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Conference Paper

"Lootboxes" in digital games - A gamble with consumers in need of regulation? An evaluation based on learnings from Japan

22nd Biennial Conference of the International Telecommunications Society (ITS): "Beyond the Boundaries: Challenges for Business, Policy and Society", Seoul, Korea, 24th-27th June, 2018

Provided in Cooperation with:

International Telecommunications Society (ITS)

Suggested Citation: Koeder, Marco Josef; Tanaka, Ema; Mitomo, Hitoshi (2018) : "Lootboxes" in digital games - A gamble with consumers in need of regulation? An evaluation based on learnings from Japan, 22nd Biennial Conference of the International Telecommunications Society (ITS): "Beyond the Boundaries: Challenges for Business, Policy and Society", Seoul, Korea, 24th-27th June, 2018, International Telecommunications Society (ITS), Calgary

This Version is available at:

<https://hdl.handle.net/10419/190385>

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“Lootboxes” in digital games - A gamble with consumers in need of regulation? An evaluation based on learnings from Japan

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Abstract

This paper looks at the recent discussion on “Lootboxes” by regulators in several countries referring to the case of Japan in the light of business model revolutions. A game-of-chance mechanic which can be found in more and more in digital games to acquire virtual items and to help monetize these games. These Lootboxes have created several negative reactions and calls for regulation because if their gambling like elements. Japan had similar mechanics in games for a long time called “Gacha” and could serve as an interesting insight into its regulation.

Firstly as introduction, this paper explains what Lootboxes are in comparison to “Gacha” in Japan and investigates whether they would qualify as gambling using a gambling taxonomy.

Lootboxes and Gacha can be seen as very similar and comparable and both would not qualify as gambling in traditional way as long as it could not be converted into real world currency.

Secondly, it reviews recent regulatory actions in Western and Asian countries and their reasonings to regulate or not to regulate “Lootbox” mechanism in games. Regulators approaches to “Lootbox” differ from country to country, from very strict to tolerant, often depending on their understanding and perception of Lootbox mechanis.

Thirdly, this paper introduces a player’s perception on Lootbox elements and business models. According to a third-party survey, players have a certain preferences and expectation on how to pay for a game or in-game items in accordance with the business model of the game. Several empirical cases showed that an inconsistency or lack of transparency between game players and game companies on how to pay for games could be a trigger for complaints by players, not whether it gambling or not,

Finally, this paper summarizes findings from empirical studies and points out the necessity of further studies on “game of chance” elements in games. In the case of so called free-to-play games, the lack of winning probability could be a key issue while for full price games the issue lies more in a lack of

transparency of the business model.

The former suggests the importance to increase the transparency of “probability” to give players more chances to calculate their chance of winning before they paying for game of chance elements. The latter implies that business models of the game industry have been transforming and games as well as their monetization strategies could be expanded and modified interactively and ceaselessly creating issues on the players side. Both user side and developer side behavior needs to be studied more. But the focus should not only be on gambling and addictive problems -which are important- but also on the issue of business model transformation and the interaction between players and developers in a networked environment.

Keywords

Free-to-play, Lootbox, Gacha, consumer protection, gambling, micro transactions, games, Japan, Europe, US, regulation, virtual goods

1. Introduction

In 2017 there has been several discussions in Europe as well as the US by the media, users and regulators on the issue of loot boxes in video games. (Kuchera, 2017; Knaus, 2017; Park, 2017)

In the US, a lawmaker has demanded a ban of loot boxes because of their gambling nature in Nov. 2017. Also politicians in the Bavarian parliament in Germany had asked for an investigation to see if loot boxes would qualify as gambling and Koen Geens, the Belgian minister of Justice, has called for actions to be taken against the mixing of videogames and gambling elements that, according to him, can be found in loot box mechanics. (Morris, 2017, Van Herk, 2017; Freie Waehler, 2017)

Reportedly, around 11% of Western game developers are planning to implement loot box mechanics into their games in the future. Juniper research is expecting the loot box market and related activities to reach \$50 billion in 2022 globally. (Foye, 2018) But there has been a limited number of academic analysis on loot box issue mostly because of its novelty and lack of availability of data.

“Loot boxes” (or “loot crates”) are game of chance mechanics for purchasing virtual in-game items in games. These mechanics are often used by game makers for monetization. The application of game of chance elements has recently expanded in games developed in the US and Europe. In Japan similar elements called “Gacha” have existed in mobile games for more than 10 years. (Hamburg

This paper wants to provide an initial outline about possible issues with Lootboxes based on regulator reactions and self-regulatory actions taken in different countries. Japan should play an exemplary role here as it has one of the longest histories of paid for game-of-chance elements in games..

On the other hand, the Japanese F2P game market and Gacha has not been analyzed in detail in the English-language academic literature. (Some papers/thesis covering the topic: Askelöf 2013; Kanerva, 2015; Yamakami, 2012b, 2013a, 2013b, 2014; Shibuya, Teramoto, Shoun, 2015, Woodford, 2013).

2. Background: New Digital Business Models – Freemium/Free-to-Play

Several service providers try to create value for customers in online environments. Many of these businesses are still associated with the “real” economy such as Amazon which connects offline makers and shops with online platforms. Some services such as Dropbox -a digital file storage and sharing

place- are digital only services and create virtual value by providing online storage service to their customers.

Some of these online services adopt the “freemium service” model where the service can be used for free to some extent, but payment is necessary for premium elements, additional services or for upgrades. These business models are sometimes connected with a subscription service instead of a one-time payment which allows access to advanced functions for a limited time. (Kumar, 2014).

This freemium business model has gained popularity especially in the software as a service markets in the recent years. Mobile games have been one of the major applications of freemium business models and this model is specifically called “Free-to-Play” or “F2P” (Nieborg, 2016). In these F2P games only about 2% of the players pay for premium services (Swrve, 2016) in the form of micro transactions/in-app purchases.

Different from typical digital games in the past, these games are not products but more like services as the game development never stops and new events and content is added constantly to the game to keep players playing and paying. For players to proceed in these games they often must acquire virtual items by using the games own virtual currency. Real money can and sometimes must be used to get this virtual currency. User can purchase things such as virtual items, upgrades, or to speed-up time with this currency. The F2P business model and its mechanics have been questioned already in academic literature (Heimo, Harviainen, Tuomas, Kimppa, Mäkilä, 2016; Zagal, Björk, Lewis, 2013; Paavilainen, Hamari, Stenros, Kinnunen, 2013).

In the previous years these games and their “micro-payments” have also led to regulatory discussions in academia (Mac Síthigh, 2014; De Kervenoael, Palmer, & Hallsworth, 2013; Feijoo, Gómez-Barroso, Aguado, Ramos, 2012) and also in government related discussions (Example Australia: Woodford, 2013, Example EU: Stenzel, 2012).

3. Research Question and Methodology

As mentioned in a conference paper at ITS Passau by the authors (Koeder, Tanaka, 2017) , governmental regulation and industry organization’s self-regulatory guidelines on Gacha made winning probability more transparent than before. A recent law suit filed by Gacha players in Jan. 2018 claimed a game maker’s inaccurate presentation of probability information. Also, Apple recently requested the disclose of odds of loot boxes in games listed in the AppStore. There have been several recent actions and statements by regulators in the West about Lootboxes which also feature a game-of-chance mechanic.

Based on above observations, this paper tries to build a theoretical framework for explaining why a certain level of transparency is an essential factor to make game of change elements in games more acceptable to consumers.

This paper takes a descriptive/observatory approach and comparative analysis looking at (mobile) games with game of chance elements in Japan and the Western countries and their regulations. Above findings are based on bibliographic survey, first hand interviews with players and professionals (10 Japanese players, 5 Japanese industry professionals, 6 German players, 2 German game developers, 2 US game developers, 1 Korean Game Industry specialist, 1 US Game Industry Specialist and 2 German regulation specialists), second hand survey data and market research done by the authors, mobile gaming reports as well as regulatory and self-regulatory publication.

This paper is not specifically looking at Issue of minors or addicts as these are more general

psychological and development issues related to the individuals.

