PSYCHOLOGICAL AND LEGAL ASPECTS OF USING LOOT BOXES

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Summary. The article aims to present the issues related to the new phenomenon of loot boxes in virtual games. The work consists of four parts. The first one defines what loot boxes are and what is their meaning in virtual games. The second part presents psychological issues related to this matter – mainly in the context of similarities between the use of loot boxes and gambling games. The third part of the article explains how the use of loot boxes is regulated in Polish law and in the law of selected European countries. The last part of the study presents arguments why it is worth undertaking interdisciplinary research on the use of loot boxes.

Key words: loot box, gambling, psychological aspects of loot boxes, legal aspects of loot boxes

1. DEFINING LOOT BOXES

In recent years, there has been more and more controversy over loot boxes – surprise boxes that began to be introduced into games around 2010, and their popularity has been growing rapidly since 2015. They resemble virtual gambling machines inside video games. In Asian countries, which are the cradle of loot boxes, the name *Gacha* is used, which comes from the physical form of roulette with prizes. Loot boxes with their functionality are also similar to Japanese *gachapons* – vending machines that "spit out" a random toy after throwing a coin.

Games that include loot boxes also vary in terms of the devices they can be used on. Namely, some of them can be downloaded to the phone, some of them require a computer, some require a console. Games of this kind also differ in the form of purchase, because some can be purchased for free, while others – for money (some of them may cost even several hundred zlotys).

A loot box is a procedure for drawing an item that is possible as a result of: 1) paying the fee with real money; 2) paying the fee with the in-game currency -inter alia by watching the ad; 3) the existence of a game element that appears from time to time (it can be shortened by a fee).

The prizes that can be drawn from a loot box are of various types: they can be purely aesthetic, collectible, or those that have a real impact on the course of the game and provide an advantage over other players.

The contents of loot boxes may include: 1) heroes that can be controlled in a given game; 2) alternative clothing, armour, or skin; 3) new elements of weapons/armour (to those already owned); 4) additional equipment for in-game characters; 5) character enhancements; 6) in-game currency.

The resources/goods drawn from the box have a very different value (from insignificant items that have neither a special cosmetic value nor provide progress in the game) to those that are extremely valued by players due to their enormous value in the game world (e.g. due to their exceptional rarity).

Therefore, it can be concluded that the use of loot boxes is a type of gambling game characterized by such determinants as: 1) the exchange of money or other goods; 2) the transaction is determined by a future event, which at the time of staking money (or something of financial value), the outcome is unknown; 3) the result is determined (at least partly or wholly) by chance; 4) losses incurred can be avoided by not taking part in the game; 5) the re-allocation of wealth is not usually preceded by productive work on either side [Griffiths 2018, 53–54].

2. PSYCHOLOGICAL ASPECTS OF USING LOOT BOXES: SIMILARITIES AND DIFFERENCES BETWEEN GAMBLING GAMES AND THE USE OF LOOT BOXES

When playing a slot machine in a casino full of other players and hitting a high prize, the attention of other players is focused on the winner, there are congratulations and expressions of approval. Such a mechanism encourages the continuation of the game, and in addition, the same effect will have for people watching the win – it will encourage them to play ("if he won, I am lucky, winning is possible"). A similar mechanism occurs in the case of games with loot boxes. For example, the most popular YouTube videos - such as the Fifa series or CS: GO focus on opening loot boxes, not the actual gameplay. In addition, "third-party companies" that offer in-game currency at competitive prices, or official game publishers, often sponsor a famous player on YouTube by giving him in-game currency for free to open a loot box and thus encourage their viewers to do the same on the principles of a gambling mechanism. A novelty is the solution used in Call of Duty: WWII, where the opening of loot boxes can be made publicly in the lobby, where other players are waiting for the game to start. The presented mechanism is the most faithful representation of the situation from an analogue casino [Drummond, Sauer, Hall, et al. 2020, 987].

