant will not be asked anything that could harm or distress the participant in any way. All data that is collected will be identified by a functional name, which is only known to the researchers. We cannot guarantee the participant total anonymity, because the test will provide us with information that will be publicly available.

1.5 Voluntary involvement

The participant is free to leave the test at any time, and can refuse answering if the participant is not comfortable with the questions that we ask. The participant is furthermore allowed to ask as many question during the test as they would like.

I have been given information about research title and discussed the research project with researcher's Semir Ugljanin & Mogens Barfod who is conducting this research as part of a Masters in Human Centered Informatics supervised by Anders Drachen in department 11 - the department of Communication at the University of Aalborg University, Copenhagen.

I have been advised of the potential risks and burdens associated with this research, which include identify the most significant risks or burdens, and have had an opportunity to ask researcher's Semir Ugljanin & Mogens Barfod any questions I may have about the research and my participation.

I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the research at any time. My refusal to participate or withdrawal of consent will not affect my treatment in any way /my relationship with the department of Communication or my relationship with the University of Aalborg.

If I have any enquiries about the research, I can contact Semir Ugljanin +4542919462, Mogens Barfod +4551512325 or Anders Drachen +4529390604. If I have any concerns or complaints regarding the way the research is or has been conducted, I can contact the supervisor of this project at Aalborg University, Anders Drachen on +4529390604. Or email andersdra@hum.aau.dk.

By signing below I am indicating my consent to (please tick):

- Fill out UX Curve with the additional comments
- Shortly describe progress, time played, number assigned and purchases conducted
- If purchases were conducted, fill out a survey to the best of their merit
- The process is iterative and is subject to change
- The process is 14 days long

I understand that the data collected from my participation will be used for purpose (eg thesis, journal publication, etc), and I consent for it to be used in that manner.

Signed

Date

.....

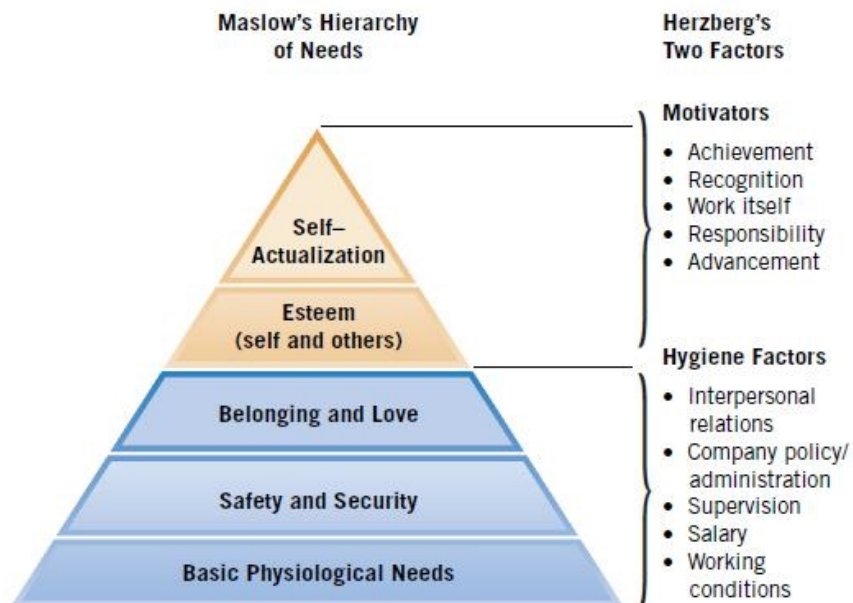
...../...../.....

Name (please print)

.....

Humanistisk Informatik Aalborg Universitet, A. C. Meyers Vænge 15, 2450 København SV.

Appendix 2



Appendix 3

Google Forms original file part 1

Male	25-34	HearthStone	Rank 19	No	Phone, Console, PC	3	3	2	7
Male	25-34	HearthStone	12	No	Phone, PC	4	5	3	6
Male	25-34			No	Console	4	4	3	5
Male	15-24	HearthStone	Diamond 5 League of Legends	Yes	PC	4	4	7	5
Male	45-54	Candy Crush or another game from King (Soda Stream Saga, Jelly Stream Saga etc.)	425	No	Phone, Tablet	5	4	2	7
Female	25-34	HearthStone	rank 17	No	Tablet, PC	4	5	5	7
Male	25-34	HearthStone	19	No	Console, PC	4	4	3	6
Male	25-34	HearthStone	Rank 18	No	Phone, PC	3	3	6	7
Male	35-44	HearthStone	20	No	Tablet, PC	3	3	6	6
Male	15-24	HearthStone	5-Legend	Yes	Phone, PC	6	6	5	7
Male	25-34	HearthStone	14	Yes	Tablet, PC	5	3	2	5
Male	15-24	HearthStone	Currently rank 15, however I haven't played much due to the stale meta.	No	Phone, Tablet, Console, PC	5	5	1	7
Male	15-24	HearthStone	50	No	Phone, Console	3	4	2	5
Male	15-24	HearthStone	Infinite Arena player/ rank 5	No	PC	4	4	3	5

Male	15-24	HearthStone	Rank5	Yes	Phone, Tablet, Console, PC	3	3	5	6
Male	25-34	HearthStone	Legend	No	Phone, Tablet, Console, PC	3	4	4	7
Male	25-34	HearthStone	Used to play to rank 4-5 every season, lately I relax and only reach 7-8	No	Phone, Console, PC	5	4	1	6
Male	25-34	HearthStone	Rank 7	No	PC	5	5	5	6
Male	15-24	HearthStone	14	No	Phone, Console, PC	6	6	4	6
Male	15-24	HearthStone	Mostly casual, but currently rank 7	No	Phone, PC	4	5	5	6
Male	15-24	HearthStone	Rank 5	No	Phone, Tablet, Console, PC	5	4	4	7
Male	25-34	HearthStone	rank 8	No	Console, PC	4	4	2	6
Male	15-24	HearthStone	14	No	Phone, Console, PC	4	4	5	7
Male	25-34	HearthStone	Rank 5	No	Phone, Tablet, Console, PC	7	3	4	7
Male	15-24	HearthStone	Rank 9	No	Phone, PC	6	4	3	5
Male	15-24	HearthStone	10	No	Phone, Console, PC	4	4	2	4
Male	15-24	HearthStone	Rank 16+	No	Phone, PC	5	4	2	6
Male	15-24	HearthStone	10	No	PC	5	5	5	7

Male	25-34	HearthStone	okt-15	No	Phone	4	4	2	4
Male	15-24	Clash of Clans	Highest possible level	No	Phone, Tablet	4	4	3	5
Female	15-24	HearthStone	Rank 15, highest rank 9	Yes	Tablet, PC	3	3	5	7
Male	35-44	HearthStone	60	No	Phone, Tablet, PC	5	5	3	6
Male	25-34	HearthStone	Perpetual Arena	No	PC	4	4	2	7
Male	15-24	HearthStone	15	No	Phone, Console, PC	4	5	5	4
Male	35-44	HearthStone	14	No	Phone, Tablet, PC	4	5	3	7
Male	15-24	Clash of Clans	Town hall 9	No	Phone, Console, PC	4	2	2	5
Male	25-34	HearthStone	Rank 5	No	Phone, Tablet, Console, PC	4	4	1	6
Male	15-24	HearthStone	Legend	No	Phone, Tablet, PC	2	3	3	4
Male	15-24	HearthStone	Rank 15	No	Phone, Tablet, Console, PC	4	5	2	5

Male	15-24	HearthStone	I'm an experienced player who has hit Rank 4 previously, and with a large time commitment, am confident I could achieve Legend Rank.	No	Phone, Tablet, Console, PC	5	5	4	7
Male	15-24	HearthStone	15	No	Phone, Console, PC	4	5	4	6
Male	15-24	HearthStone	Rank 8	No	Phone, PC	3	4	5	5
Male	35-44	Clash of Clans	TH9	No	Phone, Tablet, Console, PC	4	4	6	6
Male	25-34	HearthStone	Most of my characters are around level 50 and I normally achieve rank 15 in a given month	No	Phone, PC	6	5	2	7
Male	15-24	Clash of Clans	10	No	Phone, Tablet, PC	5	4	5	5
Female	15-24	Clash of Clans	TH9, Level 125	No	Phone, PC	5	5	2	2
Female	25-34	Clash of Clans	High? Trophy pusher. War. Playing for 3.5 years	Yes	Phone, Tablet	6	6	6	