4. Hypothesis

Based on the findings in Japan and their previous presented papers on Gacha at the ITS Conference in Kyoto and Passau as well an initial screening of consumer feedback on online forums such as Reddit and by exploring several games with these mechanics the authors developed the following hypothesis

1. Gacha and Lootboxes are similar and so regulatory statements and actions can be compared
2. Lootboxes and Gacha in general are not gambling (which seems a key issue now discussed publicly and by regulators)
3. Lootbox issues that need to be regulated or self-regulated are not mainly related to gambling but to a lack of transparency for consumers. (Similar to past experiences with Gacha in Japan)
4. The lack of transparency for F2P business models with loot boxes is mainly related to probabilities while the lack of transparency in full price games with loot boxes is more related to business model transparencies

5. Game Business Models

To better understand the discussion in this paper it is helpful to take a look at different business models which can be found in game.

Here is a simple chart outlining the most common models

| Business Model | Pay Once | Freemium | Free with Advertising | Subscription | Content Purchase (DLC) | Free to Play (F2P) micro-transactions Virtual Item Purchase | Free to Play (F2P) micro-transactions Game-of-chance purchase |
|-----------------------|----------------------|------------------------------------|---|-----------------|------------------------------------|---|---|
| Revenue | One time at purchase | One time after unlocking full game | Through advertisers booking/impressions | Ongoing monthly | With each in-game content purchase | With each item purchase | With each Luck draw purchase |
| Game as... | Product | Product | Product | Service | Service | Service | Service |

Chart 1: Game Business Model Simple Overview (Feijoo, Gómez-Barroso, Aguado, Ramos, 2012; Kimppa, Heimo, Harviainen, 2015; Hamari & Lehdonvirta, 2010)

To better understand the discussion in this paper it is helpful to take a look at different business models which can be found in game.

As briefly mentioned in the introduction part, there is a recent trend in the game industry towards games as services allowing for one single game to create more ongoing revenue per player over time.

Free-to-Play here has been the most common model on the mobile platform and also has become more popular on consoles and PC. Most Western F2P games in the past offered direct item purchase and in the recent years Lootboxes could be found in several F2P games on mobile and in F2P games on the PC and consoles

Different business models have also been combined in the past. For example, combining one time purchased games with content purchases in form of downloadable extra content which gets released over time. Or one time purchased games in combination with a subscription model for game content updates and/or online multiplayer access. These could be seen as efforts by game publishers to increase the overall spending per player over time. (Feijoo, Gómez-Barroso, Aguado, Ramos, 2012; Kimppa, Heimo, Harviainen, 2015; Hamari & Lehdonvirta, 2010)

A more recent development was the combination of one-time game purchase and virtual item purchases especially Lootboxes. This could mainly be found on Consoles and PC. Some prominent examples of these games are Star Wars Battle Front II, FIFA 2018, Overwatch, Counter Strike: Global Offensive.

The games with these new business model mixes can be seen as one of the key triggers for the debate on Lootboxes, gambling and regulation for example in countries like the US, Netherlands, Belgium. (Netherlands Gaming Authority, 2018; Belgian Gaming Commission, 2018; Hawaiian Senate Bill 3024, 2018)

6. What is Gacha

6.1 Introduction to Gacha

In Japan, the mobile free-to-play game industry already started over 10 years ago long as game apps for featured phones before the introduction of smartphones. Different from their Western counterpart's game makers there had introduced a special monetization mechanics in their F2P mobile games called "Gacha" or "Gachapon". The name comes from Japanese capsule toy vending machines often for a range of specific toy characters (for example Hello Kitty) or specific themes (for example Dinosaurs) that are displayed on the machine. Users insert a coin, then turn a switch and then receive a capsule with a random toy from this collection. "Gacha-Pon" is the sound the machine makes when turning the switch and when the capsule falls into the capsule dispenser. Some toys vary in rarity. Japanese (mobile) game companies have adapted this concept for the games virtual item purchase.

Players cannot directly purchase virtual items through in-app payment but need to participate in a paid lucky draw to get access to a chance of winning one of them. (Yamakami, 2012a). These Gacha elements account for a main part of the revenue in free to play mobile games in Japan. (Shibuya, Teramoto, Shoun, 2015). Japan has been mentioned as the country with the highest revenue per player globally (SuperDataResearch, 2016). In that sense Gacha seems like a new F2P business model element opportunity to increase the overall spent of the players.

The significant difference from the typical microtransaction or micro-payment found in Western games is that Gacha is not a virtual item purchase but the purchase of a "lucky draw" to acquire a virtual item with different rarities/probabilities. (Which is done through payments in real or virtual currency)

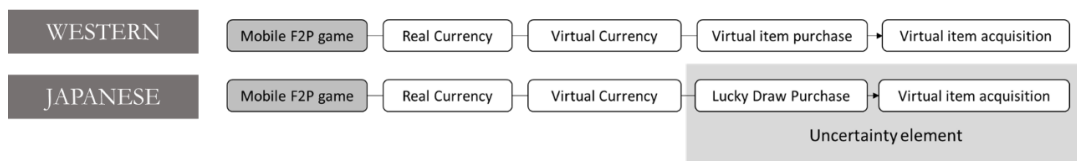


Chart 2: Difference between Western virtual item purchase model and Japanese F2P monetization which adds the uncertainty element to virtual item acquisition.

6.2 Definitions Gacha

Based on previous Japanese studies, Gacha in online freemium services is regarded as a mechanism similar to gambling. Shibuya describes Gacha as “...similar in screen appearance to vending machines that dispense children’s toys, and lucky players can win valuable gaming items this way... *Gacha* can be played for free, however, extremely rare and/or valuable gaming items can also be obtained through monetary purchases of online *gacha* products (Shibuya, Teramoto, Shoun, 2015, Page 3). Yamakami describes it as: “Japanese game vendors have made huge revenues using Gacha. Gacha is a kind of gambling for special items.” (Yamakami, 2013a, page 268) and as “...a mechanism to provide a randomly picked item, sometimes free and sometimes as paid items. Gacha is a great framework to introduce gambling spirits into mobile social games. It also obscures the high price to premium items because one attempt of Gacha can be cheap.” (Yamakami, 2013b, page 738) or in more detail “...a capsule container for a toy or a gadget... The price is one or two dollars. Before opening a capsule, its inner contents are not visible. Some of the contents come in a set, and therefore, users continue buying Gacha, trying their luck at getting a full set. Virtual Gacha for digital content is a popular revenue-generator in mobile social games. Sometimes, the content is an avatar, clothes for avatar, weapons, and so on.” (Yamakami, 2012a, page 1233).

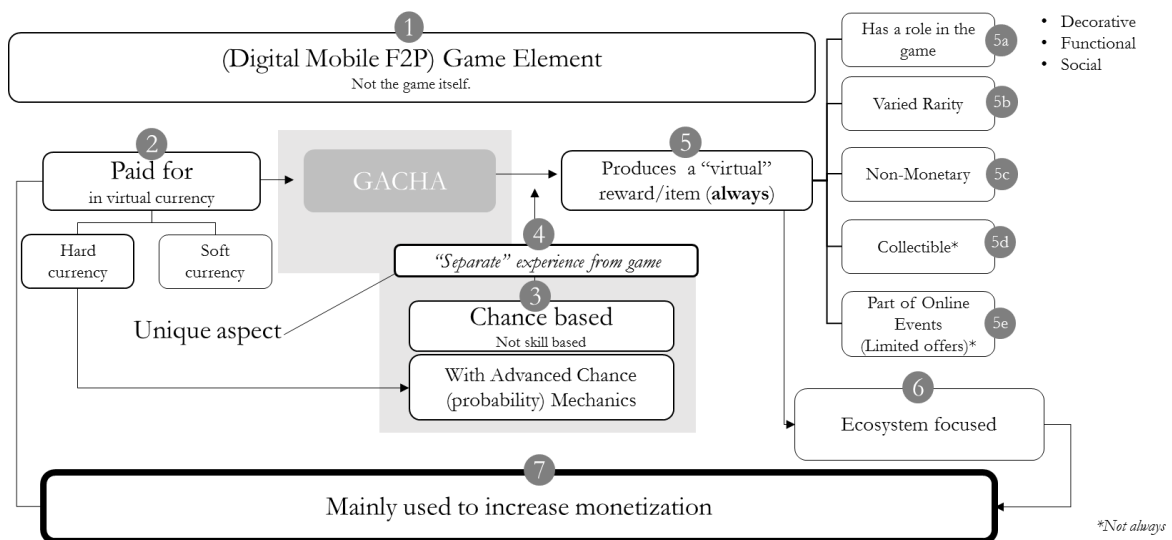


Chart 3: Outline of Gacha elements in Japanese mobile F2P games

6.3 Gacha Types

Based on actual gameplay, previous literature, developer and player interviews and game analysis reports (Spicemart, 2016) an initial outline of Gacha can be described through the following elements:

Gacha is a key game element but it is not the game itself (1). It is paid for using an in-game virtual currency either by soft or hard currency (real money) (2). It is game-of-chance based (including advanced chance mechanics and probabilities which can also change during special in-game campaigns) (3) The lucky draw experience is often separated from the actual gameplay and uses special animation for visualization (4) and always provides a (virtual) reward (5) in form of virtual items, characters, etc. which play a role in the game (decorative, functional, social) (5a) which are available in different levels of rarity/limitedness (5b), are often collectable (5c) and cannot be redeemed for real money (no real money trading) (5d). Furthermore, Gacha and the virtual item rewards are often combined with real time in-game events/campaigns (5e). The items acquired through Gacha are only valuable within the game and often are an essential part of the overall game ecosystem (6). Gacha is mostly used to increase monetization for the game provider (7).

