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## Abstract:

This article examines the service design of freemium game pricing. Freemium games are a type of game that is partially free to play, but its players are able to access various options by playing real money. The article increases knowledge of the usability of service design processes in the pricing of mobile games, as well as the understanding of central aspects of freemium pricing models from the perspective of user experience and customer value. Existing research shows that one major reason for failing freemium pricing models is the orientation for technology development, alongside poor content and too aggressive monetization, rather than



customer experience. The article presents a process in which an alternative pricing model was developed for freemium games, through the use of service design workshops.

# Customer Preferences in Mobile Game Pricing

## A Service Design Based Case Study

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### Introduction

In this article, we examine the use of a multi-stage service design process to improve mobile game pricing. We answer the question *what kind of monetization would freemium players prefer, could they decide*. Games are a massive market, one that increases its size continuously right now. Reporting agency Newzoo (2016) estimated its value in 2016 at \$99.6 billion, with a projected growth of \$10 billion more in 2017. About 2.2 billion players exist worldwide, according to the same source. Designers have also taken an interest in the field, looking at the games as not just sources of revenue (e.g., [Reference2]) or production processes (e.g., Kultima 2015; Kultima and Sandovar 2016), but also as forms of co-design (e.g., [Reference5]). This article combines all three themes, to examine game monetization from the perspective of service design.

The challenge with game monetization is that in many cases, it is based on providing an inferior service ([Reference2]). If the game is not sold as a ready or semi-ready product (e.g., off-the shelf games, full downloads from Steam), its revenue generation has to rely on players' willingness to pay for something extra. That "extra" is more often than not caused by (from a design perspective) unnecessary complications, such as boring tasks that one may skip by paying real money ([Reference3]). As good service experiences rely on a smooth service flow and a lack of undue delay (Cook et al. 2002), this is a problem. It causes many players to stop playing or to switch to other games. Massively multiplayer online games tend to solve this by offering extra content with money (Lehdonvirta and Castronova 2014; [Reference1]). Free-to-play games, in turn, tend to rely on techniques such as the careful measurement of metrics and constant optimization to facilitate purchases (Voigt and Hinz 2016).

Free-to-play (F2P) games form a large part of one of the central revenue models, the so-called "freemium" (Alha et al. 2014). Such games accounted for 33% of the market share in 2015, and are expected to be at 45% in 2019, while the size of the market itself grows at 6.6% each year (Newzoo 2016). The freemium model makes it possible that different pricing options are offered by designers for potential customers of different types. This

enables players to choose the options (if any) that fit their desires and needs (Alha et al. 2014). It also grants designer wider access to different player demographics (Paavilainen et al. 2013) compared to e.g., subscription models (Hamari & Lehdonvirta 2010). The freemium business model ('free' and 'premium') is characterized as follows, "Give your service away for free, possibly ad supported but maybe not, acquire a lot of customers very efficiently through word of mouth, referral networks, organic search marketing, etc., then offer premium priced value added services or an enhanced version of your service to your customer base" (Fred Wilson, in Teece 2010).

[Reference4], based on Seufert (2014), argues that the main advantage of the freemium business model is that it eases distribution of products on even a massive scale. It also addresses large audiences of potential customers. Three key factors, pointed out by [Reference4, p. XX] describe how the model works:

1. *The zero cost of entry (free) makes the product attractive and viable to a very large audience.*
2. *A large percentage of users will not engage in features of the product that lie beyond the free functionality.*
3. *If a section of users find the product appealing, and the product offers the functionality to make large or frequent purchases, that particular section of users may spend more money on the product than they would have if the product had a fixed cost.*

Scale is fundamental for freemium. This is because with scale, *more* often equals *different*. The core idea is that when numbers grow sufficiently high, even a small percentage of users will be sufficiently varied to create good content for web sites – or to pay for game content and to create interesting social play for other people (Anderson 2009, p. 224). In order to achieve the necessary scale, designers of freemium games often commoditize their players (Nieborg 2016) and seek to use existing players to recruit new ones (Nieborg 2015). For this purpose, they lower access costs (e.g., Paavilainen et al. 2013). Another key advantage in freemium is its adaptiveness. By using customer data and insight, producers can easily adjust monetization processes to better fit their goals (Voigt and Hinz 2015). This is one reason for the so-called *soft launch*, in which an early version is released in only a few countries and then adjusted before scaling to the global market.

The central challenge is in getting players to make the first purchase. Once that happens, it is easier to get people to spend more money on occasion, as long as the gameplay and some added content elements available through real-money transactions (RMT) are interesting enough (Luton 2013). A player who has made a purchase before is six times as likely to make a new one (Takahashi 2016). The fact that less than 5% of players typically spend

any money on a freemium game points out the difficulty of this shift (Lehdonvirta and Castronova 2014). Two key reasons for this difficulty exist (see Paavilainen et al. 2013 for more):

- 1. The first instance of using money is difficult for players. They need to decide whether the game is good enough to spend both time and money on. They want it to be worth the effort.*
- 2. Payment details may be complicated and fuzzy. Once players understand the process and start to trust the provider, overcoming the barrier becomes much easier.*

Existing literature has revealed the advantages and challenges of the freemium pricing model. Also, the literature has pointed out the importance of customer experience in freemium pricing. According to Pujol (2010), the overall customer experience becomes more important in freemium business model since customers stay because they want to, not because they have to. However, a clear knowledge gap exists in the literature on development process of freemium business models in gaming. So far, the knowledge of effective innovation process and methods for achieving a competitive customer experience in freemium business models is in its infancy.

According to Teece (2010), the discussion so far has focused mainly on the impact of technology on value and its delivery of freemium models. Feijoo et al. (2012) point out the lacking knowledge of changing intention to use into actual usage in gaming industry. A major reason for this is inferior user perspective in the development of the games —the industry is dominated by the supply perspective rather than demand perspective. They (ibid.) argue that, empirical surveys show that the process of accepting advanced mobile services, particularly gaming, is more complex than simply providing these two attributes (a mere supply side approach), and the studies also prove that a gap continues to exist between the intention to use and actual usage, and a more comprehensive demand side approach is still lacking.