Male	25-34	HearthStone	rank 3	No	PC	5	5	4	3
Male	15-24	HearthStone	Rank 3 best	Yes	Phone, Tablet	6	5	4	7
Male	25-34	HearthStone		5 No	PC	6	6	5	5
		Clash of Clans	TH9.5	Yes	Phone, Tablet, PC	5	5	4	6
Male	15-24	HearthStone	Legend	No	Phone, PC	5	5	6	7
Male	15-24	HearthStone	Rank 5	Yes	Phone, PC	5	3	3	6
Male	25-34	HearthStone	rank 7	No	Phone, Console, PC	5	5	3	5
Male	25-34	HearthStone	legend	No	Phone, Tablet, PC	5	4	4	5
Male	15-24	HearthStone	Rank 14	Yes	Phone, Tablet, PC	7	2	4	7
Male	25-34	Clash of Clans	Th10 gold	No	Phone, Tablet	4	6	5	4
Male	15-24	HearthStone		7 No	Phone, Console, PC	5	5	4	7
Male	25-34	HearthStone		5 No	Phone, Console, PC	4	4	1	7
Male	15-24	HearthStone		10 Yes	Phone, PC	5	4	3	3
Male	15-24	HearthStone		10 No	Phone, PC	5	6	3	7
Male	15-24	HearthStone		13 No	Phone, Console, PC	4	4	4	6
Male	15-24	HearthStone	Rank 13	Yes	Tablet, PC	4	4	3	7
Male	15-24	HearthStone	Rank 10	No	Phone, PC	5	6	7	7
Male	45-54	HearthStone		10 No	PC	4	5	3	6
Male	15-24	HearthStone	Rank 9	No	Phone, PC	6	4	3	6
Male	15-24	HearthStone		13 No	Phone, Console, PC	3	4	4	5

Male	25-34	HearthStone	Rank 10 max	No	Phone, PC	4	4	4	5
Male	15-24	HearthStone		No	Phone, Console, PC	5	6	6	6
Male	25-34	HearthStone	rank 4	No	Phone, Console, PC	5	7	5	7
Male	15-24	HearthStone	12	No	PC	6	4	4	7
Male	15-24	HearthStone		No	PC	4	4	3	5
Male	15-24	HearthStone	Mid To Low Rank with Gimics.	No	PC	3	3	5	7
Male	25-34	HearthStone	legend	No	Console, PC	2	2	4	4
Male	25-34	HearthStone	Rank 10	No	Phone, PC	4	4	3	4
Male	15-24	HearthStone	Legend Rank	No	Tablet, Console, PC	5	5	7	4
Male	15-24	HearthStone	rank 15	No	Console, PC	5	6	6	5
Male	35-44	Clash of Clans		No	Phone, Tablet	5	2	6	5
Male	15-24	HearthStone	Rank 10 (Hearthstone)	No	Phone, Console, PC	5	6	4	6
Male	25-34	Clash of Clans	Th10 lv134	No	Phone, Tablet, Console	4	5	1	6
Female	35-44	HearthStone	16	No	Console, PC	6	6	1	7
Male	15-24	HearthStone	4	Yes	Phone, PC	4	6	3	6
Male	35-44	Clash of Clans	120	No	Phone, Tablet	4	4	3	5
Male	25-34	HearthStone	Legend	No	Phone, PC	4	4	3	6
Female	35-44	Clash of Clans	Th9/107/98%max	Yes	Phone, Tablet	4	6	4	7
Male	15-24	HearthStone	11	No	Console	5	4	3	5
Male	45-54	Clash of Clans	TH 10	No	PC	4	4	6	7

Male	35-44	Clash of Clans	TH11	No	Phone, Tablet	6	5	6	6
Female	25-34	Clash of Clans	Level 111 town hall 9	No	Phone, Console	4	4	1	7
Male	15-24	HearthStone	All heroes at least level 20	No	Tablet, Console, PC	7	7	7	7
Male	15-24	HearthStone	17	No	Phone, Tablet, Console, PC	4	4	3	6
Male	25-34	Clash of Clans	141	No	Phone, Tablet, PC	4	2	4	5
Male	15-24	HearthStone	Rank 6 at highest	No	Phone, Tablet, Console, PC	4	3	5	6
Male	15-24	HearthStone	10	No	Phone, Console, PC	5	3	2	6
Male	15-24	HearthStone		No	Tablet, Console, PC	5	5	3	4
Male	35-44	HearthStone	10	No	Phone, Tablet, Console, PC	5	5	3	6
Male	25-34	HearthStone	17	No	Phone, PC	5	3	3	5
Male	15-24	Clash of Clans	Town Hall 9	No	Phone, Console, PC	3	4	7	6
Male	15-24	HearthStone	Rank 10	No	Phone, Tablet, PC	4	3	5	6
Male	15-24	HearthStone		No	Phone, PC	4	6	1	3
Male	15-24	HearthStone	around rank 16	No	Phone, PC	5	5	2	6
Male	15-24	HearthStone	rank 14 was the highest I've been to	No	Phone, Console, PC	6	6	4	7
Male	25-34	Clash of Clans	Level 117	No	Phone, PC	4	4	5	6

Male	15-24	Clash of Clans	Th11	No	Phone, Tablet, PC	5	6	2	6
Male	35-44	HearthStone		No	Phone, Tablet, Console, PC	4	4	1	4
Female	15-24	Clash of Clans	Town Hall 9 Competitive War Scene	No	Phone	4	4	5	7
Male	15-24	Clash of Clans	109	No	Phone, Console	4	3	2	7
Male	25-34	Clash of Clans	121	No	Phone	3	3	1	1
Male	15-24	HearthStone	5	No	Phone, PC	5	5	2	7
Male	25-34	Clash of Clans	Town hall 10	Yes	Phone	5	2	4	7
Male	35-44	Clash of Clans	Th9 masters	No	Phone, Console, PC	4	3	5	4
Male	35-44	Clash of Clans	TH9 FULL	No	Phone	4	4	4	5
Male	15-24	Clash of Clans	town hall 9	No	Phone, PC	4	4	4	6
Male	15-24	HearthStone	Total level around 360	No	Phone, PC	5	5	4	6
Male	15-24	Clash of Clans	76	No	Phone, Tablet, Console	4	4	2	5
Male	25-34	HearthStone	8	No	Phone, Console, PC	5	5	3	6
Male	15-24	HearthStone	9	No	Phone, Tablet, PC	2	4	6	7
Male	15-24	HearthStone	9	No	Phone, Tablet, PC	2	4	6	7
Male	25-34	HearthStone	8	No	Phone, PC	4	3	2	6
Female	64+	Clash of Clans	121	No	Phone, PC	3	2	2	2

Male	15-24	Clash of Clans	th10	Yes	PC	4	3	6	7
Female	25-34	Clash of Clans	142	No	Phone, Tablet, Console, PC	4	5	3	5
Male	15-24	Clash of Clans	Level 103 / TH9	No	Phone, PC	5	3	5	7
Male	15-24	Clash of Clans	114/th9/max	No	Phone, Tablet, Console, PC	4	4	5	5
Male	25-34	Clash of Clans	108	Yes	Phone, Tablet, PC	4	5	4	6
Male	15-24	Clash of Clans	Town Hall 9	No	Phone, Tablet	4	4	4	6
Male	15-24	Clash of Clans	85	No	Phone, Console, PC	4	3	5	6
Male	15-24	Clash of Clans	Level 100, Crystal I	No	Phone, Console, PC	3	3	2	6
Female	35-44	HearthStone	Rank 11	No	Phone, Tablet	4	4	4	6
Male	25-34	Clash of Clans	Townhall 9	No	Phone, Console, PC	4	4	2	5
Male	15-24	Clash of Clans	Level 132	No	Phone, PC	4	3	4	5
Male	25-34	Clash of Clans	Th9	No	Phone, Tablet, PC	5	4	2	4
Male	35-44	Clash of Clans	TH10	No	Phone, Tablet, PC	3	1	3	5
Male	15-24	HearthStone	Mage level 60	No	Phone, PC	5	6	5	6
Male	15-24	Clash of Clans	Th9/98	No	Phone, PC	4	1	2	1
Male	25-34	HearthStone	Ladder - Rank 9	Yes	Phone, PC	5	6	3	7
Male	15-24	Clash of Clans	Th9 level 110	No	Phone, Console	5	5	4	5
Male	15-24	Clash of Clans	TH8	No	Phone, Tablet, PC	4	2	5	7

Male	15-24	Clash of Clans	th9	Yes	Phone, Tablet, PC	4	3	3	5
Male	25-34	Clash of Clans	Th 11 Lvl 135	No	Phone, Tablet, Console	4	1	4	7
Female	25-34	Clash of Clans	134	No	Phone, Tablet, Console	4	4	7	5
Male	25-34	Clash of Clans	TH 9	No	Phone, Tablet, Console	3	4	5	6
Male	15-24	Clash of Clans	110	No	Phone, PC	5	3	7	6
Male	35-44	Clash of Clans	Max TH 9	No	Phone, PC	5	6	4	5
Male	25-34	Clash of Clans	TH8	No	Phone, Tablet, PC	4	5	5	6
Male	25-34	Clash of Clans	Town Hall 9/Level 105	No	Phone, Tablet, Console, PC	4	4	3	5
Male	15-24	Clash of Clans	th 10	Yes	Phone, Tablet	4	5	4	6
Male	15-24	Clash of Clans	th9	No	Phone, Tablet, PC	4	4	4	5
Male	15-24	Clash of Clans	TH9 near max	Yes	Tablet, PC	5	6	4	5
Male	15-24	Clash of Clans	Town Hall 9	No	Phone, Tablet, Console, PC	5	3	6	7
Male	15-24	Clash of Clans	Level 90 (th9)	No	Phone, Console, PC	4	5	2	7