There are several Gacha mechanics which are being used in Japanese mobile games. Our initial research in the literature, in reports and games and through interviews have shown over 10 different Gacha types/mechanics. Here is a small overview of some of them:

- Kompu Gacha: Players need to acquire a set of items to unlock a special rare item (Banned in 2012 because of the issue of unknown probability)
- Box Gacha: Virtual box of set items with known probabilities
- Sugoroku Gacha: Combining Gacha with a boardgame. A Gacha acts like a dice which then allowed the player to move on a board to unlock special items
- Redraw Gacha: Users can do a redraw of a Gacha (sometimes for free, sometimes for a fee)
- Consecutive Gacha: Purchasing Gacha in bulk increases the overall probability of getting rare items
- Open/Closed Gacha: A Gacha showing the probability of acquiring a specific item
- Discounted Gacha: Special campaigns where users pay less for a gacha draw.
(Sources: Yamakami, 2012b; Shibuya, Teramoto, Shoun, 2015; Spicemart Report, 2016; Toto, 2016; Interviews; Gameplay)

7. What are Lootboxes

7.1 History of Lootboxes in the West

Collectible pictures packed into cigarette boxes or chocolate bars could be seen as early analogue ancestor of Lootboxes and can be traced back to the beginning of the 20th century. This was later followed by other sweets products which contained collectable cards and by dedicated collector cards with varying rarity issued in sealed packs by companies such as Pannini. While these cards did not have any specific game function this changed in the 90s with the release of collectible card games like Magic the gathering as well as collectible miniature figures games such as Star Wars or Dungeons & Dragons from Wizards of the Coast which also feature character cards. (Wright, 2017; Williams, 2017)

Loot boxes in the form of treasure chests/boxes with randomized content could already be found in early roleplaying games like Telengard by Avalon Hill dating back to 1982 which focused strongly on randomized events. (Bolingbroke, 2010)

Paid for Loot boxes in Western digital games seemed to have appeared first in 2011 in Team Fortress 2 together with the games new F2P business model. Several other games followed in the coming years (for example Counter Strike) and then paid-for loot boxes started to become a popular feature from

2016 on. (Valve, 2010)

On the mobile platform, Western loot boxes could be found in the F2P game Hearthstone by Blizzard which launched in 2014 in the form of collectible cards as well as in other mobile F2P games such as Clash Royale by Supercell launched in 2016 or Electronic Arts Game “The Simpsons Tapped Out” which already launched in 2012 and then introduced loot box mechanics in 2013 which became more and more elaborate over time. (TSTO Addicts, 2015)

7.2 Loot Box Market

The major share of spending coming from the Far East and China including Japan. (Foye, 2018)

According to an unpublished study by the University of Hamburg the game-of-chance element in video games for monetization has been increasing the past years. So called “Pay to win” business models are expected to have generated over 10 billion Euro in revenue in 2017 globally. According to a researcher involved in the study the business models of games and gambling providers have become closer. (Mediengruppe Deutscher Apotheker, 2018; Epochtimes, 2018)

7.3 Definitions Lootboxes:

“Loot boxes in games create a mixing of games of chance and games of skill. Although the outcome of games is determined by skill, the outcome of loot boxes is determined by chance. Players usually has to pay for a loot box. The prize that they can win with loot boxes may also have a monetary value.”
(Netherlands Gaming Authority, 2018, p. 2)

“Found in video games, loot boxes are in-game packs often gifted to players as a result of completing in-game tasks and achievements. Increasingly, these are made available to purchase with real-world currency to provide a boost to in-game progression, or to enhance character abilities.”
(Foye, 2018, p.1)

“Bei einer sog. „Loot-Box“ handelt es sich um ein Spielelement. Der Spieler / Die Spielerin kann über einen kostenpflichtigen Erwerb spielrelevante Inhalte erwerben, welche z.B. den Spielcharakter aufwerten oder das Spielgeschehen durch andere Items positiv beeinflussen. Dabei erfolgt die Ausschüttung von nützlichen Items nicht vorhersehbar. “

Translation: “A Lootbox is a game element. The player can receive game relevant content which can for example enhance the players in-game character or influence the gameplay in a positive way. It cannot be predicted what useful content will be distributed. “ (BPjM, 2017, p. 1)

8. Lootbox elements & Gacha

8.1 Commonalities and differences

When looking at the previous break down of Gacha elements then Lootboxes behave similar. They are often a key game element but it is not the game itself. Similar to Gacha Lootboxes are often paid for using an in-game virtual currency either by soft or hard currency (real money) It is also game-of-chance based and has probabilities which can also chance during special in-game campaigns. Gacha yet seems to have a broader variety of mechanics. The lucky draw experience for Lootboxes is also often separated from the actual gameplay and uses special animation for visualization and as Gacha always provides a (virtual) reward in form of virtual items, characters, etc. which play a role in the game

(decorative, functional, social). Different rarity levels are also present as well as collectability and like Gacha usually items cannot be redeemed for real money (no real money trading) virtual item. Real time in-game events/campaigns are also frequent for Lootbox purchases. The items acquired through Lootboxes are only valuable within the game but are not always an essential part of the overall game ecosystem. This depends on the game's business model. But like Gacha Lootboxes are mostly used to increase monetization for the game provider.

Another similarity is the reason of consumer complaints. The complaints about their opaque mechanism and hidden probability of winning a virtual item have been similar. Also, both have provoked discussion in the media and by regulators and have seen a certain kind of regulatory interventions

Further differences can be found in the platforms. Gacha can mostly be found in mobile games while Lootboxes are also prominent in PC and console games. Also the business models seem to differ. Gacha is mostly found in F2P games that are built on in-game item purchases and Gacha is the key monetization mechanic while Lootboxes are also prominent in full price game titles as extra monetization element. They are both built on metaphors. In the case of Gacha a metaphor of a real life Gashapon machine and in the case of Lootboxes in form of a locked treasure chest.

8.2 Lootbox & Gachas psychological impact

While this paper does not go into details on this topic, it should be mentioned that Lootboxes seem to trigger deeper psychological reactions as outlined by Psychologist Jamie Madigan which relate to the reward element similar to classical conditioning. The randomness of the reward then triggers a stronger conditioning and also a stronger brain reaction in form of dopamine release which can lead to ongoing repetition of the behavior. Visual representations of the loot and loot unboxing also reinforce this behavior. (Madigan, 2015)

Keith Whyte the executive director of the National Council on Problem Gambling also stated in an interview on Lootboxes in games for the NY Times that the randomness of rewards as well as the multi-sensual presentation of the opening of loot boxes has a strong effect on players' behavior. (Bailey, 2018)

A recent survey conducted by Koyama, Hichibe and Tanaka (2017) revealed that a certain rate of surveyed smartphone players (around 10-25%) reduced their expenditure on Pachinko, a highly regulated gambling parlor game in Japan. This shows a potential relation between gambling behavior and Gacha as most of the games in this survey had Gacha elements in them.