Another common feature of analogue slots and loot boxes is the use of audiovisual stimuli to indicate a win. In the case of loot boxes, the win is the acquisition of the less common item. As in the case of slot machines, where you can win 2 PLN, 20 PLN or 200 PLN, the strength of "winning" in the case of loot boxes is graded as well. The win is determined by the rarity of the items, which is related to their visual aspect and their usefulness in the actual gameplay of the game. Playing slots is more likely to lose than win, similarly, by opening loot boxes, you get more common items (which is considered a loss) than rare ones. Therefore, the need to emphasize winning is understandable. When such a situation occurs, it is emphasized in a blunt way, so that the player remembers about it more than about a series of losses. To this end, when winning, the player is bombarded with visual and auditory stimuli (more or less subtle depending on the value of the win). They take various forms in order to imprint the event in the player's memory – the victory.¹

The importance of the colour scale commonly used in modern games (especially those containing loot boxes), which assumes that the rarity/value of items is related to a given colour, is significant. For example, common items can be grey, rare items gold, and very rare items purple. This leads to their easy categorization and allows the player to quickly get an idea of the value of the obtained item. The arrangement of the colours marking specific levels of rarity is arbitrary and varies from game to game, but there are trends in the progressive range and scale of colours that function universally [King and Delfabbro 2018, 172].

Loot boxes also use cognitive errors typical of classic forms of gambling, e.g. such as the gambler's paradox (the player waits for a positive result after a series of failures), or sunk costs (continuing an activity, in this case spending time and money on the game, due to the desire to compensate for losses already incurred; the more resources allocated to a given activity, the greater motivation to continue) [Armstrong, Rockloff, and Browne 2020, 185; Zendle, Meyer, and Over 2019, 3–4].

It should also be emphasized that loot boxes give more space to creators and allow for flexible implementation of new solutions as opposed to analogue vending machines – *inter alia* because there are a number of different solutions to increase the player's satisfaction with opening "boxes" and getting them to open more, which leads to increased earnings from the game. Detailed solutions of the presented mechanism differ in individual games containing loot boxes – one can point out, among others, the following: 1) guarantee of receiving a rare item from a box after opening several boxes in a row; open 10 boxes in 11 there will be a rare item (loot box specific solution); 2) quantitative promotions; purchase of 10 boxes and 11 will be for free (promotions and bonuses are used both in loot boxes and online gambling); 3) special occasional events (e.g. the anniversary of the game), during which the chances of rare items are increased (the solution used in

¹ The Belgian Gaming Commission, *Research Report on Loot Boxes* (2018), p. 7–8, https://www.gamingcommission.be/opencms/export/sites/default/jhksweb_nl/documents/onderzoeksrapport-loot-boxen-Engels-publicatie.pdf [accessed: 20.11.2020].

loot boxes is similar to bonuses in online gambling); 4) alternative forms of using unwanted items obtained from loot boxes, which are treated as a loser (loot box specific solution) [Drummond and Sauer 2018, 530–31].

Unlike analogue vending machines or other forms of classic gambling, in the case of loot boxes there is a collector's element, which consists in the fact that items obtained in the game form collections. The props used in the game are often issued in batches, which further increases the initiative of the player to get the whole set. There may be a situation where different items function together as a whole because together they offer the holder a significant advantage in the game or constitute a collection. If the player manages to get one of these items, the motivation to open more boxes in order to get a complete set increases at the same time. The mentioned mechanism is used by the creators, e.g. one item in a pair is common, and the other – very rare. Thus, the probability is greatly increased that if a player acquires a common prop, he will spend a lot of money trying to get the rare one. The probability of such behaviour will increase even more when both items belong to the rare category, and only the chances of getting them from the boxes are different [Toto 2012].

Summing up the psychological aspects of using loot boxes, attention should be paid to the following elements distinguished on the basis of the literature on the subject – some of them are also characteristic of gambling games (common features are marked with an asterisk): a) buying for real money (*); b) random result/special algorithm set depending on the assumption – e.g. 10% (*); c) sound and light stimuli accompanying the win (*); d) unpredictability of the result, resulting in irregular reinforcements (*); e) the winning ensure progress in the game or further game (*); f) quantitative promotions, e.g. 11th opening free of charge (*); g) increasing the chances of drawing rare items (i.e. a big win) on special occasions (*); h) risk of losing money in order to get a valuable reward (*); i) observation of winnings by other players, i.e. triggering the learning mechanism through observation and imitation (*); j) sponsorship of companies in the field of opening boxes and showing it on YouTube (some analogy to social gambling games); k) gaining through progress in the game; l) no legal possibility to cash the winnings; m) the player always gets something, but not necessarily what he wants; n) the winnings have an aesthetic value; o) scaling the value of winnings, e.g. by colours; p) guarantee of receiving a rare item after opening several boxes; r) alternative uses for unwanted items; s) the collector's aspect; t) the presence of items in pairs and/or groups.