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Google Forms original file part 3

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Google Forms original file part 6

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Google Forms original file part 7

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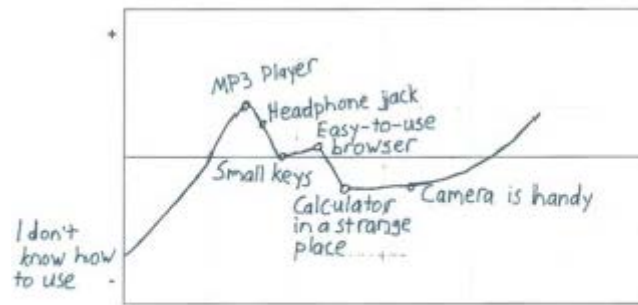
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Appendix 4



Short description of the changes:
Learning in the beginning

Appendix 5

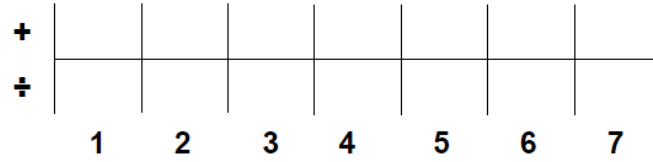


Appendix 6

Participant: _____

Session: _____

UX CURVE



- 1: _____
- 2: _____
- 3: _____
- 4: _____
- 5: _____
- 6: _____
- 7: _____

Time spent playing

- 0-5 min
- 5-10 min
- 10-15 min
- 15+ min

Have you conducted any purchases this play session?

- No
- Yes



Press on the blue button to save the form.
Submit to email: spiltest 11@gmail.com

Appendix 7

Google Forms participants ordered part 1

Level	Participant Number	1	2	3	4	5	6	7
Level 20 - 15								
	2	3	3	2	7	2	5	6
	7	4	5	5	7	2	5	5
	8	4	4	3	6	5	4	3
	9	3	3	6	7	1	4	4

10	3	3	6	6	1	3	3
13	5	5	1	7	4	7	7
28	5	4	2	6	3	6	6
34	3	3	5	7	2	5	6
38	4	5	5	4	2	5	3
44	4	5	2	5	4	6	6
82	5	6	6	5	2	5	6
96	4	4	3	6	5	4	4
102	5	3	3	5	5	5	4
106	5	5	2	6	3	5	5

Mean (average)
Mode
Median

Level 14 - 10

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Level 9 - 5

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Level 4 - 0

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Town Hall 9

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Town Hall
10

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Google Forms participant ordered part 2

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Google Forms participant orders part 3

14

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3	5	4	1	5	1	5	5	1	5
1	5	5	1	3	3	3	3	3	5
2	4	3	2	5	1	4	4	1	5
4	2	2	3	3	5	3	2	4	5
4	3	4	3	4	3	3	4	4	5

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2	4	4	3	4	1	5	5	2	4
2	4	5	1	1	5	2	5	4	6
2	4	4	3						5
3	3	3	3						3

3	3	3	3	3	3	3	3	3	5
4	2	2	4	3	3	3	3	3	6
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2	5	4	1	3	3	3	3	3	5
2	4	4	2	3	3	3	5	3	3
3	3	3	3	2	4	1	4	4	5
3	4	5	3	2	3	2	2	3	
2	4	4	1	1	5	1	1	5	4
2	4	4	1	3	4	2	3	2	5
3	3	3	3	2	2	2	2	2	6
3	3	3	3	1	4	2	3	2	3
1	4	5	1	5	4	5	5	1	6
3	4	3	4	2	4	3	5	2	3
2	4	4	2	4	3	3	4	2	5
2	3	3	2	5	1	4	4	2	3
									5
2	4	4	2						4

1	5	5	1	5	1	5	5	1	7
2	3	3	3	4	2	4	4	4	4
3	3	3	3	2	4	2	2	4	5
3	3	4	3	2	3	3	3	3	5
4	3	3	3	2	2	2	3	2	5
									4
3	3	3	3	2	4	2	2	2	4
2	3	4	2	4	2	4	2	3	5
3	3	3	3	4	2	3	4	4	5
4	2	2	4	4	2	4	4	2	1
4	3	3	3	3	2	3	3	4	4
2	4	4	2	5	2	4	5	1	5
2	4	4	2	4	2	4	4	2	4
2	4	4	2	1	5	1	1	5	5
3	3	3	3	4	4	4	4	3	6
2	4	4	2	5	1	5	5	1	4
3	3	3	3	5	3	5	5	2	4
4	4	3	2	4	4	4	3	2	4

1	3	4	3	4	2	4	4	1	7
3	3	3	3	4	3	4	3	3	5
1	5	5	1	5	1	5	5	1	6
1	5	5	1	5	1	5	5	1	6
4	2	3	3	4	4	4	4	4	4
2	4	4	2	2	4	2	2	4	5

3	3	3	3	3	3	3	3	3	5
4	2	2	4	3	2	4	4	2	3
3	3	3	2	4	3	3	5	3	5
4	4	4	4	1	5	1	1	5	4
2	4	4	4	2	4	2	3	3	6
4	3	4	4	1	4	1	1	5	4
1	5	4	1	1	5	1	1	4	6

4	2	2	4	2	4	2	2	4	2
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									4
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3	3	4	2						6
4	4	4	3	1	5	1	1	5	3
3									4
3	3	3	3	3	3	3	3	3	3
4	1	2	4	1	5	1	1	5	2
4	2	2	4	1	5	1	1	5	4
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4	2	3	4						5
3	3	3	3	2	4	2	2	4	3
1	5	5	1	2	4	2	2	4	3
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5	1	1	5	1	5	1	1	5	4
2	4	4	2	1	5	1	1	5	6
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3	3	3	3	2	4	2	2	4	4
4	3	3	3	2	2	1	1	4	5

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3	3	3	3						3
2	4	3	3	4	2	4	3	3	4
3	5	4	3	1	4	2	2	4	6
2	2	2	4						4

2	4	4	2	1	5	1	1	5	5
3	3	3	2	1	5	1	1	5	2
3	3	3	3	1	1	1	1	1	4
4	2	2	4	1	5	1	1	5	4
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3	3	3	3	1	5	1	1	5	5

Google Forms participant ordered part 4

16 17 18 19 20 21 22 23 24 25

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7	4	5	5	7	4	7	7	7	7
5	6	5	3	5	2	6	5	3	4
3	4	4	4	6	4	3	3	2	7
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5	4	7	6	6	5	5	6	3	7
5	6	4	4	6	4	3	6	2	4
4	5	6	4	5	4	5	4	3	5
4	4	2	2	4	1	5	3	3	1
4	5	5	5	3	3	4	3	2	6

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3	3	5	4	3	5	1	1	1	1
6	6	4	2	6	2	4	6	3	1
5				4		4	5	3	7
3	3			4		3	3	2	

5	5	4	4	4	4	7	5	7	4
6	5	4	4	6	4	7	3	6	7
5	3	4	3	2	3	5	4	2	6
5	6	4	4	5	2	5	6	7	6
4	3	4	4	5	1	7	7	7	7
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5	5	5	4	5	4	5	5	4	6
4	4	5	5	3	6	3	4	7	7
5	5	4	6	4	3				
4	4			5		5	5	5	7

6	6	6	6	5	5	7	7	6	6
3	2	6	6	3	5	3	3	6	5
4	3	1	4	3	1	3	3	5	4
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5	5	5	5	4	4	4	6	6	7
4	4	4	4	4	4	4	6	4	7
4	4	4	4	4	4	4	4	4	3
5	5	4	4	6	4	3	5	3	6

5	6	5	1	7	6	4	7	6	7
5	5	5	6	3	4	5	3	6	7
3	4	7	7	2	6	5	7	3	7
3	4	7	7	2	6	5	7	3	7
4	4	5	5	5	5	5	5	6	4
5	3	2	2	5	1	5	6	3	7

5	5	4	4	3	3	6	5	7	4
5	4	5	4	3	5	7	6	3	7
6	4	4	4	5	3	6	4	5	7
4	4	4	4	4	4	7	7	2	7
6	6	2	1	6	2	7	6	4	3
4	4	3	3	1	1	3	6	3	4
6	5	1	1	1	1	5	3		

2	2	2	2	3	3	2	2	2	2
---	---	---	---	---	---	---	---	---	---

4	3			4		5	5	4	
4	5	5	4	3	2	3	4	6	4
4	4			5		5	5	7	6
6	3	1	1	1	1	2	2	4	7
4	5			3	1	6	6	7	5
4	6	4	5	3	3	6	5	4	4
6	1	6	1	1	1	1	1	5	1
4	4	4	4	4	4	2	2	2	2
4	4	4	4	5	4	5	6	4	4
3	3			1		1	6	6	
3	3	3	3	3	3	3	4	5	4
5	5	1	1	3	1	2	2	2	1
4	1	4	4	5	1	2	5	4	1
2	2	1	1	1	1	2	1	1	7
4	4			3		3	3	3	1
5	1	4	1	1	1	5	5	4	4
4	4	4	4	4	1	2	3	5	4
5	6	1	1	6	1	5	5	6	5