| | Major Platform | Mechanics | Main Business Model | Paid for | Game Examples | Reward | Main Revenue Driver | Strong multi-sensual experience | Metaphor | Main Countries | Psychological Mechanics |
|-------------|----------------|----------------------|---------------------|-----------------------------------|--|---------------------------------------|---------------------|---------------------------------|------------------|-------------------------|--------------------------------|
| Min release | | | | | | | | | | | |
| GACHA | Mobile | Game of Chance Based | Free-to-Play | Yes (also free version available) | Puzzle & Dragons (J&E) Fire Emblem (J&E) Monster | Virtual Items with different scarcity | Yes | Yes | Gashapon Machine | Japan Korea China | Conditioning, Dopamine release |

| | | | | | | | | | | | |
|---------|-------------|----------------------|-----------------|-----------------------------------|--|---------------------------------------|----|-----|----------------|---------------------|-------------------------------|
| | | | | | Strike (J&E) Grand Blue Saga (J) | | | | | | |
| LOOTBOX | PC/Consoles | Game of Chance Based | Full Price Game | Yes (also free version available) | FIFA 2018 Star Wars Battlefront II Overwatch Dota2 | Virtual Items with different scarcity | No | Yes | Treasure Chest | EU USA Australia/NZ | Conditioning, Dopamin release |

Chart 4: Simple Overview: Difference and Similarity between Gacha and Lootboxes

9. Are Gacha & looboxes gambling? - Taxonomy approach

There has been an ongoing discussion by Japanese researchers if Gacha game of chance elements can be regarded as gambling and if this could be seen as problematic. (Shibuya, Teramoto, Shoun, 2015; Yamakami, 2013a, Yamakami, 2013b, Yamakami, 2012b). From the Japan regulatory side the discussion of Gacha and gambling has not surfaced. It does not seem to be an issue so far. As the reasons behind this could be related to a specific -more relaxed- Japan or Asian perspective on gambling it would be interesting to look at Gacha and its relation to gambling from a more western mindset.

At the end of 2017 Esports Observer, an online platform for esports business news and insights conducted a survey on twitter among its readers if loot boxes can be seen as a form of gaming. 58% responded that they regard them as a kind of gambling. (The Esports Observer, 2017)

Also as mentioned already previously, the recent discussions the US and European have focused heavily on the gambling aspect of Lootboxes.

Gainsbury, Hing, Delfabbro & King outlined a taxonomy of gambling in their 2014 paper providing a more general and international perspective on gambling elements in connection with social (media) games and if these games would qualify as “gambling” and therefore would need closed analysis and consideration by regulators.

This taxonomy was based on earlier framework from Parke, Wardle, Rigbye, Parke (2012) and was built on international best practice approaches and previous publications on game and gambling issues and regulations.

The authors developed a simple to follow flowchart to determine if a service would qualify as gambling or not even though the service seems to be rather gambling related. The key elements in the framework are 1. The need to pay using real money 2. The balance between chance based and skill based elements 3. The platform(s) the games are offered on and 4. How important the gambling theme is in the game itself.

Looking at this flowchart, the Gacha elements outline provided at the beginning of the paper , previous studies on Gacha and the definition of Lootboxes, the following logic conclusions can be drawn:

Gacha/Lootboxes can be seen as online games which contain gambling components so it would fall into a category that needs closer consideration.

Angle 1: In Gacha/Lootbox Games players do not have to pay money to play. Yet they do have to pay real money to increase their chance to win rare items through Gacha or to have access to win limited

edition virtual items.

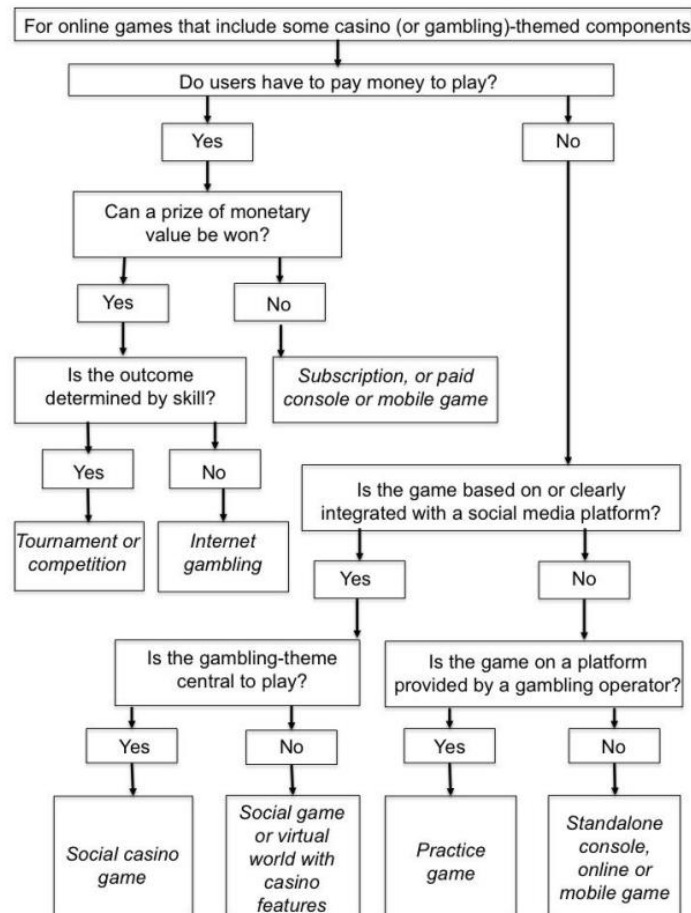
If Gacha/Lootbox are regarded as not requiring payment, then the next question would be if the game is integrated into a social media platform. In the case of Japanese F2P Gacha games they have connections to social media but they are not deeply integrated into these platforms. They are also not offered by gambling operators. For some loot box games such as Overwatch, Dota 2 or League of Legends they have a focus on online multiplayer gaming but are not deeply connected into specific social media platforms.

Angle 2: Even if a Gacha/Lootbox game would be integrated deeply into a social media platform it would not qualify as gambling because its core game is not focused on gambling or casino simulation. Also, Gacha/Lootbox themselves are not a virtual casino or gambling “simulation”. Instead it is a “simulating” of a non-gambling related Gashapon Capsule Toy Vending machine in Japan for Gacha or a treasure chest opening metaphor for Western Lootbox games

If Gacha/Lootbox is seen as requiring real money payment it does not produce a prize of monetary value outside of the games ecosystem and there is no opportunity to sell it within the ecosystem. This would not qualify as gambling

In summary Gacha/Lootbox (according to this taxonomy) would not qualify as gambling mainly because of these points:

- No real money can be won
- It does not “simulate” casino gambling activities
- Gambling theme is not central part of the game
- Main game outcome determined by skill
- Not provided by a gambling provider



Source: Gainsbury, Hing, Delfabbro & King, 2014, page 4

Based on the above outline Gacha/Lootbox powered games would not need to be regulated according to gambling regulation. But the authors also touch upon virtual worlds with gambling elements and virtual currencies but only see it as problematic if virtual money can be exchanged for real money. Even the games do not allow this function of monetary exchange, if there are third party trading platforms where players sell items or virtual currency then this can become an issue.

The next section will look at how Gacha/Lootboxes are actually being perceived by different legislators and self-regulators in different countries. For Japan a more in-depth description will be provided as this was one of the very early markets to adapt these mechanics, yet little information had been available about it outside of Japan.

10. Regulatory perceptions and decisions about Gacha and Lootboxes

10.1 APAC region:

10.1.1 Japan

Regulatory Invention: Kompu-Gacha regulation by Law in Japan - as lottery and promotion tool

In 2012 Gacha has already been in the focus of Japanese regulation when the government banned the

use of “kompu gacha”. (Kennedy, 2012). This was a specific game of chance mechanics that required players to collect several items by lucky draws to then unlock a very special item without the knowledge of any probabilities. In this case gambling and the F2P business model collided (Woodford, 2013). Some mobile game titles have started the displaying of probability of Gacha since 2012 after a new guideline was released by six major mobile game publishers in Japan (DeNA, 2012).

Despite the fact, that Gacha has existed in mobile games in Japan since around 2004 with one of the first games being Maple Story (4Gamer, 2007), complains to the Consumer Agency in Japan had increased in 2011 (Machida, 2012). The main issue was the so-called mechanics of “Kompugacha” which had been previously mentioned in the paper. The name comes from the word KOMPURETO which means “to complete”. This mechanics require the player to first collect a series of items (complete set) before being able to unlock a specific rare item. Without any known data on the probability, rarity or potential costs of acquiring the final item the Consumer The Consumer Affairs Agency in Japan (CAA) banned the practice of “Kompugacha” in 2012 for the reason that it corrupts the game experience as the system makes it difficult to understand the probability to win a prize (CAA, 2012). Game companies had to abandon these mechanics and switched to other kind of Gacha and invented new ones. Over the course of time game developers introduced several new Gacha mechanics several of them with hidden probabilities and hidden total costs for acquisition by just hinting how rare some items are.