Moreover, the recent research has shown that certain freemium design choices cause playability problems and poor game experiences (Alha et al. 2014; Paavilainen, Alha and Korhonen 2015, Zagal et al. 2013). The present empirical article addresses this knowledge gap with the following objective: the purpose of this article is to increase knowledge of the usability of service design process and methods in the pricing of mobile games, as well as understand the central aspects of freemium pricing models in mobile games, from the perspective of user experience and customer value.

This article contributes to the service design as well as gaming literature. It finds that service design approaches can effectively be used in shifting the focus of innovation from technology development into user experience and customer value. Moreover, it adds to the gaming literature by revealing the aspects which are central to the user

experience and customer value in freemium pricing models of mobile games. In this, it also ties into wider discourses on willingness to pay for the use of social media (e.g., Vock, van Dolen and de Ruyter 2013).

The rest of this article is organized as follows. First, we briefly review the gaming experience literature. After that, discuss the service design process and the basics of freemium pricing. Then, we explain the empirical method used. Next, we describe our empirical findings. After that, we discuss the research implication of the study. In the end, we draw the final conclusions.

### **Freemium Game Experiences and Monetization**

Central to the use of freemium games is that they are free to use in their basic, core mode (Hamari and Järvinen 2011; Kumar 2014). The games' access costs are very low, usually requiring just a device on which to play. The games furthermore instruct their players, so as to make the start as easy as possible, and they can be played either on occasion, or very intensively (Juul 2010). A typical freemium play experience consists of casual play that is somewhat connected to the play of one's friends. In many cases, also the play of strangers is important, because the games are based on a social experience that provides emergent content. Because of this, one of the key goals of freemium games is the acquisition of new players, conducted through game virality and player commodification (Nieborg 2015).

Types of games vary a lot, but freemium play is in most cases defined by some key factors. For example, farming games play on sunk costs, forcing their players to visit the virtual patch often (Paavilainen et al. 2013). Others entice their players to spend money on tasks that they present as skill-based ([Reference2]). For example, a combat game may offer superior ammunition in exchange for real money, and only a very rare player is able to triumph in that environment without paying actual dollars. On the other hand, a self-perception of one's playing skill has likewise been noted as increasing likelihood to spend real money (Huang et al. 2017). Some games, especially in Asia, are in turn turning into using lottery mechanisms (Gacha; loot boxes) that approach gambling (Koeder and Tanaka 2017). If the monetization is too aggressive, or the game is perceived as too unfair, players leave it and move elsewhere (Hamari 2015; Hamari and Lehdonvirta 2010). Normally, monetization takes place through micropayments, so that players do not feel like they are spending too much on the game ([Reference2]).

Player retention in such games may to some extent thus be explained by factors of game balance, ease of learning, ease of access, and the possibility for short playing instances and small payments. In all of these service quality, including factors such as interface issues, server responses, lack of intrusive ads and so forth, counts a

lot. It does not, however, explain why people switch to premium functions (i.e., pay real money) or not (Hamari, Hanner and Koivisto 2017). Given this service quality centered nature of freemium pricing, service design is a natural fit for improving such games. We therefore next turn to that approach.

### **Service Design for Customer Experience**

Service design has been defined as the use of designerly way of working when improving or developing people-intensive service systems through the engagement of stakeholders, such as users and frontline staff (Segelström 2013). Service design essentially deals with design of interaction at different interfaces and customer's holistic experience (Wetter Edman 2011). Experience is one of the central areas of development in the service sector (Patricio et al. 2011). It is also at the core of design thinking, as it is a key factor that defines co-created value in a provided service (Liedtka and Ogilvie 2011). To understand the customer experience is the first, foremost task of service design, accomplished iteratively through insight gained by involving stakeholders ([Reference6]).

Three factors affect success in design concepts: feasibility, viability, and desirability (Brown 2009), and a good experience is what is desired in especially continued gaming, upon which the monetization of freemium games relies ([Reference2]).

An experience occurs when a customer has any sensation or knowledge acquisition resulting from some level of interaction with different elements of a context created by a service provider (Gupta and Vajic 1999; Kultima and Stenros 2010, on games). Experiences are constructed by customers based on their interpretation of a series of encounters and interactions designed by a service provider (Hume et al. 2006). The main challenge in understanding customer/user experience is in that experience is inner subjective, immaterial phenomenon, which can never be accessed or observed directly, but only indirectly through the words and language people use to describe it when they look back at it (Bate and Robert 2006). According to Alinsky (1972), happenings become experiences when they are digested, when they are reflected on, related to general patterns and synthesized. According to Zomerdijk and Voss (2010), experience design in services includes orchestrating the clues, sensory design, engaging customers, dramatic structure, considering the presence and influence of fellow customers, as well as backstage activities. Successful experiences are those that the customer finds unique, memorable and sustainable over time, would want to repeat and build upon, and enthusiastically promotes via word of mouth (Pine and Gilmore 1998, 1999). The purpose of experience design is to orchestrate experiences that are functional, purposeful, engaging, compelling, and memorable (McLellan 2000). The context of experience

should be mutable so that each customer can choose the extent of participation and connection with people, physical objects, or technology, and the elements should have a consistent theme and engage all senses (Pine and Gilmore 1998). The influence of emotions is also significant for customer experience (Pullmann and Gross 2004).