2	4	4	4	1	1	2	2	1	1
3	3			3		4	4	5	
7	3	4	4	4	4	4	4	4	4
5	4	3	3	3	2	3	3	2	4
	4			4		4	7	4	

5	5	1	1	3	1	5	6	1	7
5	3	2	2	3	1	2	2	3	3
4	4	1	1	4	1	6	6	4	4
7	1	1	1	3	1	6	6	7	1
5	5	5	4	4	2	4	3	4	6
4		2	2	2	1	2	3	5	4
5	5	1	3	4	1	1	4	4	4

Google Forms participant ordered part 5

26 27 28 29 30

7	4	5	No	Phone, Console, PC
5	4	4	No	Tablet, PC

5	5	3	No	Console, PC
5	3	3	No	Phone, PC
6	5	5	No	Tablet, PC
7	7	7	No	Phone, Tablet, Console, PC
4	5	3	No	Phone, PC
7	7	2	Yes	Tablet, PC
5	6	4	No	Phone, Console, PC
7	7	6	No	Phone, Tablet, Console, PC
4	6	1	No	Console, PC
4	4	4	No	Phone, Tablet, Console, PC
5	4	4	No	Phone, PC
6	5	5	No	Phone, PC

6	2	3	No	Phone, PC
4	1	7	Yes	Tablet, PC
7	5	3	No	Phone, Console, PC
7	7	5	No	Phone, Console, PC
	4	3	No	Phone

4	4	4	No	Phone, Tablet, PC
7	7	5	Yes	Phone, Tablet, PC
7	3	5	Yes	Phone, PC
3	6	6	No	Phone, PC
7	7	2	No	Phone, Console, PC
3	7	4	Yes	Tablet, PC
			No	Phone, PC
7	7	3	No	PC
7	4	6	No	Phone, PC
7	5	4	No	PC
7	7	1	No	Phone, PC
6	7	6	No	Phone, Console, PC
4	3	3	No	Phone, Console, PC
7	6	5	No	Phone, Tablet, Console, PC
7	3	5	No	Phone, Tablet, PC
			No	Phone, Console, PC
7	6	2	No	Phone, Tablet

6	6	3	Yes	Phone, PC
5	5	6	No	PC
3	5	4	Yes	Phone, Tablet, Console, PC
7	6	3	No	Phone, Console, PC
4	4	4	No	PC
7	5	5	No	Phone, Tablet, Console, PC
7	7	3	No	Console, PC
7	7	3	No	Phone, Tablet, Console, PC
6	5	6	No	Phone, PC
1	5	2	No	Phone, Tablet, Console, PC
4	5	3	No	Phone, PC
4	5	5	No	PC
5	5	5	Yes	Phone, PC
7	5	5	No	Phone, Console, PC
6	6	5	No	Phone, Console, PC
4	7	4	No	Phone, Console, PC
4	6	1	No	Phone, PC
6	5	4	No	Phone, Tablet, Console, PC

7	6	4	No	Phone, PC
7	6	5	No	Phone, Console, PC
7	7	2	No	Phone, Tablet, PC
7	7	2	No	Phone, Tablet, PC
7	5	6	No	Phone, PC
7	5	3	Yes	Phone, PC

7	6	4	No	Phone, Tablet, Console, PC
7	7	4	No	Phone, Tablet, PC
7	5	4	No	Phone, Tablet, Console, PC
7	6	6	No	PC
7	7	6	Yes	Phone, Tablet
4	4	7	No	Phone, Console, PC
			Yes	Phone, PC

2	2	2	No	Phone, Console, PC
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				Phone, Tablet, Console, PC
	5	4	No	
5	5	5	No	Phone, PC
7	7	3	Yes	Phone, Tablet, PC
7	2	6	Yes	Phone, Tablet
5	6	5	No	Phone, Console, PC
4	7	2	No	Phone
1	1	7	No	Phone, Console, PC
4	4	1	No	Phone
4	4	5	No	Phone, PC
	6	1	No	Phone, PC
3	4	6	No	Phone, Tablet, Console, PC
1	2	7	No	Phone, Tablet
4	6	4	No	Phone, Console, PC
7	4	5	No	Phone, Tablet, PC
			No	Phone, PC
1	3	3	No	Phone, Console
4	3	6	Yes	Phone, Tablet, PC
4	5	2	No	Phone, Tablet, Console
1	2	1	No	Phone, PC

1	4	7	No	Phone, Tablet, Console, PC
	3	4	No	Phone, Tablet, PC
4	3	5	Yes	Tablet, PC
4	3	6	No	Phone, Tablet, Console, PC
	6	2	No	Phone, Console, PC

7	7	7	No	Phone, Tablet
2	5	2	No	Phone, Tablet, Console
4	5	1	No	PC
1	6	2	Yes	Phone
5	4	2	Yes	PC
4	3	4	No	Phone, Tablet, PC
4	3	5	Yes	Phone, Tablet

Appendix 8

Google Forms frequency ordered part 1

Median 4 4 3 6 2.5 5 5

Level 14 - 10

4	2	2	3	1	3	3
4	3	2	4	1	3	3
4	3	2	4	2	3	4
4	3	3	5	2	4	4
4	4	3	5	2	4	4
4	4	3	6	2	4	4
4	4	3	6	3	5	4
4	4	3	6	3	5	4
4	4	3	6	3	5	4
4	4	3	6	3	5	4
4	4	3	6	3	5	5
5	4	4	6	3	5	5
5	4	4	6	3	5	5
5	5	4	6	3	5	5
5	5	4	7	3	5	5
5	5	4	7	3	5	5
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5	6	4	7	4	6	6
6	6	4	7	5	6	6
6	6	5	7	5	6	6
6	6	5	7	6	6	6
7	6	7	7	6	6	6

Mean (average)	4,727273	4,409091	3,590909	5,954545	3,181818	4,818182	4,681818
Mode	4	4	3 & 4	6	3	5	4
Median	4.5	4	3.5	6	3	5	5

Level 9 - 5

2	3	1	5	1	2	2
2	3	1	5	1	3	2
3	3	1	5	1	4	4
3	3	2	5	2	4	4
4	3	2	5	2	4	4
4	4	2	6	2	4	4
4	4	3	6	2	4	4
4	4	3	6	2	4	4
4	4	3	6	3	4	4
4	4	3	6	3	5	4
5	4	3	6	3	5	5
5	4	3	6	3	5	5
5	4	3	6	3	5	5

5	4	4	6	3	5	5
5	4	4	6	3	5	5
5	4	4	7	4	5	5
5	5	5	7	4	5	6
5	5	5	7	4	5	6
5	5	5	7	4	5	6
6	5	5	7	4	6	6
6	5	5	7	5	6	6
6	6	5	7	5	6	6
6	6	6	7	5	6	6
7	6	6	7	6	7	7

Mean (average)	4,583333	4,25	3,5	6,166667	3,125	4,75	4,791667
Mode	5	4	3	6	3	5	4
Median	5	4	3	6	3	5	5

Level 4 - 0

2	3	3	3	1	3	2
3	4	3	4	2	4	3
4	5	4	6	3	4	3
5	5	4	7	4	4	5
5	5	4	7	4	5	5
5	6	4	7	6	6	6
6	7	5	7	7	7	6

Mean (average)	4,285714	5	3,857143	5,857143	3,857143	4,714286	4,285714
Mode	5	5	4	7	4	4	3, 5 & 6
Median	5	5	4	7	4	4	5

Town Hall 9

3	1	2	1	1	3	2
3	2	2	2	1	3	2
4	3	2	4	1	3	3
4	3	2	4	1	3	3
4	3	2	5	2	4	3
4	3	2	5	2	4	4
4	4	3	5	2	4	4
4	4	3	5	2	4	4
4	4	4	5	2	4	4
4	4	4	5	2	4	4
4	4	4	5	3	4	4
4	4	4	5	3	4	5

5	4	4	3	4	2	4	4	2	4
5	4	4	4	4	3	4	4	2	4
5	5	5	4	4	3	4	4	2	5
5	5	5	4	4	3	4	5	2	5
5	5	6	5	5	4	4	5	3	5
5	6	6	5	5	4	5	5	3	5
6	6	7	6	5	4	5	5	3	5
7	7	7	6	5	5	5	5	4	5
4,42857	4,07142	4,21428	3,57142		2,71428			1,92857	
1	9	6	9	4	6	4	4	1	4
5	3, 4 & 5	3 & 4	2, 3 & 4	4	2	4	4	1	5
5	4	4	3.5	4	2.5	4	4	2	4