3. LEGAL ASPECTS OF USING LOOT BOXES: POLISH AND EUROPEAN REGULATIONS

Games containing loot boxes in most European countries are not legally qualified for gambling. The main arguments against loot boxing as gambling in different EU countries relate to: 1) the necessity to contribute in cash (or with a cash

value) to participate in gambling activity; 2) the result of gambling activity determined entirely or partially by chance; 3) the nature of the win - a gambling participant may win a cash prize or a prize with a cash value. In order for loot boxes to be considered a form of gambling, all three conditions would have to be met.

The first condition is fulfilled when the world of real money is related to the way of getting the content of the loot box (buying for real money) or the way of selling its content (selling for real money). However, if neither one nor the other element is related to real money, then loot box can be said to be "isolated"/separated from the everyday economy [Nielsen and Grabarczyk 2019, 196].

The second condition, concerning the randomness of the result, is practically fully fulfilled by all types of loot boxes [Xiao 2012]. The mechanics of generating the loot box result is based entirely on a random algorithm. The contents of the loot box are not known, so it is impossible to predict which item will be drawn or to develop a drawing system that guarantees the desired, valuable effect. Randomness is therefore an integral part of this entertainment. Nevertheless, the debate around loot boxes in recent years has also focused on the fact that the game producer should be obliged to indicate the probability of drawing a valuable item.

The third condition is only fulfilled for those loot boxes that can be monetised, for example through the introduction of virtual items into the market and the possibility of selling. This is not always possible. However, it should be noted that the result of drawing from a loot box is always "some" win, so the player always gets something. Nevertheless, the profit drawn is often disproportionate to the funds invested. Moreover, there are "third-party companies" that, through their websites, enable the exchange of randomly selected virtual goods for real money, e.g. by selling them to other players or by buying them directly from players. In free games (*Free to Play* F2P model), especially for mobile devices, there is no possibility of such exchange. In this situation, players sell entire accounts with items assigned to them, contrary to the internal rules of individual games. On auction services and forums you can find many offers for accounts that contain single rare items or complete collections of them. Their purchase significantly facilitates the gameplay for the owner and saves time spent on acquiring them.

As already noted, in most European Union countries, loot boxes are not legally qualified for gambling. The countries that stand out in this context are Belgium and the Netherlands.

Legal definitions of gambling in Belgium and the Netherlands do not differ in essence from the definition of gambling in other EU countries. The difference, however, is on the level of how these countries interpret the prize won by gambling. The Belgian Gaming Commission considered that the prize won by gambling does not necessarily have a monetary value.² The sufficient premise is that it represents value to the player, which may be due to the exceptional rarity of the

² Ibid., p. 9.

virtual item. Therefore, it is not necessary that the prize received from the loot box be converted into real money.

In the Netherlands, on the other hand, for loot box to be considered a form of gambling is not a sufficient premise that its prize should only be of value to the player. The prize must have a market value, which may be indicated, *inter alia*, by the possibility of transferring/sharing it to another player. It does not matter whether this type of transfer is made legally or is against the rules of the game. The most important thing is the fact that the prize can be exchanged with another player. On the basis of the above reasons, in Belgium and the Netherlands it was prohibited to include loot boxes in video games. Non-compliance with this prohibition may result in high financial penalties.

The use of loot boxes in the light of Polish legal regulations has been characterized on the basis of the analysis of the standards contained in the Act of 19 November 2009 on gambling games.³ According to Polish law, games of chance are games, including those organized via the Internet, for cash prizes or awards, the result of which depends in particular on the case (Art. 2, sect. 1). On the basis of the presented standard, it can be concluded that the common element of gambling games with loot boxes is: 1) organizing the game on the Internet; 2) the presence of awards in the game; 3) the coincidence factor determining the win, although it is not money, but a virtual object that is desired by the player. At the same time, it can be said that in the modern world, goods purchased for real money are often virtual in nature and are treated on a par with real objects – e.g. applications, software, etc.