According to Patricio et al. (2011), service design includes understanding the customer experience and designing the service offering, and it involves designing the customer experience at the service concept, service system, and service encounter levels. The uniqueness that design thinking has brought to service development and innovation lies in its highly user-driven, participatory, dialogue-based and iterative approach (see [Reference10]). Capabilities of both co-designing as well as co-producing are crucial in service design ([Reference8]). The user involvement is integral to the design process itself and focusing on the experience “inside out” of their moving through the service and interacting with its various parts (Bate and Robert 2006). The concept of service design has mostly been addressed by two streams of literature, the design literature and service management literature (Kimbell 2011). Both the design literature (e.g., Bate and Robert 2007) and the service management literature (e.g., Goldstein et al. 2002) emphasize the importance of customer experience. The service design approach fundamentally relies on design thinking in service context. In design thinking, designers frame problems and opportunities from a human-centred perspective, use visual methods to explore and generate ideas, and engage potential users and stakeholders (e.g., Brown 2008). Designing can be understood as designers co-creating problems and solutions in an exploratory, iterative process in which problems and solutions co-evolve (Cross 2006; Dorst and Cross 2001). The iterative nature of design process is similar to the process of lean innovation (Ries 2011; Blank 2013; [Reference9]). The earlier literature proposes several models for service design process (Goldstein et al. 2002; British Design Council 2005; Patricio et al. 2011; Stickdorn and Schneider 2010; [Reference10]). Similarly, a large number of different service design tools can be used, based on the case, during the service design process. They include tools such as idea sketches, glimpses, service moodboards, story board, service blueprint, expressive service blueprint, service break down, system map, service interaction design guidelines, desirability-vulnerability-feasibility, video sketch, living labs, prototyping and simulation for evaluation, experience prototype, customer journey map, directed storytelling, emotional map, video blog, film diary, design documentaries, user diary, and story collection (Meroni et al. 2011). Next, we turn to how we used service design to gather insight on game pricing.



## Method

As its method, this article used the case study of a series of service design workshops. The workshops were organized for users of F2P games, with the purpose of developing alternate pricing models. Each of them had four phases: *Exploration*, *Creation*, *Reflection*, and *Implementation*. Service design is a set of design-thinking application methods, which aims at goals such as co-design with various important stakeholders (Jones and Samaliois 2008; Holmlid et al. 2015), the discovery of customer needs instead of just desires (Brown 2009; Klapzstein and Cipolla 2016), and the creation of experience and value co-creation, by facilitating networks instead of production-consumption chains [Reference6]. As Stickdorn and Schneider (2010) argue, the user should be at the center of the process. This is done by establishing a goal and then using participatory methods to create sufficient insight (Steen et al. 2011). In the case of this project, the goal was set as “improving game monetization options, based on user insight”, and the design process then organized accordingly, as a case study. Case study has the advantage that it offers a holistic and detailed understanding of the case or cases being studied ([Reference7]). This fits well with service design methodology, which seeks to make sure all of the necessary stakeholders of a project have been included [Reference6]. Case research may be either descriptive, exploratory, or explanatory, i.e., it can be used to describe phenomena as well as develop and/or test theories (Eisenhardt 1989; Yin 2003). In this article, we use it first and foremost to describe monetization options while developing a theory of which options players would actually prefer. In Ketokivi and Choi’s (2014) terms, we focus through case study on theory generation and theory testing, while mostly leaving out the level of theory elaboration. In design terms, the focus was on the fuzzy front end of monetization (i.e., when it is still uncertain what services will be created).

For the purposes of this project, service design was applied to discover which types of F2P monetization would best fit user needs – or be the least conflicting ones. Each workshop included both users and other key stakeholders and was focused on the goal of a user-validated pricing model. The workshops, four in total, were held in Espoo, Finland and California, USA, and had altogether 17 participants. They each lasted between 3 and 6 hours. The customer journey workshop was conducted with 3 participants and lasted around six hours over 2 sessions. The brainstorming workshop was conducted with 4 participants and lasted around three hours. The Rapid prototyping workshop consisted of 6 participants and lasted over 6 hours over 2 sessions. The testing workshop consisted of 4 gamers and concentrated on refining some of the finer aspects of the game. It lasted around three hours.

The British Design Council (2005) has described a typical service design process through the 4D, or double diamond, model. It reflects the different phases of divergence and convergence that lead to the development of a new service, product or other innovation: Discover – Define – Develop – Deliver. The four stages correspond to the ones described above. At the center of the various models of service design is the ideation of exploring potential solutions, then converging on a suitable-seeming one, developing it through another round of exploration, and then once more converging with a deliverable first version of the solution. The process is rarely as clear as the model, and in many cases needs several iterations as well as returns to earlier ideas. This happens especially in cases where designers or stakeholders get too fixated on a solution or other development and forget the original problem. As fuzzy as it may sound (and be), a service design process gets results, very user-centric results that help optimize development and refine value propositions. Stickdorn and Schneider (2010) describe this further (Fig. 1), with the upper arrows depicting the idea process and the lower ones the common realities:

FIGURE 1 ABOUT HERE.

*Fig. 1. The iterative nature of a design process (Stickdorn and Schneider 2010; used with permission.)*

In addition to the workshops, [third author] formed Personas out of background data research. Personas are “*a documented set of archetypal people who are involved with a product or service*” (Saffer, 2010). In this case, the archetypes were non-spenders, spenders and “whales” (i.e., high-spending individuals for whom some content may be specifically targeted; Lehdonvirta and Castronova 2014), evaluated in the context of Bartle’s (2014) expanded player types. Personas enable the anticipation of customer needs through segmentation, and grant focus to seeing different types of service users as both individuals and as representations of significant stakeholder demographics (Liedtka and Ogilvie 2011; Teixeira et al. 2012; [Reference6]). The personas were used as tools in the workshops, as were insights gathered from an industry report review and interviews with four Rovio game company employees, two indie game designers, and representatives of three player segments (non-spenders, spenders and grinders; the last of these being players who spend much time playing). Two interviews were conducted during the user research and customer journey map phase. Each interview comprised 3 participants and lasted around 3 hours. In the following chapters, we turn to the results of the design process, and then analyze those results.