CAA banned Kompugacha based on the “Law for Preventing Unjustifiable Extra or Unexpected Benefit and Misleading Representation” which was a different law from gambling regulation. The law prohibits unfair promotion to sell certain goods or services. The fourth article regulates “lottery” mechanism utilization to attract consumers if probability expression is deceptive for consumers.

Self-Regulatory Action: Probability self-regulation through guidelines in Japan – for increasing transparency

Again in 2015 Gacha had been mentioned negatively in Japanese media for a specific game title (Grandblue Fantasy) and its issue of promising a wrong probability to acquire a specific game item (Nakajima, 2016). In 2016, Computer Entertainment Supplier’s Association (CESA) announced a new guideline to increase transparency of probability of Gacha item emergence (CESA, 2016). The guideline calls for displaying the probability of each Gacha items so consumers can understand their chance of winning better. It requires game makers to implement one of the following 4 standards:

- a. The limit on the estimated price (the price calculated as an expected value according to the set distribution rate) to obtain any rare Gacha item should be within 100 times the price of a single paid Gacha, and in the case, that this limit is exceeded, that estimated price or its multiplying factor is to be displayed on the Gacha page.
- b. The estimated price limit to obtain any rare Gacha item should be within 50,000 yen, and in the case, that this limit is exceeded, that estimated price is to be displayed on the Gacha page.
- c. The upper limit and lower limit of distribution rates for rare Gacha items are to be displayed.
- d. The distribution rates for each type of rare Gacha item are to be displayed. (Spicemart, 2016, p.6)

By this self-regulation, member game companies only had to fulfill one of above conditions since it did not require to adhere to of all of them.

10.1.2 China

The Ministry of Culture in China announced new regulation in December 2016 to force game publishers to provide more information on their game elements. This specifically applies to Gacha like game-of-luck elements called “loot box” and their probability but with PC and console games as main platforms. The regulation of the Chinese government demands publisher to keep a record of the probability rates for 90 days. (NeoGAF, 2016). Similar to Japan, instead of focusing on the gambling-like mechanics, regulators looked at the unknown probability side as an issue from a consumer protection regulations angle.

Reportedly, American game publishers, Blizzard Entertainment, Riot and Perfect world, officially revealed the probabilities of winning virtual items for their most popular game titles in China from May 2017 when the regulation became effective (Chalk, 2017).

Also Chinese Game maker published their probability rates for their game Crossfire. (Foxall,2017)

10.1.3 Korea

The initial reaction by Minju Party member Wootak Jeong was to submit a request in 2015 for the regulation of Lootboxes based on the assumption that some items/elements highly resembles gambling and that the lack of transparency of the probability to win items violates the interest of consumers. (Lee, 2016)

But instead Korea took a self-regulatory approach on randomized virtual item purchases in games. This was led by the Korean Association of the Game Industry. But because of continued player complaints this approach needed to be revised in 2017 to offer more transparency also on the probabilities of winning specific items. The government is working together with the Association and will also establish a joined control institution in October 2018. (Lee, 2018)

The situation is still problematic as could be seen in April 2018 when The Korean Fair Trade Commission fined and penalized Lootboxes for specific games and mechanics. All penalties were issues because of a lack of transparency of probabilities in specific game campaigns/promotions, In the case of one game the issue was similar to Japanese Kompugacha yet limited only to promotion events: “Sudden Attack” Game Users could get puzzle pieces at random with their purchase of Lootboxes and when they collect all the 16 puzzle pieces they would receive a special reward. But the game maker did not provide probabilities. The other games received penalties mainly because of their incorrect statements of probabilities. (Ji-young, 2018)

10.1.4 New Zealand

According to an official request sent to the Gambling Compliance office of New Zealand by Game Industry Online Magazine Gamasutra in December 2017 the department does not see Lootboxes as gambling. The reason for this is that game items cannot be traded for real money and that they are directly related to the game itself. (Cross, 2017)

10.2 EU and USA

10.2.1 Belgium

The Belgian Gaming Commission (BGC) declared some Lootbox mechanics as gambling in early 2018.

The regarded these elements similar to betting which can results in loosing or winning (in that case

virtual items) and the fact that chance plays a major role in this They required game makers to provide probabilities of winning, users spending limit or even remove loot boxes from games

The Belgian regulators demanded Electronic Arts, Blizzard and Valve to remove Lootboxes from their games Fifa 18, Overwatch and Counter-Strike: Global Offensive. Otherwise they would face up to five years in prison and a fine up to 800,000 Euro because of illicit gambling. If these games prove to be specifically targeted towards minors then the fine would double. (Belgian Gaming Commission , 2018; NOS, 2018)

Already in 2015 the Belgian Regulators had filed a legal claim against Machine Zone, a F2P mobile game developer. The reason for the claim was a Mobile Game title named “Game of War: Fire Ages” which had been ranked as one of the top revenue generating mobile F2P titles in the market. The game itself is a multiplayer online strategy game but the regulators pointed out that the game features the virtual replication of a casino and casino games in which players could gamble using virtual money (money they can acquire in the game or through paying real money). Based on this issue and the assumption that this mechanic is a key part of the game itself the game provider was accused of illegal gambling activities by the authorities. Game of chance elements were also seen by the regulatory body as elements inciting users to spend more money due to their gambling nature. (Barlowe, 2015)

10.2.2 Netherlands

The Netherlands Gaming Authority declared Lootboxes as gambling in 2018 because of the chance based outcome and the possibility of trading of items for real money which then create a real market value even these trades happen outside of the games themselves.

In their analysis they looked at 10 game titles and pointed out 4 of them as problematic according to a newspaper articles those games were: Rocket League, Dota2, Fifa18 and PubG.

They asked for a regulation including the exclusion of problematic players such as minors and people with addiction issues. (Netherlands Gaming Authority, 2018)

10.2.3 United Kingdom

The Gambling Commission decided that Lootboxes would not qualify as gambling. One main reason mentioned was that it does not allow direct conversion into real money within the game.

This was mentioned in an interview with Tim Mille, the executive director of the the UK Gambling Commission in late 2017. He also stated that the commission will keep monitoring future developments. (Hood, 2017)

In 2015 they had already looked at and analyzed social games and gambling elements from a gambling regulatory angle (Gambling Commission, 2015) and also put forward a discussion paper on topics such as virtual currencies in 2016 (Gambling Commission, 2016). Back then the regulatory body concluded that social games do not qualify as gambling and not need a regulation at this point in time. The key factor for this conclusion was also that the prizes obtained in these games are non-monetary and do not represent any direct real money value.

10.2.4 Germany

A recent study had suggested that Germany seems to have several regulatory gaps in gambling/Game-of-chance regulation. According to the study gambling activities such as lotteries and sports betting seem to have a de facto monopoly. Services like online poker or online casinos are deemed illegal (exception: Schleswig-Holstein) and the market is occupied with several illegal and grey gambling providers. The study suggested the establishment of a central regulatory office instead of the current state based offices to unify regulation. (Haucap, Nolte, Stoeberl, 2017)

Social Gaming and possible gambling elements are not regulated at the moment under this regulatory umbrella.

State of Bavaria

Due to the negative news about Lootboxes in the media in late 2017, one political party had filed an urgency request in the Bavarian parliament asking for a change of regulation to only allow the selling of games with loot boxes to an adult audience. According to their statement they see Lootbox that need to be paid for with real money and that lead to advantages in the game as a kind of gambling. They specifically mentioned Star Wars Battlefront II in their plea. The plea was rejected by parliament but at the same time spurred a plea by Bavarians biggest party the CSU on a closer evaluation of loot boxes especially for minors. This plea passed the parliament hearing on November 29th, 2017. The plea demands a closer evaluation by the German Commission for the Protection of Youth in the Media (KJM) because of the special mechanics of the loot boxes business model as well as more transparency from the game makers and more media education. (Freie Wähler, 2017; State of Bavaria, 2017)

In 2017 the German Age Rating Board had already released a statement that they do not see loot boxes as gambling. The reason for this was that the random rewards are only low value prizes similar to physical collectable card games and physical random items which can be found in sweets or lotteries at county fairs. But they also stated that they could be seen as problematic because of the possibility of real money trading and the involvement of minors. (USK, 2017)

Self-Regulation

In early 2018 the German Commission for the Protection of Youth in the Media (KJM) then announced that they also do not regard loot boxes as gambling. The reasons where that they had not received any major complaints about this issue from consumers and that it depends very much on specific games and their mechanics. They also mentioned they have to keep monitoring the development of these mechanics and how consumers react to it. (KJM, 2018)

The German Game Industry Organization (Game) does not consider Loot boxes to be gambling. Their reasoning for this is that players always receive a set number of virtual items and extra content. Only the exact content is not known. This is similar to physical collector cards series or sweets with surprise items inside the box and different from real gambling mechanics where the player has a chance of not winning anything at all and can “lose” his spent money. Lootboxes always provide a return/reward just in form of virtual content.