2	1	1	1	5	1	1	1	1	2
3	1	1	2	5	2	2	2	1	2
3	1	2	2	5	2	2	3	1	3
3	2	3	3	5	2	3	3	1	3
3	2	3	3	4	2	3	3	2	3
3	2	4	3	4	2	3	3	2	3
4	3	4	3	4	2	3	3	2	3
4	3	4	3	4	2	3	3	2	3
4	4	4	3	4	2	3	3	2	4
4	4	4	3	4	2	4	4	2	4
5	4	4	4	4	2	4	4	2	4
5	4	4	4	4	2	4	4	2	4
5	4	4	4	4	3	4	4	2	4
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5	5	5	4	4	3	4	4	2	4
5	5	5	4	3	3	4	4	3	4
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6	6	6	4	3	4	4	4	3	5
6	7	7	4	3	4	4	4	4	5
6			4	3	4	4	4	4	5
6			5	2	4	5	5	5	5
			6	1	5				
4,42857	3,63157	3,94736		3,72727	2,68181	3,42857		2,28571	3,76190
1	9	8	3,5	3	8	1	3,47619	4	5
5	4	4	4	4	2	4	4	2	4
5	4	4	4	4	2.5	4	4	2	4

1	1	1	1	2	1	2	2	1	2
3	1	1	1	3	1	2	3	1	2
3	1	1	2	3	1	3	3	1	2
3	2	1	2	3	1	3	3	1	3
4	3	2	2	3	1	3	3	1	3
4	3	3	3	4	2	3	3	1	3
4	4	3	3	4	2	3	3	1	3
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4	4	4	3	4	2	4	3	2	3
4	4	4	3	4	2	4	3	2	3
4	4	4	3	4	2	4	3	2	3
4	5	4	3	4	3	4	3	2	3
5	5	5	4	4	3	4	4	2	4
5	5	5	4	4	3	4	4	2	4
5	5	5	4	4	3	4	4	2	4
5	5	5	4	4	3	4	4	2	4
5	5	5	4	4	3	4	4	3	4
6	5	5	4	4	3	4	4	3	4
6	5	5	4	4	4	4	4	3	4
6	5	6	4	5	4	4	4	3	4
7	6	6	4	5	4	4	5	3	4
	7	7	4	5	4	4	5	3	5
	7	7	5	5	4	4	5	3	5
			5	5	4	5	5	4	
4,38095	4,17391		3,29166	3,95833	2,58333	3,66666		2,08333	3,43478
2	3	4	7	3	3	7	3,625	3	3
4	5	5	4	4	3	4	3	2	3 & 4
4	5	4	3.5	4	3	4	3.5	2	3

2	1	1	1	2	1	2	1	1	2
2	1	1	2	2	2	3	3	2	3
3	2	2	4	3	2	3	4	2	4
4	2	2	4	4	3	3	4	3	4
4	4	4	6	4	3	4	4	4	4
4	4	5	6	4	4	4	4	4	4
6	5	5	6	5	4	5	4	4	5
3,57142	2,71428	2,85714	4,14285	3,42857	2,71428	3,42857	3,42857	2,85714	3,71428
9	6	3	7	1	6	1	1	3	6
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4 2 2 4 4 3 3 4 3 4

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Google Forms frequency ordered part 3

14

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4	4	5	4						6
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4	5	2	4	4	5	4	5	5	6
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5									6

									6
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Google Forms frequency ordered part 3

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6				6					

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4 4 4 3 3 1 3 4 4 4

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Google Forms frequency ordered part 4

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5 5 4

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7	7	7

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 7 6 & 7 4
 7 6 5

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 4 4 4.5

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7	7	7

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4 3 & 5 2
 4 5 2

Appendix 9

Long term participant ordered part 1

Participant Number	Play Session	1	2	3	4	5	6	7
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7	3	5	3	6	4	3	2	5
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6	4	6	6	4	4	2	2	7
9	4	5	4	5	3	3	3	5
11	4	1	4	1	2	3	3	4
4	5	6	6	6	4	3	3	6
8	5	6	6	4	3	2		4
2	7	2	6	7	5	1	1	6

12	9
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5 3 3 2 4 4 4

13	14
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4 4 5 3 2 2 6

Long term participant ordered part 2

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3	2	5	7	7	7	7	7
3	5	6	7	7	7	7	7
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5 4 3 3 6 3 5 7

Appendix 10

Long term frequency ordered part 1

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	1	6	7	6	5	4
Mean (average)		4,285714	4,142857	4	2,857143	2,857143
Mode		4	3 & 4	4	3	3
Median		4	4	4	3	3

	2	4	3	2	2	3
	2	4	4	4	3	3
	2	4	4	5	3	3
	2	4	4	5	3	3
	2	4	6	5	3	4
Mean (average)		4	4,2	4,2	2,8	3,2
Mode		4	4	5	3	3
Median		4	4	5	3	3

	3	4	3	4	3	2
	3	5	3	6	4	3
	3	5	6	6	4	3
Mean (average)		4,666667	4	5,333333	3,666667	2,666667
Mode		5	3	6	4	3
Median		5	3	6	4	3

	4	1	4	1	2	2
	4	5	4	4	3	3
	4	5	5	5	3	3
	4	6	6	5	4	3
Mean (average)		4,25	4,75	3,75	3	2,75
Mode		5	4	5	3	3
Median		5	4.5	4.5	3	3

	5	2	3	3	2	1
	5	4	3	4	3	2
	7	5	4	5	3	2
	9	6	6	5	4	3
	10	6	6	6	4	4
	14	6	6	7	5	4
Mean (average)		4,833333	4,666667	5	3,5	2,666667
Mode		6	6	5	3 & 4	2 & 4
Median		5,5	5	5	3.5	2.5

Long term frequency ordered part 2

	5	6	7	8
1	2	3	1	3
3	3	3	2	5
3	3	3	2	5
3	4	3	3	5
4	4	3	4	6
4	4	4	5	6
4	6	4	6	7
3,142857	3,714286	3,285714	3,285714	5,285714
3 & 4	4	3	2	5
3	4	3	3	5
3	2	1	2	2
3	4	2	4	5
3	4	4	4	5
4	5	4	4	5
5	5	5	6	7
3,6	4	3,2	4	4,8
3	4 & 5	4	4	5
3	4	4	4	5
2	5	2	2	5
3	5	4	3	6
3	5	5	6	6
2,666667	5	3,666667	3,666667	5,666667
3	5	2, 4 & 5	2, 3 & 6	6
3	5	4	3	6
2	4	2	3	1
3	5	4	4	5

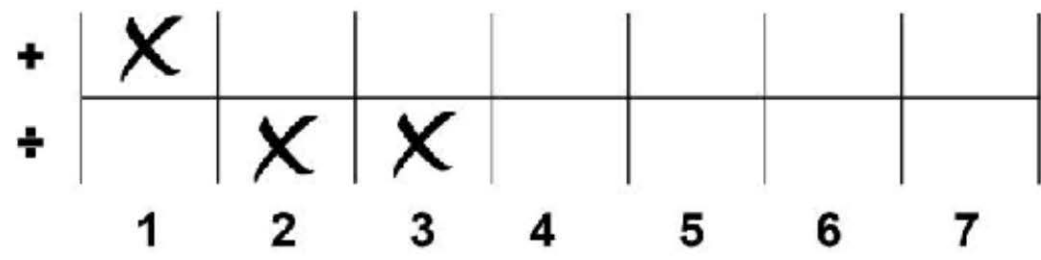
3	5	4	4	5
3	7	5	6	6
2,75	5,25	3,75	4,25	4,25
3	5	4	4	5
3	5	4	4	5
1	4	1	1	3
2	4	1	1	4
3	4	2	2	4
3	6	4	4	5
4	6	5	5	6
	6	5	7	6
2,6	5	3	3,333333	4,666667
3	4 & 6	1 & 5	1	4 & 6
3	6	4.5	3	4.5

Appendix 11

Deltager: XXXXXXXXXX

Session: 1

UX CURVE



- 1: Det er nice at man kan faa gems ved at se videoer _____
- 2: At fjerne sne er rimelig kedeligt _____
- 3: At fjerne sne er rimelig kedeligt _____
- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min
- 5-10 min
- 10-15 min
- 15+ min

Har du fortaget nogle køb i denne spil session?