The Act on gambling games lists the following types of games (Art. 2, sect. 1): 1) numerical games – games whereby the prize is won by means of correctly selecting numbers, signs or other markings and the prize amounts depends on the total amount of stakes, as well as the keno numerical game whereby the prize is won by means of correctly selecting numbers, and the prize amounts represent the product of the paid stake and multiplier determined for individual prize levels; 2) cash lotteries whereby participation is subject to purchase of a ticket or another game participation receipt and the entity organising the lottery offers only cash prizes; 3) telebingo game whereby participation is subject to purchase of a game participation receipt that contains random sets of numbers or markings from the pre-defined set of numbers or markings; the game is organized nationwide with the drawing broadcasted as a television programme and the entity organising the game offers cash prizes or awards; 4) cylindrical games whereby participation consists in selecting numbers, signs or other markings and the amount of prize depends is subject to the pre-determined stake-prize ratio, and the result of the game is determined with the use of a rotary device or cylindrical games arranged on these principles in the Internet; 5) dice games; 6) cash bingo, whereby participation is subject to purchase of random sets of numbers from the pre-deter-

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³ Journal of Laws of 2009, No. 201, item 1540.

mined set of numbers and the entity organising the game offers only cash prizes whose amounts depend on the total amount of the pre-paid stakes; 7) raffle bingo whereby participation is subject to purchase of random sets of numbers from the pre-determined set of numbers and the entity organising the game offers awards only; 8) prize draws whereby participation is subject to purchase of a ticket or another game participation receipt and the entity organising the game offers awards only; 9) promotional lotteries whereby participation is subject to purchase of a product, service or another game participation receipt and thus the participation in the lottery is free of charge and the entity organising the game offers cash prizes or awards; 10) audiotext lotteries whereby participation is executed through payable: a) telephone connection, b) sending short text messages (SMS) using public telecommunication network.

Referring to the types of gambling games directly mentioned in the Act on gambling games, it can be stated that there are similarities between loot boxes, prize draws and promotional lotteries. In the first case, the similarity consists in purchase a share in the game (e.g. purchase a loot box) and offering awards. In the second – participation in a game of chance by purchasing product or services (in this case it can be a paid game, e.g. *FIFA*), thanks to which the player gains the possibility to draw the content of loot boxes during the game, without additional fees, gaining award.

Slot machine games has also been defined in Polish law. According to Art. 2, sect. 3 of the Act on gambling games, slot machine games are games that are played on mechanical, electromechanical, electronic, including computer devices and games corresponding to the rules of slot machine games arranged via the Internet for cash prizes or awards, which contain a component of chance. With regard the content of the norm presented above, it can be stated that the common element of games on loot box machines is the organization of the game on the Internet, the presence of awards and the component of chance determining the game result.

Another common element between slot machine games and loot boxes results from Art. 2, sect. 4 of the Act on gambling games, according to which the award in games on slot machines is also an award consisting in the possibility to prolong the game without the necessity to pay for the stake for the participation and the possibility to begin a new game by using the award won in the previous game. Therefore, the common elements between the compared activities – playing slot machines and using loot boxes – relate to winning, consisting in gaining additional time in the game without the necessity to pay, speeding up the progress in the game, the possibility of playing at the next level of the game by using the award won in the previous game.

One more common element between loot boxes and slot machine games is contained in Art. 2, sect. 5 of the Act on gambling games, according to which slot machine games are also games on mechanical, electromechanical or electronic devices, including computer games, and games corresponding to the rules of slot

machines, arranged via the Internet, organized for commercial purposes, in which the player is not able to win cash or in kind, but the game is random. The content of the above-mentioned standard is the basis for the conclusion that the common elements of slot machine games and loot boxes include: organizing a game on the Internet, the absence of a cash prize or award, and the random nature of the game result.

Summarizing the issues related to Polish legal regulations relating to loot boxes, it can be stated that the Act on gambling games contains provisions that largely define the use of this form of games. Namely: 1) organizing a game on the Internet; 2) the presence of awards (in the case of loot boxes, an award in kind of a virtual nature); 3) the presence of chance determining the outcome; 4) necessity to purchase participation in the game (loot box as a proof of participation in a game of chance); 5) purchase of product or services that enable free participation in a game of chance (in this case, opening a loot box); 6) award in kind in the form of the possibility of extending the game, without having to pay for it; 7) the absence of a cash prize or award, but the presence of randomness and the organization of the game in accordance with the rules of the slot machine game.