They also do not see a strong addiction potential as it is not gambling. Furthermore they see the fact that the market for in-game item purchases and microtransactions has been growing as an indicator for players satisfaction and acceptance of the model.

Lootboxes are also not seen as affecting gameplay negatively. The Organization assumes that games with unfair loot mechanics will naturally start to disappear. They believe in the positive self-regulatory effect of the market. (Game, 2018)

10.2.5 EU

There is no official regulatory statement on an EU level so far. There has only been a statement from Pan-European Game Information rating system (PEGI). The response given to the Game Industry Online Site WCCF Tech states that their stance on loot boxes is similar to other rating organizations like the ESRB in the US or the USK in Germany. The PEGI does not call out loot boxes as gambling but at the same time they would request gambling legislators to decide on this in the end. (Palumbo, 2017)

10.2.6 United States

So far there has been no official government body statement or regulation on loot boxes in the US. There have on the other hand been actions brought forward by politicians in several states.

State of Hawaii

In February 2018 bills have been introduced in the state of Hawaii to regulate loot boxes to the house and senate under the consumer protection umbrella. These bills would only allow the selling of games with loot crates to adults as well as force the providers to show probability rates in their games and introduce a special warning label that these games contain the purchase of in-game items and mechanics similar to gambling that can lead to addiction. The bills specifically mention Star Wars Battlefront II as an example of the problematic use of loot boxes (Senate of Hawaii, 2018a, 2018b)

State of Washington

A bill was introduced in January 2018 to the Washington Senate by State Senator Kevin Ranke to find out if Lootboxes are gambling and should be regulated.

In specific the bill also wants to determine if these mechanisms should be featured in games at all, if there should a special control towards minors and to discuss the lack of transparency of winning probabilities. (Senate of Washington., 2018).

State of Minnesota

Senator Rick Hansen introduced a bill to Minnesota senate in April 2018 for consumer protection asking for games with loot boxes to not be sold to minors. Also if a game adds Lootbox mechanics then it should not be made available to minors after that. Games also need to feature a warning that they

contain mechanics similar to gambling and can lead to addiction. This includes physical games as well as download games. (House of Representatives Minnesota, 2018).

State of California

In February 2018 Assembly Member Quirk requested an addition to the Californian Business and Professions Code for video games which would require a label stating that the game includes micro-transactions. The bill does not specifically address Lootboxes. (California Legislature, 2018).

Self-Regulators

On the Self-regulatory side The Entertainment Software Rating Board (ESRB) took the stance that loot boxes cannot be seen as gambling. The reason for this is that players always have a guarantee to win something, similar to collectible card games. This was mentioned by the ESRB in reply to a request for statement by American Online Game Magazine Kotaku in October 2017. (Schreier, 2017)

Yet at the end of February the ESRB introduced a new label for physical video games that show that these games offer in-game purchases. But the label does not require game makers to mention if the game contains loot crates or game of chance mechanics nor do they need to mention any probability. (ESRB, 2018)

The Entertainment Software Association (ESA) defines loot boxes not as gambling according to a statement given to Rolling Stone Magazine. The reason for this is that they are optional features and the player can decide to use them or not. The ESA mentioned that in some games loot boxes can also be obtained without real money and in some games their content helps to move forward in the game while in other games these items are purely cosmetic (Crecente, 2017)

Preemptive actions by US game makers & platform providers

There have also been companies who changed their game mechanics before specific measurements had been introduced. Full price PC and console game Middle-earth: Shadow of War removed its Lootboxes because of complaints from users. (Monolith, 2018)

Also the full price game Star Wars Battlefront II removed their Lootboxes because of player complaints but later re-introduced them with a slight difference than before. The items now did not affect gameplay and were for cosmetic purposes only. (Electronic Art, 2017, 2018)

Apple announced in December 2017 that it would require all game providers with loot box like mechanics to show the probability of acquiring items. Japanese Games like Final Fantasy Brave Exvius, Fire Emblem as well as Western Games like PUBG were updated to reflect this new policy. (Apple Inc, 2017; Steinlechner, 2018; Groux, 2018)

Overview of legislators' /Self-regulators decisions on loot boxes/Gacha (Mainly related to gambling)
Status May 2018

| Country | Gambling | Reason | Institution | Regulation needed | Specific Games Evaluated | Comments |
|-------------|--------------------------------------|--|--|--|--|--|
| Belgium | Yes | Game element. Like betting. Results in losing or winning (items). Chance plays a major role | Belgian Gaming Commission (BGC), 2018 | Yes Provide probabilities of winning User spending limit Remove loot boxes from games | Overwatch FIFA 18 Counter-Strike: Global Offensive Star Wars Battlefront II | Star Wars Battle Front was not penalized because they changed the lootboxes before evaluation |
| Netherlands | Yes | Chance based outcome Trading of items for real money (has a real market value) | Netherlands Gaming Authority, 2018 | Yes Exclude problematic players (minors, addicts) | 10 games (Not mentioned) Problematic Games: Rocket League Dota2 Fifa18, PubG | |
| Germany | No (But no clear statement given) | No real case yet | Federal Review Board for Media Harmful to Minors (BfM) 2017 | No Focus on educating minors. Monitor the mechanics | Not mentioned | Very vague statement given |
| | No (USK) | The random rewards are only low value prizes similar to collectable card games, random items in sweets or lotteries at country fairs (USK) | German Age Rating Board (USK) 2017 | No. Not gambling but problematic because of real money trading and minors (USK) | Not mentioned | Self Regulator |
| | No (KJM) | Depends on specific game & mechanics (KJM) No complaints so far about mechanics (KJM) | German Commission for the Protection of Youth in the Media. (KJM) 2018 | Need to be further monitored especially the game mechanics and watch for consumer complaints (KJM) | Not mentioned <i>Star Wars Battlefront II was mentioned in one bavarian parliament plea by party FW</i> | After parliament hearing in Bavaria from several political parties assign it was gambling. KJM was asked for statement |
| | No (Game.de) | Lootboxes always provide a return/reward just in form of virtual content. Similar to physical collector cards series. | German Game Industry Organiz | No. Market will self-regulate itself | Not mentioned | Self Regulator |
| UK | No | Does not allow direct conversion into real money | Gambling Commission, 2017 | Not at the moment | Not mentioned | Already issued statement in 2015 on social gambling |
| New Zealand | No | Not about winning money or converting items into money. Purchase for improved gaming experience | Gambling Compliance office of its Department of Internal Affairs, 2017 | Not at the moment | Not mentioned | |
| USA | No (ESA) | Optional feature and the player can decide to use them or not. Often can also be obtained without real money | Entertainment Software Association (ESA), 2017/2018 | Not at the moment | Not mentioned | Self Regulatory |
| | No (ESRB) Consumer Protection | Always guarantee to win something. Similar to collectible card games (ESRB) | ESRB Entertainment and Software Rating Board 2017 | No. But need to add special label to video games that offer in-game purchases. (But does not mention loot crates in specific), 2018 | Not mentioned | Self Regulatory |
| | No (Apple) | No specific mentioning of gambling issues. | Apple, 2017 | Yes Need to provide probabilities of acquiring virtual items | Not mentioned Affects all games with lootbox mechanics | Self Regulatory |
| | No* (Gambling like mechanics) | Not mentioned | State of Hawaii, 2018 | Yes Only allow the selling of games to adults Force the providers to show probability Special warning label (in-game items and mechanics similar to gambling that can lead to addiction.) | Star Wars Battlefront II Was used as an example in the bill | Bill has been introduced in Feb 2018 |
| | No* (Gambling like mechanics) | Not mentioned | State of Minnesota, 2018 | Yes Only allow the selling of games to adults If lootboxes get introduced in game update cannot be sold to minors Providers need to show probability Special warning label (in-game items and mechanics similar to gambling that can lead to addiction.) | Not mentioned | Bill has been introduced in April 2018 |
| | No* (Does not mention lootboxes) | Not mentioned | State of California | Yes Special label that game contains micro-transactions | Not mentioned | Has been requested in February 2018 |
| EU | No (PEGI) | Followed argument of ESRB and USK. Always guarantee to win something. Similar to collectible card games | PEGI Pan European Game Information 2017 2017 | No. But should be decided by Gambling Commissions in the end. | Not mentioned | Semi Self Regulatory* |
| China | No | Not mentioned. | Ministry of Culture, 2016 | Yes Provide probabilities of winning Also keep track of past probabilities (90 days) | Not mentioned But more focusses on PC & Console games | |
| Japan | No (CAA) | No real money trading* (implied in the regulatory actions to not allow this in the future) | Consumer Affairs Agency, 2012 | Yes Banning of Kompugacha for unknown probability | Not mentioned | |
| | No (CESA) | Not mentioned. | CESA 2016 | Yes (Self Regulation) Provide probabilities of winning or cost of acquisition or set cost cap | Grand Blue Saga | Self Regulatory |
| Korea | No | Not mentioned. | K-Game 2015 | Yes (Self Regulation) Provide probabilities | Not mentioned | Self Regulatory |
| | No | Not mentioned. | Fair Trade Commission, 2018 | Yes Provide correct probabilities especially during events/promotions | Problematic Games: Sudden Attack Monster Taming Counter Strike Online 2. M9 Everybody's Marble Destiny Child | |