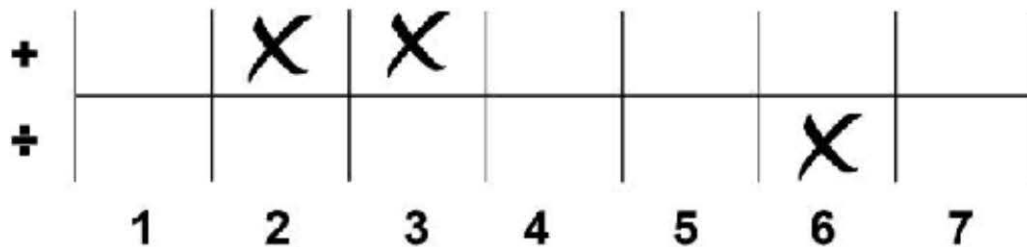
- Nej
- Ja

 Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 1

UX CURVE



1: _____

2: Quests give good direction and purpose

3: The campaign is fun - but a little simple

4: _____

5: _____

6: You start with too few diamonds - too much waiting

7: _____

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

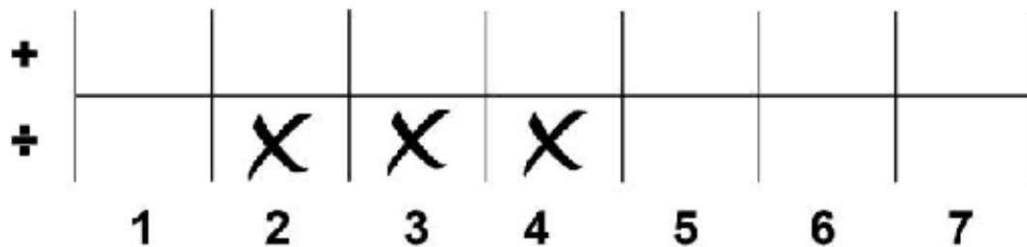


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: XXXXXXXXXX

Session: 2

UX CURVE



- 1: _____
- 2: 1. challenge to hard to defend (no defence - soldiers stand still at garrison, no patrols)

- 3: Way too few diamond rewards - and its obnoxious to have to watch commercials

- 4: Gold and food storage is too small early - workers can't work

- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

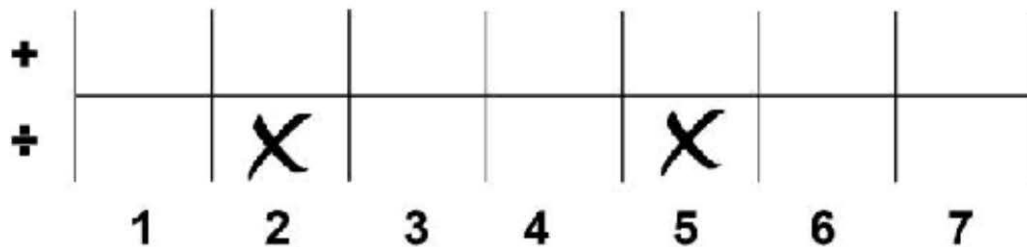


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: XXXXXXXXXX

Session: 3

UX CURVE



1: _____

2: Not fun to click storages to get the resources, annoying to do!

3: _____

4: _____

5: Forces upgrade chain, can't specialize in one area, no tactics involved

6: _____

7: _____

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

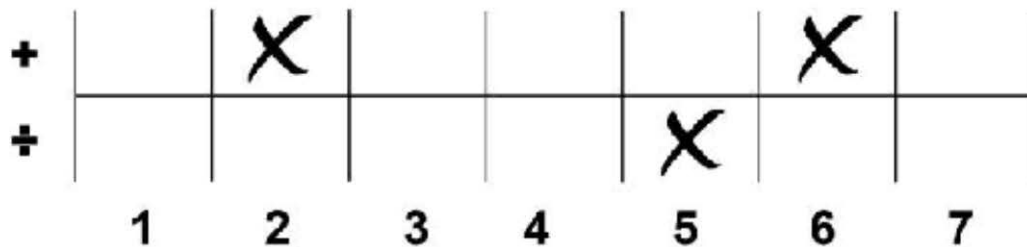


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 4

UX CURVE



- 1: _____
- 2: Good troop variety

- 3: _____
- 4: _____
- 5: 3rd and 4th tier snow placements limit the base design too much, ruin the fun of building a good
base.

- 6: Resources nodes spawn at a good rate

- 7: _____

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

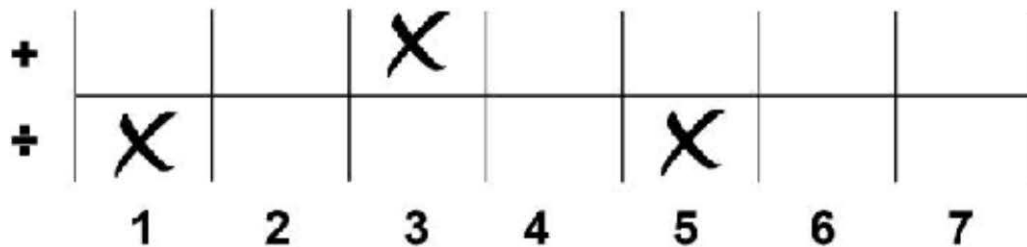


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: XXXXXXXXXX

Session: 5

UX CURVE



- 1: Building time is getting way too long

- 2: _____
- 3: PVP is fun!

- 4: _____
- 5: Diamonds cost way too much, as they are quickly spent

- 6: _____
- 7: _____

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

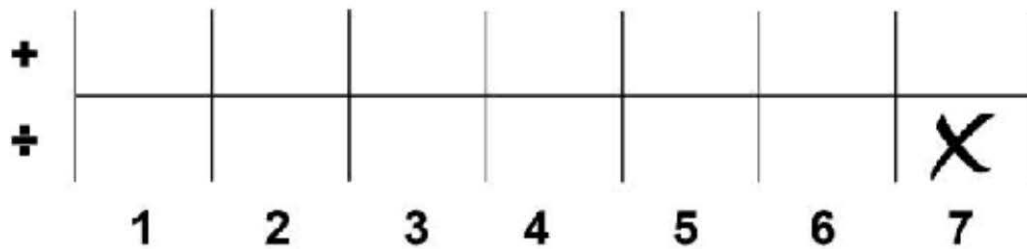


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 6

UX CURVE



1: _____

2: _____

3: _____

4: _____

5: _____

6: _____

7: Game crashed while entering the campaign, lost all troops!!!! shouldn't loose undeployed troops

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

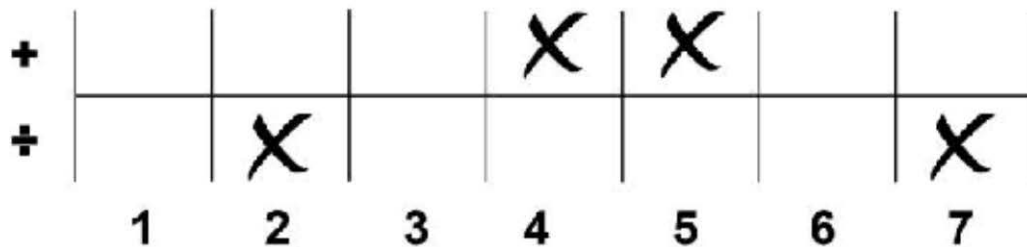


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 7

UX CURVE



1: _____

2: Challenges too easy

3: _____

4: Game is more fun with diamonds! - now I can actually do what i want with my defence and find

5: Dragons!!!

6: _____

7: Used 25k diamonds in less than 20min - based on what that would have cost me in real cash,

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

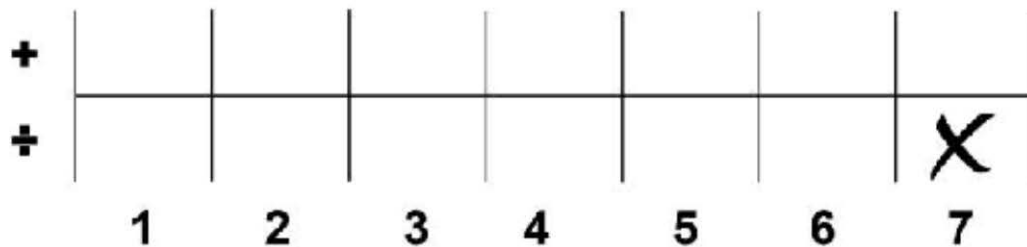


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 6

UX CURVE



1: _____

2: _____

3: _____

4: _____

5: _____

6: _____

7: Game crashed while entering the campaign, lost all troops!!!! shouldn't loose undeployed troops

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

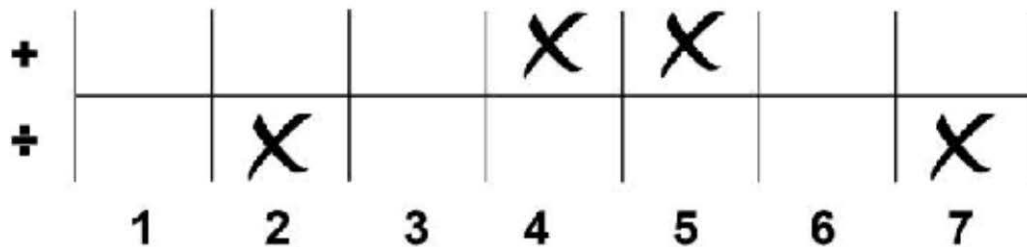


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 7

UX CURVE



1: _____

2: Challenges too easy

3: _____

4: Game is more fun with diamonds! - now I can actually do what i want with my defence and find

5: Dragons!!!