## **Process and findings**

The workshops explored F2P monetization throughout the design process, looking for a more fitting option. This is depicted in Figure 2, using the 4D model described above. We, like many service designers (e.g., Brown 2009) believe that visualization strongly ties into design thinking, and thus present the process in a figure:

FIGURE 2 ABOUT HERE.

*Fig. 2. The design process for new monetization options ([Reference4]).*

Based on the workshops, it appears that many of the current problems of F2P monetization are caused by strategies that are somewhat too direct and aggressive. This was confirmed through the use of in-process methods such as persona creation and application, and service blueprinting. They enable exploration into customer journeys and experiences, by consolidating user experiences (see e.g., [Reference6]) and by showing important touchpoints in the service experience (Clatworthy 2011). Journeys were documented through play, with a player from each basic category playing an F2P of their choice, and reporting to the researcher their current emotions relating to play. This revealed central differences between probable designer intent and the player experience (Fig. 3), reflecting the fact that in digital design, developers often claim to know best what is good design (Holmlid, 2009):

FIGURE 3 ABOUT HERE.

*Fig. 3. Customer Journey map of a typical F2P game play in the data set ([Reference4]).*

The typical journey started with the search for a game on the app store, followed by installing the game. Users usually enjoyed the first few levels where there is no interruption from monetization options. Once the F2P monetization kicked in, however, the experience started to deteriorate. Recommendations for in-game purchases were shown to the users. Some users chose to replay the level again, instead of paying. At that time, the advertisements started to appear.

Some of the advertisements were present in the top or bottom corners of the games (i.e., as banner ads). They obstructed the players' view of the game. This contributed to distracting the user's attention from the gameplay. Users considered this annoying and preventive to fruitful play. None of the games offered any alternate paying model. Players were thus forced to either make in-app purchases or watch badly designed advertisements. Many of the users felt that if they were given an option to pay once and then play on, that would have been preferable to continuous reminders and incentives for small micropayments.

These results were then used as the basis of the next workshop, conducted with four mobile marketing professionals. The goal of that workshop was to develop the concept or prototype of a less play-disruptive system of monetization, based on one of the key uses of service design, the envisioning of improvements (Sangiorgi 2011). In line with the service design pressure cooker principle (Van der Lugt 2009), the process was set with short timeline, in order to foster radical creativity. 30 minutes was given for ideation, and then 15 minutes for developing them further. Eight concepts arose for possible prototyping, some of which were not novel per se:

- *Branded levels*: A game level sponsored by a company, in which certain artifacts within that level (such as a billboard or hoarding) would advertise the brand. The artifacts could either be interactive parts of the gameplay, gamified for externally useful purchasing advantages, or just visuals.
- *Gamified ads*: Generic ads that could be a part of the game or be displayed as plain visuals during the course of a game. Like branded levels, these could also provide some kind of interaction reward.
- *Cross promotion*: A user acquisition strategy where a game is advertised in other games, thereby increasing visibility and bringing more users to the game. This is a strategy already employed by many advertisement networks and found in several games (e.g., Nieborg 2015).
- *Tangible goods*: Granting in-game items with the purchase of a tangible product. The tangible product normally has a code that can be used to unlock/enable different levels or something similar in value. It too is currently used in many games (e.g., [Reference2]).
- *Try for free but pay once*: This is a strategy similar to F2P except that one does not need to keep buying continuously. You pay once after playing the game for a certain period. It takes away the gripe of many F2P gamers that there is no end to spending in a F2P game. This is basically the classic shareware model (e.g., Kimppa et al. 2015), in which people move from a “freemium” to a complete “premium”, many variations of which exist ([Reference2]).
- *Different ad formats and strategies*: Current ad formats typically consist of videos or pictures, in banners that often obstruct or limit the view, or watched during play instead of paying money for something (e.g., Nieborg 2016). One participant suggestion was to give the user several preferences for viewing ads. For example, to view an ad before playing the game, or to view a couple of them after playing a few levels, and so forth. This could be combined with ad gamification described above.
- *Feature or level based charging*: A variant of shareware, in which players could pay for parts of the game. It is likewise a strategy somewhat similar to subscription model, except that the player is not bound to any

kind of recurring payment. This is a system used by several massively multiplayer online role-playing games (e.g., [Reference1]), in addition to some F2P games.

Out of these, the use of Personas (Fig. 4) brought forth individual preferences in monetization, so this was the avenue explored next:

FIGURE 4 ABOUT HERE.

*Fig. 4. An evaluation Persona extrapolated from the background research ([Reference4]).*

Using clustering, the eight options were combined into two groups: *hard monetization*, which focused on payments, and *soft monetization*, based on advertisements, cross-promotion, and so forth. These could be combined, in a series that would minimize player dissatisfaction while incentivizing them to invest time and money into the game. Figure 5 shows a preliminary experiment with a combination of the alternative mechanics 1) Feature/Stage based payment/Subscription (Hard), 2) One-time payment/Tangible goods (Hard), and 3) Ads/Cross-promotion/Branded levels/Interactive ads based monetization (Soft). The idea was that the player could choose which option to use. The testing was done with a mock-up prototype that was used by four players similar to one of the Personas each, as well as three other avid F2P players.

FIGURE 5 ABOUT HERE.

*Fig. 5. Service blueprint of an experimental combination of monetization options ([Reference4]).*

As the last stage of the process, the development's feasibility was tested on a business model canvas (as per Osterwalder and Pigneur 2002), to see if the new monetization plan (detailed below) would be likely to work. With enough available options, the revenue streams appeared to be stable and reliable (figure 6):

FIGURE 6 ABOUT HERE.