Chart 5: Gacha & Lootbox regulation overview of selected countries (Status: May 2018)

This initial overview offers several takeaways:

1. Lootboxes/Gacha are mostly not seen as real gambling. (Not being able to sell items for real money plays a major role in this.)
2. Transparency of probability is one of the frequent regulatory actions
3. The requirement to add labels to games warning about micro-transactions/Lootboxes is mostly for so called full price games. This could be seen as an issue of a lack of transparency in the business model.

While it is helpful to look at the regulatory and self-regulatory actions another important insight is how users perceive Lootboxes. Not much quantitative data is available on this topic. In the following section the paper looks at some initial data from a third party survey.

11. User Feedback on Lootboxes (Third Party Research)

A recent survey done by German Game Magazine and Online Site GameStar has revealed some interesting insights into players perception on Lootboxes. The Platform asked users if a games rating should be affected by the presence of real money in-game item purchase options. These purchase options included direct purchase as well loot box game-of-chance mechanics. Over 20,000 participated in the survey according to the Publisher.

The Publisher divided the survey into paid single-player and multi-player games as well as into free-to-play single-player and multiplayer games.

About 61% of all participants mentioned they had boycotted or not bought a game they initially wanted to play because it contains micro-transactions.

Around 50% of participants saw loot-boxes or random card packages as extremely worse and 10% saw them as a bit worse than per-item in-game purchases. 30% mentioned it did not make a difference to them. When being asked if a games rating should be lowered because of the presence of specific in-game purchases then the majority mentioned gameplay advantages obtained through Lootboxes followed by gameplay advantages obtained through direct item purchase as the main points. The difference between loot-boxes and direct purchase were rather small. Cosmetic only purchases that do not affect gameplay were not seen as major issues. No matter if they were obtained through direct purchase or Lootboxes.

Participants seem to evaluate the presence of real money in-game purchases slightly more negative in multiplayer games than single player games not matter if they are F2P or paid games.

The survey also shows a very interesting and strong difference between the perception of paid games and free-to-play games. Lootboxes and per-item purchase in general seem to be much more accepted in F2P games than in paid games. This could be related to the business model as player might not expect these kinds of mechanics in a game they already paid for.

It needs to be mentioned that the content of the Magazine itself is about PC games so it can be assumed that the readers of this magazine are mainly PC based game players and the results might not apply to console or mobile games.

The results can suggest the following implications about real money Lootboxes

4. Real money in-game Lootboxes with items that directly affect gameplay are seen more negative by players than cosmetic only in-game purchase items. (Pay to win issue)
5. Lootboxes and virtual item purchases are perceived slightly more negative in multiplayer games than in single-player games.
6. Lootboxes (and virtual-item purchases) are more accepted in Free-to-play games than in paid games. (This makes sense as the F2P business model is based mostly on in-item purchases)

(Source of Survey: GameStar, 2018, See Appendix for translated survey)

12. Discussions/Takeaway

12.1 Gacha and Lootboxes are similar and would not qualify per-se as gambling

This paper has outlined Gacha and its elements in detail, looked at Lootboxes and made a comparison between the two, finding that they are similar and then applied a gambling taxonomy to see if they would qualify as gambling, which they do not.

This is in-line with several recent regulatory decisions that have been taken in other countries.

12.2 An issue of transparency

The key issues do not seem to be gambling but a lack of transparencies.

In the case of F2P games Japan regulated Gacha not through gambling regulation but through consumer protection regulation with a focus on the issue of non-transparency of the costs for acquiring virtual items. The regulation called for showing the probability/costs of acquiring Gacha items so consumers can understand their chance of winning better. Gacha was not seen by the regulators as gambling but as an issue of providing transparent information to the consumer.

This is an approach which also had been taken by Chinas Consumer Protection Agency as well as by global mobile platform provider Apple. Chinese regulators introduced the requirement of stating the probabilities of random virtual item acquisition in May 2017 and Apple took a similar action at the end of 2017 for mobile game providers in their App store. This can serve as an inspiration for regulators to not focus on the gambling aspect but on the transparency aspect of game of chance mechanics in games and re-evaluate existing consumer protection frameworks and how they can be applied to games with these mechanics.

In the case of paid games there seems to be a lack of business model transparency. Mixing the full price game business model with a free-to-play (virtual-item purchase/Lootbox draw) business model created friction among players. That is also why several regulatory and self-regulatory actions have called for labels on full price games to warn players if these games also contain pay-for virtual items or Lootboxes. The survey among gameplayers also showed that players react more negative about Lootboxes/virtual-items in full price games compared to F2P games.

Based on their research and findings the authors here want to provide several thought-starters for regulators:

12.3 Look beyond gambling regulation

Even if these game elements would not qualify as gambling and no gambling regulatory actions are necessary this is not enough. As the early case of Japan has shown, Gachas main issues seemed to have been the lack of transparency for consumers. Some Gachas did not provide any probability of winning/acquiring a specific item. This shows that the concern of regulators is not the game of chance element of Gacha but its uncertainty element which have led to several incidents and complaints on the consumer's side. This is similar to the recent developments in other countries which focus on consumer protection and call for a transparency of probabilities.

Based on these experiences regulators should look at these games from a consumer protection regulation point of view with a focus on transparency and see in which way these games would violate existing frameworks.

12.4 Ongoing monitoring of consumer/player complaints and mobile F2P games

The learnings from Japan were that regulatory actions on Gacha were taken after several complaints had been filed by consumer. This was the case in the "Kompugacha" government regulation and in the case of the "Grandblue Fantasy" game complaints which lead to self-regulatory actions. The Star Wars II Battlefront Lootbox controversy only spiked after the complaint from players and negative review on sites like Amazon. German government bodies (KJM) took a relaxed standpoint on Lootboxes because they had not received any consumer complaints on the issue.

It seems to be vital to continuously monitor the change/increase of complaints of consumers for specific mobile game of chance mechanics and for specific mobile game titles.

Games need to be evaluated based on players feedback in online forums, game reviews and social media in general as possible indicators of problematic issues

One important element of F2P mobile games is the fact that these games cannot be seen as "products" but as "software as a service". Development on these games never stops. Content, game mechanics, designs can change monthly. In the case of Japan new Gacha events and Gacha mechanics are being introduced to these mobile F2P games continuously.

Furthermore, there is a broad variety of game themes and types. Regulatory evaluation should be done on an ongoing and individual game basis. Player's feedback and complaints can serve as good indicators of possible issues that would need regulatory attention and actions. The fact that the Minnesota bill proposal specifically mentioned that it would no longer allow minors to play if a game provider changes its mechanics into Lootboxes shows that game mechanics can change and ongoing monitoring is needed. The same goes for a game like Star Wars Battlefront II which changed its loot box mechanics several times and avoided being prosecuted because of this (Belgium). This is all possible because of the new game as a service model.