6: _____

7: Used 25k diamonds in less than 20min - based on what that would have cost me in real cash,

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

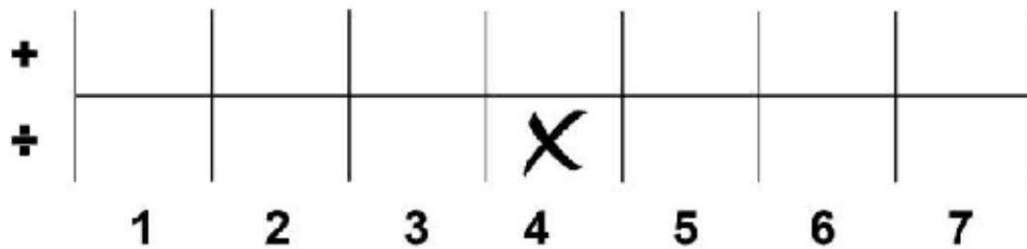


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 8

UX CURVE



1: _____

2: _____

3: _____

4: building time is extremely long now, only job is to manage workers and wait for resources to ~~make a solid commitment~~

5: _____

6: _____

7: _____

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

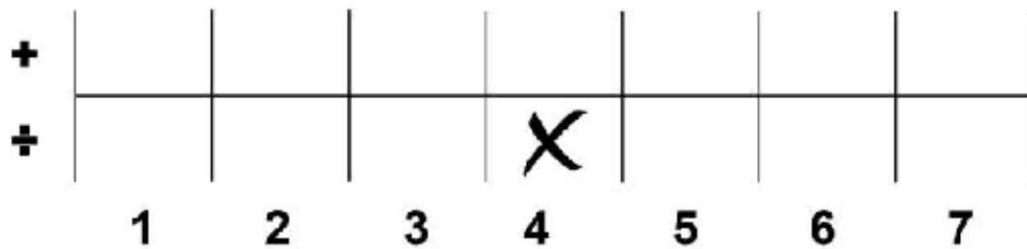


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 8

UX CURVE



1: _____

2: _____

3: _____

4: building time is extremely long now, only job is to manage workers and wait for resources to ~~make a solid commitment~~

5: _____

6: _____

7: _____

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

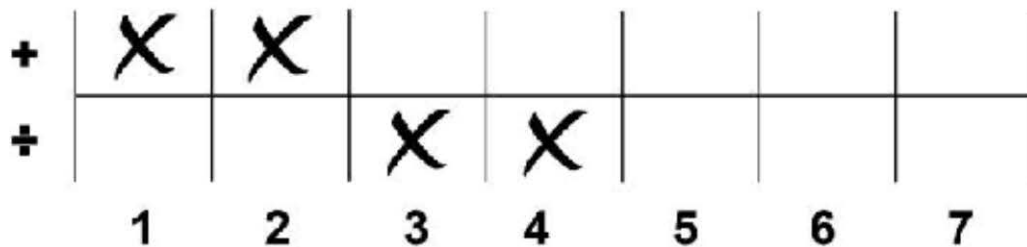


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 1

UX CURVE



- 1: Nem tutorial for at indlede spillet

- 2: Man faar nostalgiske minder om de aeldre versioner af warcraft spillene

- 3: Svaert at finde motivation til efter tutorial, altsA et maal.

- 4: Efter brugt koden til gems, fQler jeg mig det gjort gameplayet vaerre, fordi det er for "nem!".
Er det nok et tegn paa, der er i et behov for...

- 5: _____
- 6: _____
- 7: _____

Tid brugt paa at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

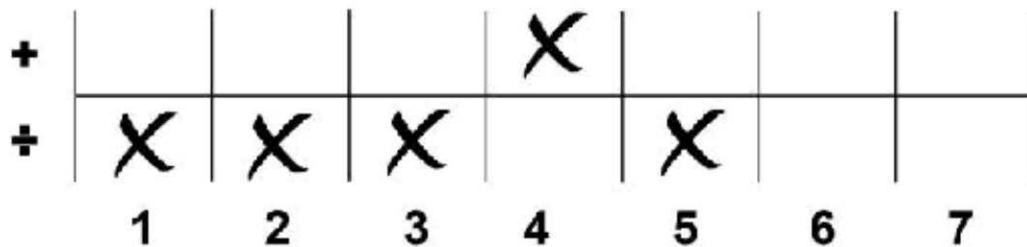


Tryk paa den bla knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 2

UX CURVE



- 1: Opgraderet alle bygningerne med gems, jeg tager "hurry" funktion hvergang. Mister udfordring
- 2: Angriber nogle barbarer, men mine soldater staar stille i basen. Frustreret
- 3: Skovle sne er lidt irriterende
- 4: Angreb mit foerste slot, det var nice nok
- 5: skulle harveste en "vein", og der stod "watch" paa den, og den aabner kraftedrne en reklame, wtf
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

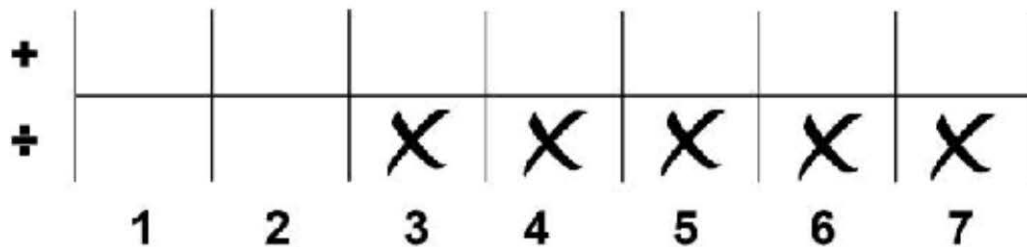


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: XXXXXXXXXX

Session: 01

UX CURVE



- 1: + Flot spil. Rimelig nemt at forstå, og godt med introduktion.

- 2: - Da jeg gik i krig, var det umiddelbart svært at forstå, om jeg vandt eller tabte.

- 3: - Jeg forstod ikke, om jeg skulle styre figurerne i krig, eller om de kæmpede selv.

- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

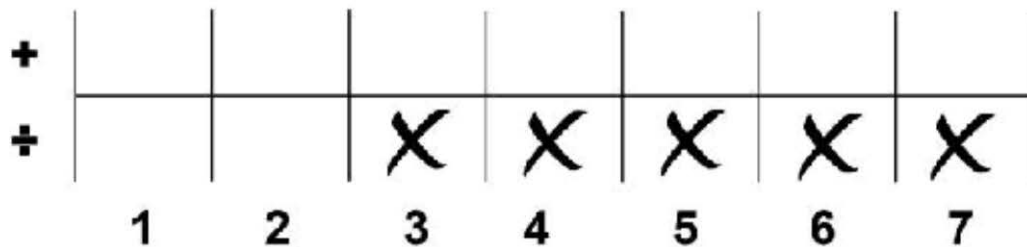


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: XXXXXXXXXX

Session: 02

UX CURVE



- 1: + Spillet er rimelig intuitivt opbygget. _____
- 2: - Det gaar for langsomt. Indtil videre (efter 20 min spil), kan jeg stadig 'kun' opgradere og indsamle ressourcer. _____
- 3: - Hvorfor ved man ikke, hvad opgraderingerne goer? Gavner de noget, eller skal det bare _____
- 4: - Jeg forstaar stadig ikke kampene. Hvordan styrer man sine tropper? Ingen intro til det? _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

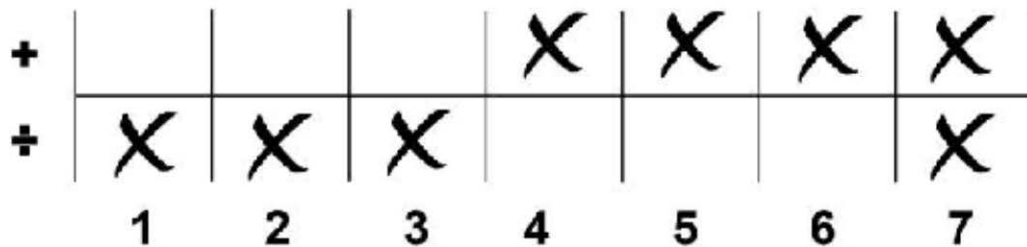


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 1

UX CURVE



- 1: Der er en fin introduktion med lidt tutorial - dog virker det ikke helt gennemført

- 2: er genkendeligt hvis man tidligere har spillet strategi spil o.l.

- 3: er genkendeligt hvis man tidligere har spillet strategi spil o.l.

- 4: Alt for meget "timegating", dvs. vent nogle timer paa at en resource er klar o.l.

- 5: Foeler ikke at resourceer er blevet ordentligt praesenteret, ej heller bygninger og deres funktion

- 6: oplevede glitches da jeg skulle navngive mig selv efter intro, manglende respons paa input

- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

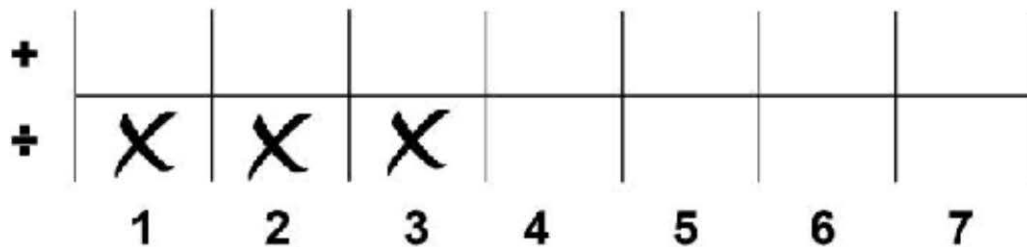


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 3

UX CURVE



- 1: Har nu valgt ikke at bruge flere gems, fordi det ødelægger gamplayet
- 2: Spiller multiplayer, men det ikke "live". Saa det virker som om man spiller mod computeren
- 3: Tager 100 aar at skovle sne og bygge, mister lysten til at spille
- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

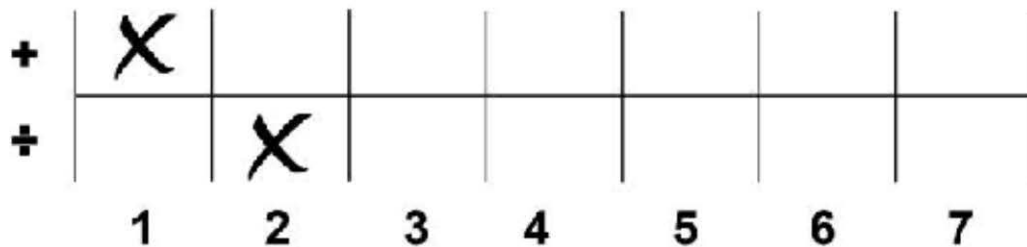


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 4

UX CURVE



- 1: Fokuseret på køb af soldater, og angriber forskellige borge.