*Fig. 6. The business model canvas of the new monetization model experiment.*

The service design process revealed that while it is easier to get people to download a freemium game than to purchase a game, getting them to pay for any content is difficult. According to workshop participants, it depends on factors such as core gameplay, how challenging and addictive the game is, and how much value is placed by players on their in-app purchases. The only other central option for monetization in such games appeared to be advertising, a factor that is highly related to the number of players. This situation lures many designers to go for pay-to-win mechanics (e.g., special superior ammunition for tanks, available only through real money

transactions; [Reference2]). This carries the risk of alienating committed players who prefer to work on skill alone. In turn, mechanics created to foster monetization through frustration (“pay to pass boring”, Kimppa et al. 2015) work to either incentivize players to pay, or drive them away from the game completely. This is in line with earlier research. What was however remarkable in the workshop answers was the players’ interest in finding a balance between options. They acknowledged that some form of monetization was necessary and thus an integral part of freemium play. At the same time, all current monetization options except purely cosmetic additions that do not affect gameplay were considered harmful to the play experience itself. In essence, the freemium strategy is in games in some ways almost always flawed, according to the participants.

Several monetization options were considered during the empirical process, and they were gamified advertisements, one-time fee, monetization via tangible goods, and a hybrid model. Firstly, *gamified advertisements*. As opposed to normal ads, gamified ads are integrated into the game flow. These graphics and other assets for the ads are downloaded from a server and integrated inside game objects that are part of the gameplay. The benefit of this option is that the user experience is not affected since ads are part of the gaming experience. However, the drawback of this option is that it requires extensive changes from a technical standpoint -both for the game and the ad providers. Moreover, an ecosystem must be built around it in order to be commercially successful. For these reasons gamified advertisements option was rejected.

Secondly, *one-time fee*. In this monetization option the user can try out the game for free, but then he is given an option to pay a one-time fee to get a perpetual license. The benefit of this model is that the entire content is given free for a limited time during which, the user can decide whether he or she likes the game. Thus, the decision to purchase is made easier once the user understands what he is paying for. The drawback is the lost percentage of users that would have monetized much more using in-app purchases. One-time fee model was rejected for this reason.

Thirdly, *monetization via tangible goods*. This model involves taking a percentage of tangible goods, such as clothes, in place of in-app purchases made within the game. The benefit of this monetization option is that by binding monetization with real world products, the users feel a real value in the purchase, as opposed to virtual in-app purchases. Hence, the propensity to spend might increase depending on the products being advertised. The drawback of this option is that it requires integration with brands of real-life products which would be a significant and risky effort. For that, the game needs to have a sizeable audience to be successful. Moreover, the audience needs to match two business models at the same time, the one of the game and the other of the real-

world product. The marketing costs are also significant and put this approach out of reach of many developers. For these reasons this monetization option was rejected.

Fourthly, *hybrid model*. To solve the problem, or to minimize its damage at least, the workshop participants recommended a hybrid model. When the model was tested, the most significant positive factor reported by all seven players was having a choice in how the monetization took place. In addition, the less disruptive nature of the model was found welcome. The recommendations could be divided into “hard” and “soft” modes of monetization.

a) Hard Monetization, which relies on incentivizing players through payments. It mostly differs from the traditional freemium approach by the frequency of payments and the way in which they are conducted. Types of Hard Monetization recommended included:

- Feature or stage based monetization.
- Subscriptions.
- One-time payment.
- Tangible goods.

b) Soft Monetization, which relies on advertisements, cross-promotion, brands, and so forth.

While most of the users liked some of the options over others, all of them seemed to agree that the choice of options to monetize (soft and hard) would give them more options to pick and choose and increase the propensity to spend in the game. Thus, the hybrid model was the single most popular monetization option.

We now turn to discussing what a hybrid model would be like, and why it would be optimal.

## **Discussion**

The contribution of this empirical article is twofold. Firstly, it shows that service design process and methods can be used in the pricing of mobile games, and bringing the user experience and customer value perspective in pricing. Secondly, it identifies the central aspects of a freemium monetization model from the user experience and customer value perspective.

The existing ethos of innovation as well as pricing in mobile games tends to heavily rely on technology development – the marginal cost of processing, bandwidth and storage, and thereby cost of inviting and adding more users, and better metrics - rather than in-depth understanding of user experience and customer value. It

lures designers into seeking freemium options, yet they need to find ways to generate revenue, often by de-optimizing the customer experience ([Reference2]). This contradiction is seen by many as a major weak point of the whole mobile gaming industry (Teece 2010; Feijoo et al. 2012; Alha et al. 2014; Paavilainen et al. 2013; Zagal et al. 2013; [Reference2]). This article finds that the design process (British Design Council 2005) and service design methods ([Reference10]) significantly help the pricing of mobile games from the perspective of user experience and customer value. The classic double-diamond turned out to be a usable framework for the pricing process, and the service design methods powerful in revealing which aspects the users would value in a freemium pricing, if they themselves could decide.

The central factor that arose from the workshops was that even very active freemium game players are very diverse. They can be segmented into target groups for which monetization can be designed. This goes well beyond the old-fashioned “harpoons for whales” approach. It works by allowing players to choose their payment levels, without having to suffer things such as restricted access to content as a result of not wanting to pay. Factors such as sponsored levels, branding and non-intrusive advertisements combined with direct payment options make a game worth producing, yet not so aggressively monetized that it alienates too many players.

In addition, the process reflected the classic hypothesis that avid players usually spend either time or money on a game, but not both (Lehdonvirta and Castronova 2014; [Reference2]). At the same time, however, it is known that those players who play longer and more intensively are more likely to spend real money on the games that they play (Fields and Cotton 2012; Hamari et al. 2017; Hamari, Hanner and Koivisto 2017; Lin and Sun 2011; Seufert 2014). It indeed appears that this contradictory situation is true: avid, long-term players may pay for very different things (e.g., convenience, content access, items), when they commit by different courses, but they are willing to pay for a service that they enjoy - with money, time, or both.

In essence, the design process pointed out that people would first and foremost prefer a system of monetization that is actually a mixture of many options and processes. What counts is the ability to *reward* the designers and publishers the right way. This line of thought appears to be highly relevant: the players of freemium games seemingly want to reward a good design when they use it, not to pay for a service. As a result, they prefer to opt for a wide variety of options. This is in contrast to points raised by several behavioral economics (e.g., Thaler and Sunstein 2009; Kahneman 2011), who argue that too many options make choosing harder and people thus less likely to make rational decisions.