12.5 Government regulation versus Self-Regulation

In Japan Gacha was first regulated by the government and then through self-regulatory activities of the game industry. It needs to be mentioned that these guidelines are far from strict and might serve more the game developers than the consumers

In Korea the government had to step in because they did not feel self-regulation was satisfying. When looking at the self-regulators in the EU and US their approach is more relaxed and laissez-faire compared to the government bodies. Some believe in a market which will regulate itself (in the case of Game.de). This is in contrast to actions taken by regulators in the Netherland and Belgium as well as some recent US bills who demand a stronger regulation and see loot boxes as potential harmful. Regulators should be careful about self-regulation in this field because there seems to be a conflict between the self-regulators interests and consumer's interests.

12.6 Gacha and Lootbox - Psychological effect

Another angle to look at would be to analyze in more detail about the specific effects of Gacha/Lootboxes on players. Some initial statements have already been made by researchers. How Gacha/Lootboxes enabled games are perceived differently on a psychological level can be revealing. In the future, these findings could help to understand if and how Gacha/Lootboxes can directly affect problematic behavior such as overspending or game addiction. Furthermore the effects of these elements could be decoupled from monetization and applied to other fields to influence positive behavior, for example eLearning.

13. Future Research

As of the writing of this paper very little academic research is available on game-of-chance mechanics such as Gacha or Lootboxes in games. Some work has been done in Japan but this only focusses on the Japanese market and is mostly available in Japanese. A more international analysis would be of interest.

Research should also focus on the mechanism and effects of Lootboxes on consumers more deeply and to see if there are differences in perception between countries or regions.

Acknowledgement

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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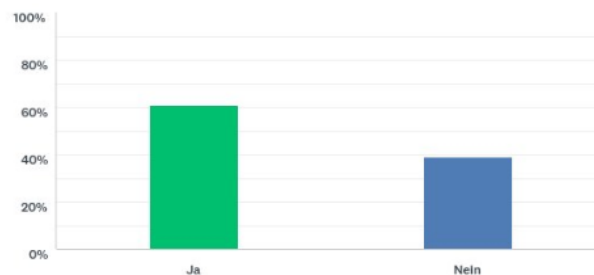
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Appendix: GameStar Survey (March, 2018)

Q2: Have you ever boycotted or not bought a game you wanted to play because it had microtransactions?

Yes / No

Q2 Hast du jemals ein Spiel wegen Mikrotransaktionen boykottiert/nicht gekauft, das du eigentlich spielen wolltest?

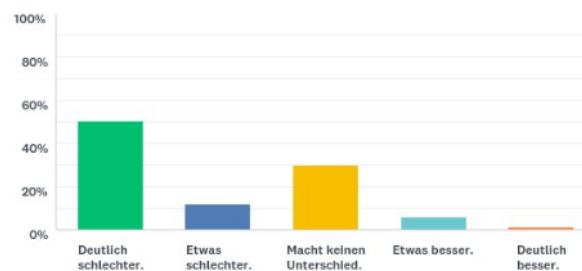


61 Prozent unserer Umfrageteilnehmer haben ein Spiel schon mal wegen Mikrotransaktionen boykottiert.

Q5: How would you evaluate micro-transactions with random content (lootboxes, card packages) compared to direct purchases?

Much worse/ Bit worse/No difference/Bit better/Much better

Q5 Wie bewertest du Mikrotransaktionen mit zufälligen Inhalten (Lootboxen, Kartenpakete) im Vergleich zum gezielten Kauf?

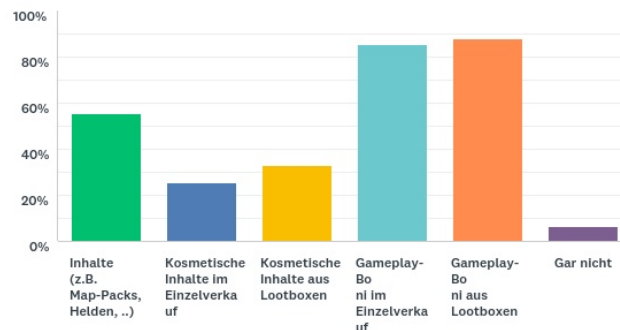


Lootboxen sind schlimmer als Direktkäufe : In unserer gesamten Umfrage stoßen Lootboxen auf mehr Ablehnung als Direktkäufe.

Q6: For what should we lower the rating of full price single-player games that use real money in-game purchases? (multiple answers possible)

Content (Map-packs, Heroes, etc) / Cosmetic only content direct purchase / Cosmetic only content from paid loot boxes / Gameplay enhancing content direct purchase / Gameplay enhancing content from paid loot boxes / Not at All

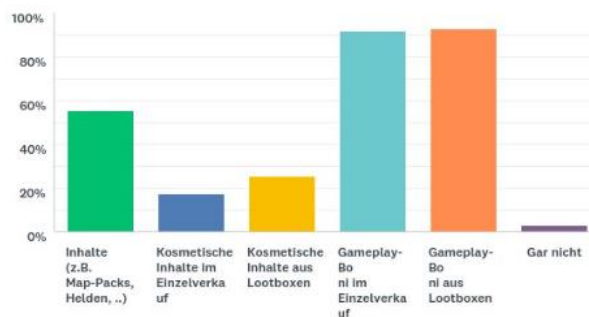
**Q6 Wofür sollten wir kostenpflichtige Singleplayer-Spiele mit Echtgeldkäufen abwerten?
(Mehrfachantwort möglich)**



Q7: For what should we lower the rating of full price multi-player games that use real money in-game purchases? (multiple answers possible)

Content (Map-packs, Heroes, etc) / Cosmetic only content direct purchase / Cosmetic only content from paid loot boxes / Gameplay enhancing content direct purchase / Gameplay enhancing content from paid loot boxes / Not at All

**Q7 Wofür sollten wir kostenpflichtige Multiplayer-Spiele mit Echtgeldkäufen abwerten?
(Mehrfachantwort möglich)**

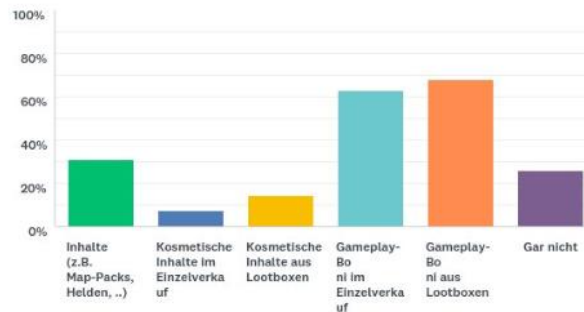


In Mehrspieler-Titeln ist die Sache noch klarer. Über 90 Prozent fordern eine Abwertung für Gameplay-Boni.

Q6: For what should we lower the rating of Free-To-Play single-player games that use real money in-game purchases? (multiple answers possible)

Content (Map-packs, Heroes, etc) / Cosmetic only content direct purchase / Cosmetic only content from paid loot boxes / Gameplay enhancing content direct purchase / Gameplay enhancing content from paid loot boxes / Not at All

Q8 Wofür sollten wir Free2Play-Singleplayer-Spiele mit Echtgeldkäufen abwerten? (Mehrfachantwort möglich)

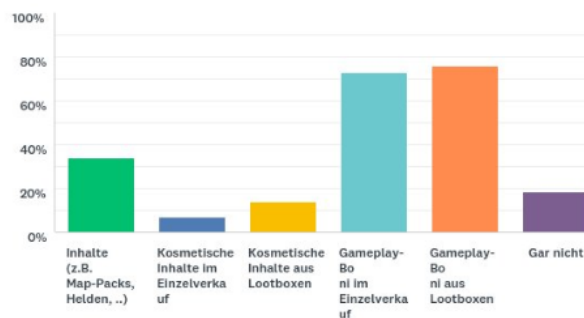


In Free2Play-Spielen werden Mikrotransaktionen eher akzeptiert, die große Masse spricht sich dennoch für Abwertungen aus.

Q9: For what should we lower the rating of Free-To-Play multi-player games that use real money in-game purchases? (multiple answers possible)

Content (Map-packs, Heroes, etc) / Cosmetic only content direct purchase / Cosmetic only content from paid loot boxes / Gameplay enhancing content direct purchase / Gameplay enhancing content from paid loot boxes / Not at All

Q9 Wofür sollten wir Free2Play-Multiplayer-Spiele mit Echtgeldkäufen abwerten? (Mehrfachantwort möglich)



Bei käuflichen Vorteilen im Multiplayer hört für die meisten Nutzer auch bei kostenlosen Free2Play-Spielen der Spaß auf.