- 2: Lidt ensformigt at angribe hele tiden

- 3: _____
- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

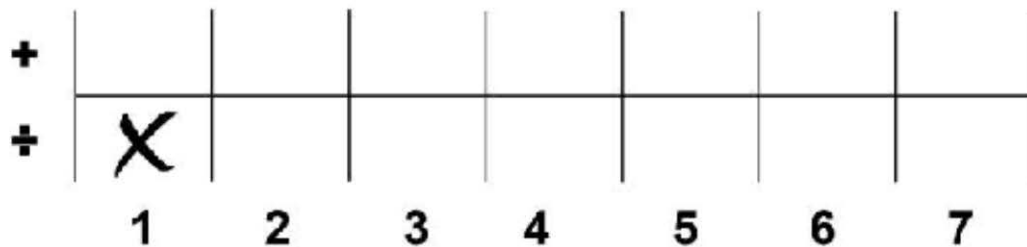


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: XXXXXXXXXX

Session: 5

UX CURVE



1: er blevet for rig med gems, saa det blevet lidt kedeligt, ingen challenge

2: _____

3: _____

4: _____

5: _____

6: _____

7: _____

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja

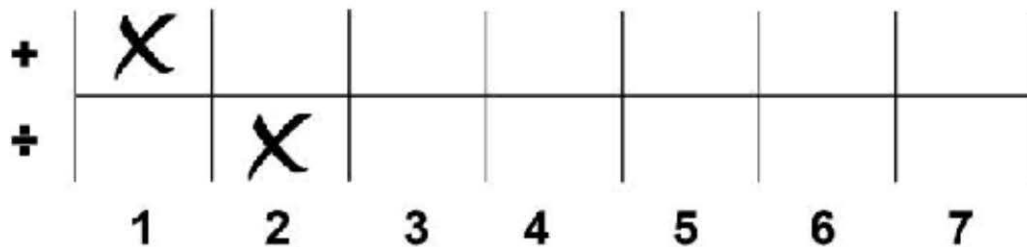


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 2

UX CURVE



- 1: Kan godt lide at man kan spille mod computeren

- 2: De mange gems goer det for nemt at bruge

- 3: De mange gems goer det for nemt at bruge

- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

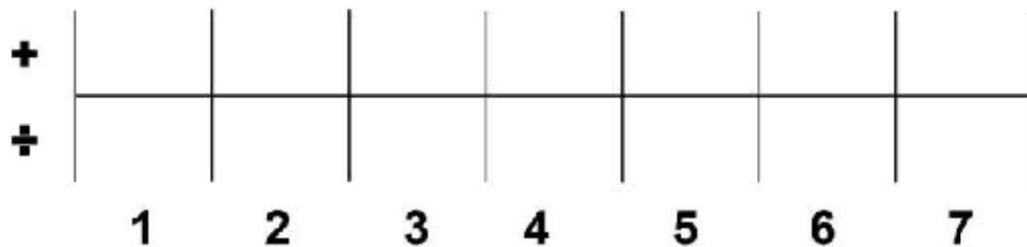


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 03

UX CURVE



- 1: - Forstaar ikke helt hvorfor det er saa dyrt at skovle noget sne, men andet er gratis??

- 2: - Spillet virker igen lidt langsomligt... Laver ikke andet end at indsamle mad etc., og

- 3: - Jeg kan ikke finde ud af, at kaempe med mine tropper. Hvordan bevaeger man dem?

- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

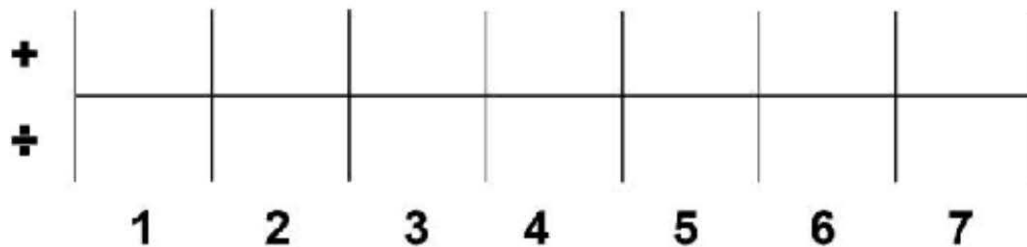


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 04

UX CURVE



- 1: -- Jeg kan ikke finde ud af at bygge ting. Man skal fjerne sneen og saa bygge blocks. Men hvorfor?
- 2: - Spillet er ikke let forstaeligt.
- 3: _____
- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

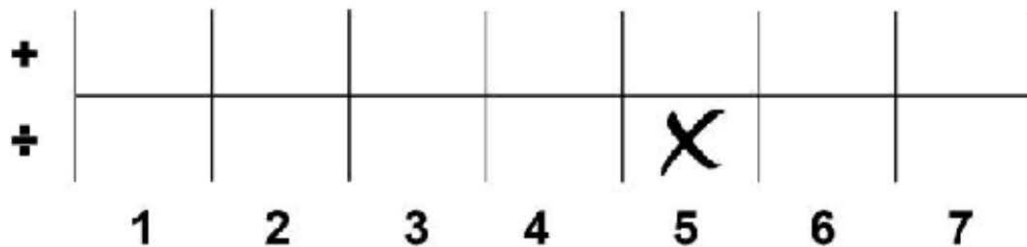


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: XXXXXXXXXX

Session: 1

UX CURVE



- 1: - Har svært ved at finde rundt i hvordan det hele henger sammen

- 2: - Har brugt for lang tid på at forsøge at lære om de forskellige ting

- 3: + det er sjovt når man slås med andre

- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du foretaget nogle køb i denne spil session?

- Nej Ja

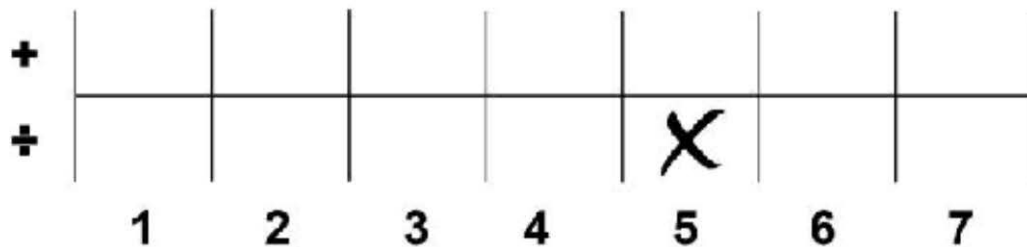


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: 2

UX CURVE



- 1: - har svært ved at finde rundt i hvordan man går op i levels
- 2: - kan ikke finde ud af at styre mine soldater
- 3: + gems hjælper på at bygningerne bygges hurtigere så der ikke skal ventes.
- 4: _____
- 5: _____
- 6: _____
- 7: _____

Tid brugt på at spille

- 0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

- Nej Ja

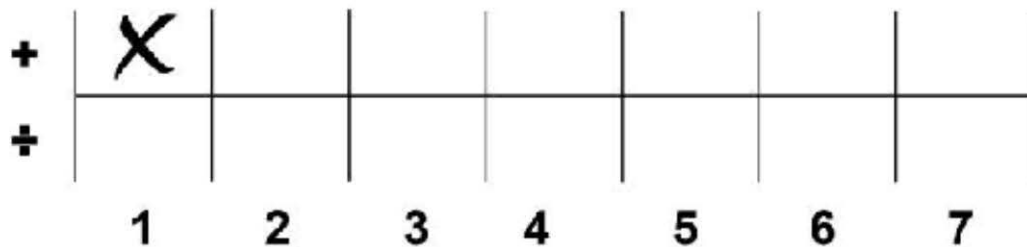


Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.

Deltager: [REDACTED]

Session: _____

UX CURVE



1: God måde man skaffer resources på

2: _____

3: _____

4: _____

5: _____

6: _____

7: _____

Tid brugt på at spille

0-5 min 5-10 min 10-15 min 15+ min

Har du fortaget nogle køb i denne spil session?

Nej Ja



Tryk på den blå knap for at gemme dokumentet. Sendes til: spiltest11@gmail.com.