A probable explanation, we believe, would be in the central concept here, (play) *experience*. Game enjoyment is a central factor to game loyalty, which (together with a good price) in turn affects willingness to pay (Hsiao and Chen 2016; see also Hamari and Keronen 2017). Players want a good play experience, and have a market full of games to choose from. They value autonomy, in both choosing what to play (as per Deci and Ryan 2000) and how to play what they have chosen. In the same manner, they appear to value the possibility of choosing *how* to pay for the experience. Current revenue models rarely cater to the that autonomy ([Reference2]), so it is logical that players would currently prefer more options. Likewise, cultural factors may affect which monetization types are preferred (Koeder et al. 2017), as does the feeling of skill (Huang et al. 2017). Individual preferences vary in many ways, and people need their autonomy respected, in order for playing to stay enjoyable. Should the options grow too numerous and diverse to easily handle, it is likely that the laws of behavioral economics would hold once again. More testing on this model is therefore needed.

A current limitation of this study comes from its main advantage, the multi-step service design process itself. Some of the earlier stages were extrapolated from background research and interviews, before a testable prototype was available. This is in line with other projects (e.g., Lin et al. 2011), yet still a limitation. While personas and our interviewees' earlier experiences with other freemium games offsets this challenge to a high degree, next steps would in our opinion require that players try out both existing monetization options, and games that use the ideas discovered in this research process. Trying out the service in its actual use is crucial for optimal experiences (Holmlid and Evenson 2008). Only then, through actual customer experiences throughout the process, can we truly discover what works in practice, and what players would pay for.

## **Conclusions**

This article has discussed the development of a new freemium game monetization model through service design. In examining players' monetization preferences, it has shown that people prefer various options for monetization, and would thus optimally want a hybrid model. At the same time, however, they show a lack of trust in inferior game systems that are deployed for the purpose of monetization.

Most remarkably, players appear to view their payments not so much as acquisitions of more content or easier play, but rather as rewarding the designers of the game for their good design. This is highly significant for not just design, but also for monetization research: player retention and thus also monetization appears to be based on first and foremost design quality, not on creating lures or obstructions that entice or force people to play. Like

suggested by [Reference5], co-design has therefore a lot to offer for game design and game business development.

Following suggestions for further research emerge from our study. The alternate pricing model can be considered as a framework rather than a fixed solution. Certain aspects of the alternate model could fit into games while some may not. It is important to have several iterations of the model to further fine-tune it and understand what works best for a particular game. Indeed, the use of lean service innovation ([Reference9]) should be more examined in the context of mobile gaming development. Moreover, in order to validate and test the generalizability the findings of our empirical qualitative study, a quantitative research could be conducted. This is especially important in regards to the business model canvas (Figure 6), which only featured value propositions for companies, but not the players, because of heavy variance between what players may want out of games. Furthermore, combining the ideas and methods of futures studies with service design ([Reference10]) in gaming research has a clear potential to open up new avenues for further contribution in this area.