CONCLUSION

The presented legal analysis does not exclude the possibility of including loot boxes in the catalogue of gambling games. Undertaking this type of action is very important for several reasons.

Firstly, an analysis of items bought and sold in online video game markets shows a turnover of 1.45 billion USD in real currency [Drummond, Sauer, Hall, et al. 2020]. The indicated amount directly suggests that in relation to games containing boxes with prizes, regulations should be introduced due to the existence of hidden gambling in games.

Secondly, it has been noticed that the amount of money spent on loot boxes is related to problem gambling. However, on the basis of the research results, the direction of this relationship was not found – whether loot boxes contribute to excessive gambling, or whether they appeared as another form of gambling for money among problem gamblers [Zendle and Cairns 2019, 9–10]. In the light of the research of Polish adult Internet players, the use of loot boxes coincides with an increase in the severity of symptoms related to the problematic use of Pay to Win video games [Lelonek–Kuleta, Niewiadomska, Bartczuk, et al. 2019, 89].

Thirdly, some loot boxes have psychological effects analogous to traditional gambling. Some loot boxes constitute a gate to gambling games due to the common features of gambling, and thus "familiarise" this type of games. Gambling games is regulated by the law, which, among other things, allows only adults to use them. Video games usually have recommendations regarding the age of the user, but it is not binding, nor is it based on any legal regulation. Therefore, age practically does not limit access to this type of games, including those containing

loot boxes. Therefore, while there is a type of external protection of children and adolescents against early exposure to gambling (its legal forms), nothing protects children against other forms of games, which, however, contain mechanisms typical of gambling. Learning about this form of entertainment may result in a deliberate search for more money games, which may ultimately be gambling games. It is worth recalling that research confirms the existence of a correlation between the use of loot boxes and excessive gambling [Zendle and Cairns 2019, 9]. Children and adolescents are particularly at risk. Research results indicate that about 60% of top mobile games on Google Play and Apple's App Store contain loot boxes. Among them, over 90% were allowed for children aged 12+ [Zendle, Meyer, Cairns, et al. 2020]. For development reasons, the psychological mechanisms that exist in loot boxes have a much stronger influence on children than on adults. Examples of risks are as follows: 1) lower ability to estimate costs [King and Delfabbro 2020, 34], especially in the situation of introducing a virtual currency [Zendle, Meyer, and Over 2019, 3]; 2) problem in understanding and estimating the probability of an event [Sunstein 2002, 68]; 3) faster development of habits in response to stimuli – which will become accustomed to constant high stimulation, leading in consequence to attention disorders and hyperactivity [Lobel, Engels, Stone, et al. 2017, 894]; 4) immaturity of impulse control [Dahm, Neshat-Doost, Golden, et al. 2011, 4].

Fourthly, there is a need to conduct research into the occurrence of multidimensional effects of using loot boxes, because due to the limited number of existing results, it is not possible to draw general conclusions regarding the analysed issue.

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PSYCHOLOGICZNO-PRAWNE ASPEKTY KORZYSTANIA Z LOOTBOXÓW

Streszczenie. Artykuł ma na celu przybliżenie zagadnień dotyczących nowego zjawiska, jakim są lootboxy w grach wirtualnych. Praca składa się z czterech części. W pierwszej z nich zdefiniowano, czym są lootboxy oraz jakie jest ich znaczenie w grach wirtualnych. W części drugiej zaprezentowano psychologiczne kwestie odnoszące się do tego zagadnienia – głównie w kontekście podobieństw między korzystaniem z lootboxów a grami hazardowymi. Trzecia część artykułu zawiera wyjaśnienie, w jaki sposób korzystanie z lootboxów jest uregulowane w polskim prawie oraz w prawie wybranych krajów europejskich. W ostatniej części opracowania przedstawiono argumenty, dlaczego warto podejmować interdyscyplinarne badania dotyczące używania lootboxów.

Słowa kluczowe: lootbox, hazard, psychologiczne aspekty lootboxów, prawne aspekty lootboxów

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