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## **FIGURES:**



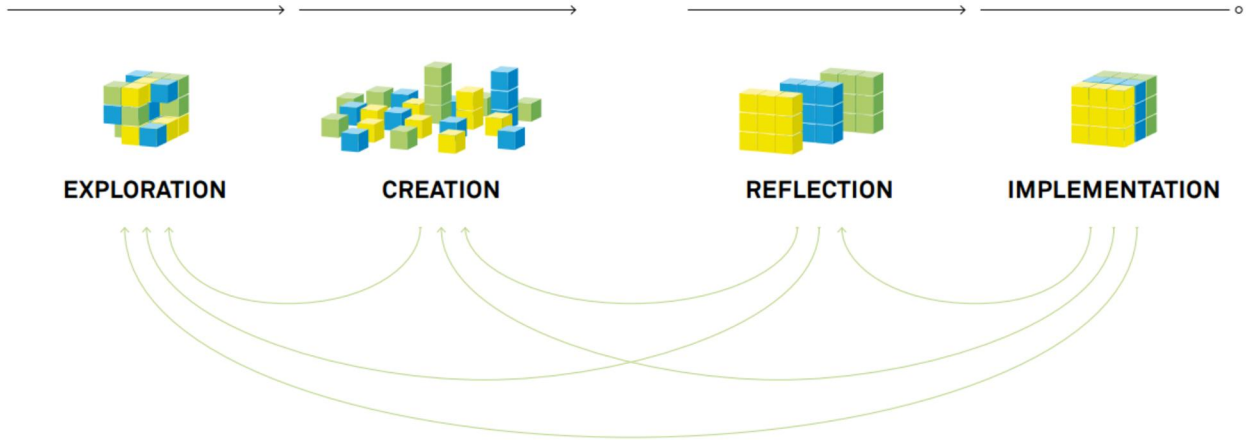


Fig. 1

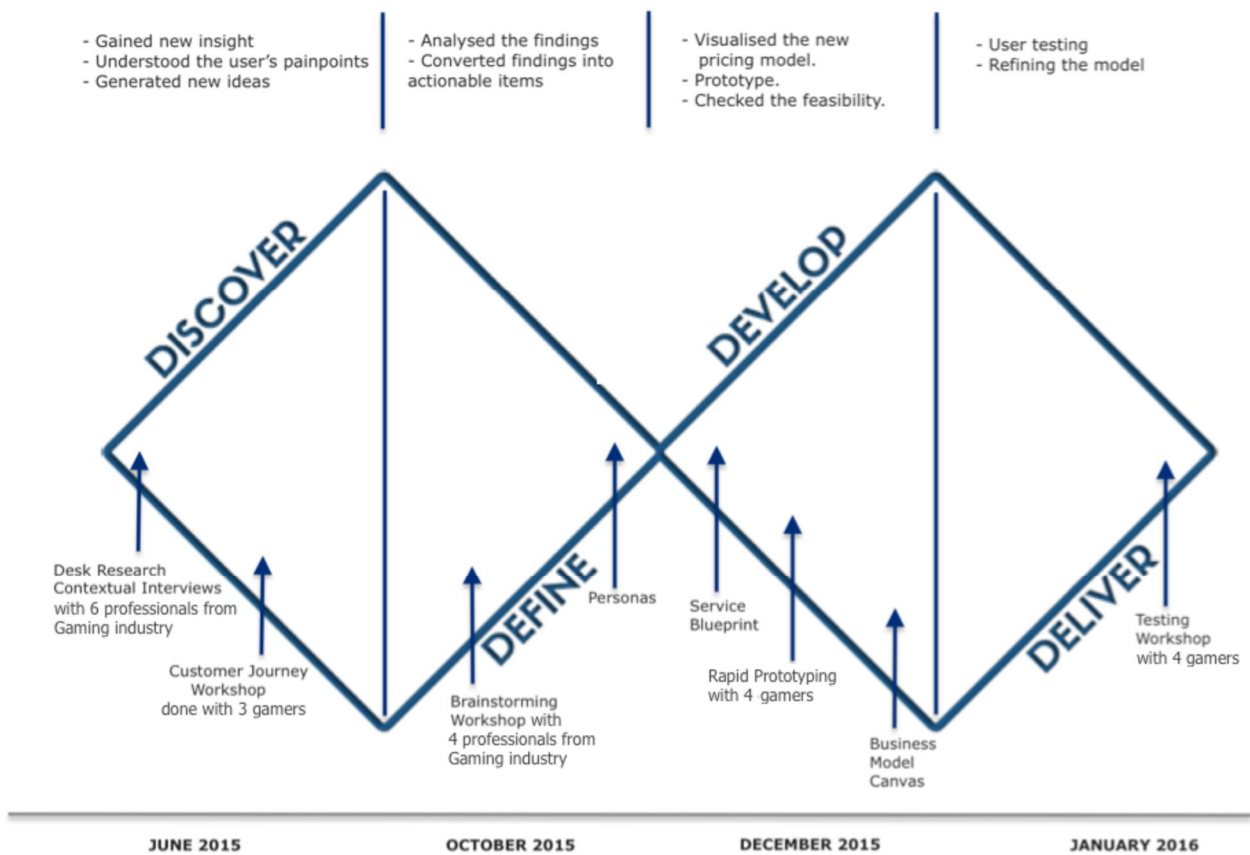


Fig. 2

<b>PROCESS</b>	USER INSTALLS THE GAME	USER PLAYS A FEW LEVELS	EVENTUALLY FAILS TO CLEAR A LEVEL	CONTINUES TO PLAY	BOMBARDED WITH ADS AND IN-APP PURCHASE OPTIONS	USER QUILTS PLAYING
<b>BACKGROUND PROCESS</b>	USER SEARCHED THE GAME IN THE APP STORE	GAME PRE-CACHES ADS / PREPARES TO SHOW IAPS	SHOWS OPTION TO PURCHASE IAP THAT CAN HELP IN CLEARING THE LEVEL	PREPARES TO SHOW ADS	CACHES MORE ADS	USER UNINSTALLS THE GAME
<b>USER EXPERIENCE</b>						
<b>IMPROVEMENT IDEAS</b>	1. Make the game more appealing 2. Provide all information regarding IAPs before installing the game	Let the user play enough levels and try out the game before needing them to purchase.	Try to provide alternatives to purchases / ads.	Dont force the user to watch ads. Allow him to choose when he would want to choose ads ( for uninterrupted playing)	Longer duration ads are annoying/ disenaging.	Ensure user engagement

Fig. 3

## The “Socializer”



Age: 27  
 Occupation: Housewife  
 Location: Austin, Tx  
 Weekly Game Hours  
 1 2 3 4 5 6+  
 Tech Comfort Level  
 Low High

*"Have you played Farmville ? I'm so addicted to that game right now!"*

*Julie likes to play social games once she finishes her house work so that she can connect with her friends in a fun way. It is something she looks forward to everyday and gives her a sense of accomplishment and allows her to connect with her friends living in other countries. She likes to help her friends in those social games and build guilds.*

### Key Characteristics

- Learns about games primarily through friends and family
- Enjoys playing games after finishing house work, before bed, and road trips

### Motivations

- Wants a game that is quick and easy to learn
- Prefers games that are social

### Julie's Goals

- Have fun, kill some time, and stay connected to friends

Fig. 4

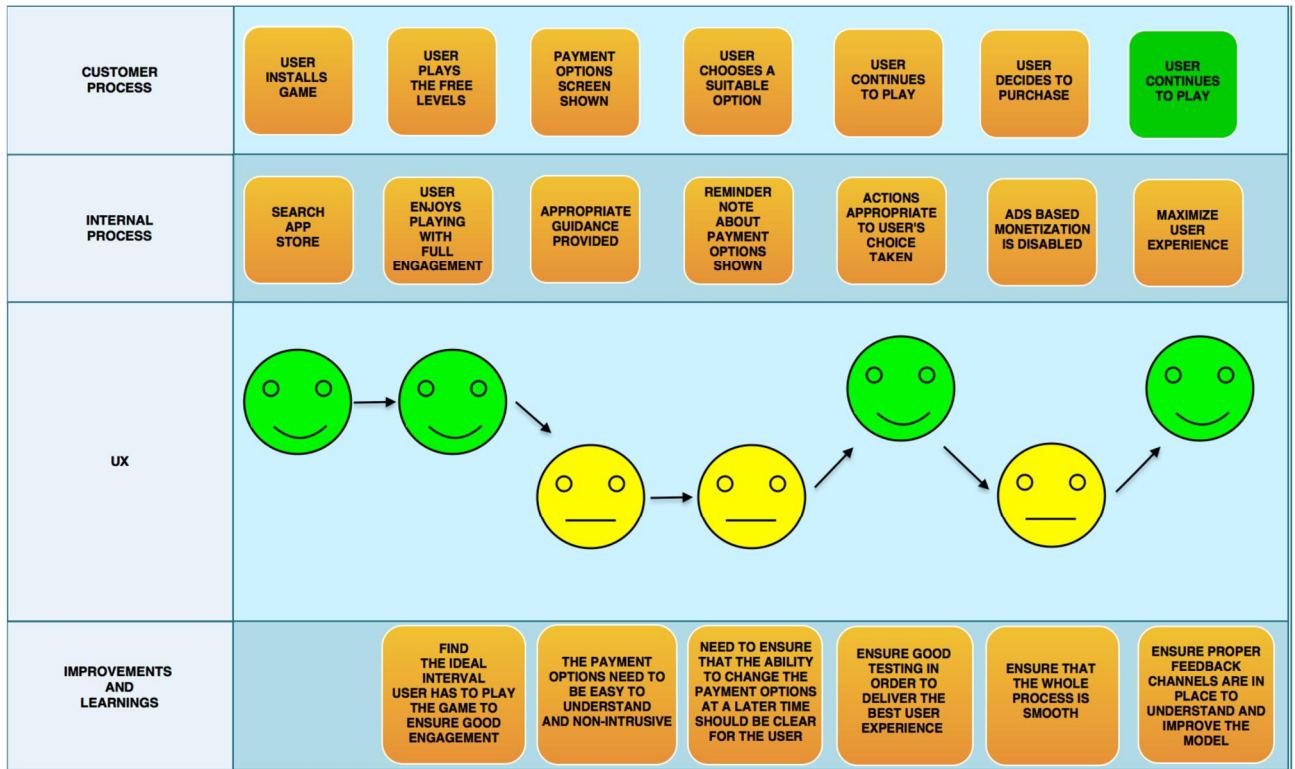


Fig 5

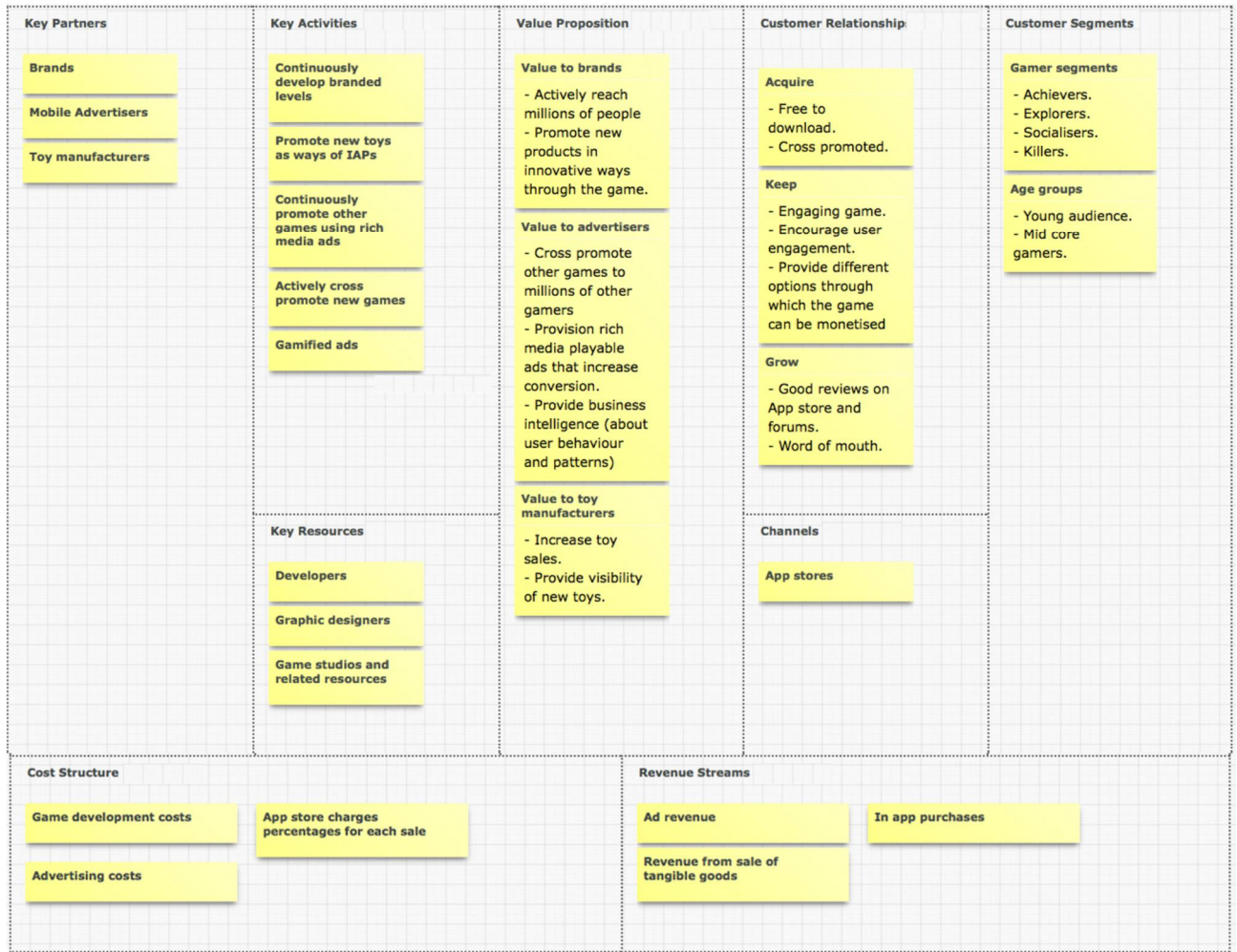


Fig. 6