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Attention: Senate Environment and Communications References Committee, Inquiry into Gaming Micro-Transactions for Chance-Based Items

Summary

- The author, Dr Marcus Carter, is a game studies academic at The University of Sydney and former President of the Digital Games Research Association.
- Loot-boxes refer to a variety of monetization strategies of differing resemblance to traditional gambling practices. Drawing on recent research in game studies this submission advises some useful distinctions.
- The inquiry should also look beyond the resemblance to monetary gambling and also consider the manipulative and predatory configuration of these transactions.
- The inquiry should also consider the potential impact of a regulatory framework on Australian game development studios, some of which likely rely on micro-transactions for chance-based items.
- This submission ultimately concludes that many current micro-transaction practices – such as loot boxes - are harmful, if not necessarily gambling, and should be more heavily regulated.

The Author

I am a researcher in game studies and human-computer interaction at The University of Sydney. I completed my PhD in 2015 in the Department of Computing and Information Systems at The University of Melbourne, and I was previously a post-doctoral researcher at the Microsoft Research Centre for Social NUI at The University of Melbourne. I have over 50 academic publications in game studies and human-computer interaction, with more than 700 citations. I was the President of the Digital Games Research Association of Australia (2015-2018) and chaired the 2017 DiGRA conference, the largest international conference in Game Studies. My research is not specifically on ‘loot-boxes’, although I have previously studied and published on monetization of the popular freemium mobile game ‘Candy Crush Saga’.

In brief, research in game studies is concerned with the theory, design, culture and experience of leisurely play and not with the impact of game play on daily life (such as in psychology or addiction studies). This submission consequently focuses on advising about the theory and design of ‘loot-boxes’ from this perspective.

Problematising 'Loot-Box'

The senate inquiry refers to "*micro-transactions for chance-based items, sometimes referred to as 'loot-boxes'*" with particular reference to the "*ability to monetise these items on third-party platforms*". As chance-based rewards are fundamental to the operation of most digital games - and micro-transactions provide over 50% of revenue to the games industry – a clear definition and differentiation of 'loot boxes' (the focus of recent media attention and player outrage) is necessary.

In a recent paper published at the 2018 Digital Games Research Association conference, ITU Copenhagen researchers Rune Nielsen and Pawel Grabarczyk identified[1] a useful typology for distinguishing 'loot-boxes' – which they refer to as random reward mechanisms - from other chance-based rewards:

Type	**Resources** (Required for achieving the eligibility condition)	**Reward**	**Examples**
1	Isolated	Isolated	Diablo 1 & 2
2	Isolated	Embedded (virtual sellable object)	Diablo 3 (with auction house)
3	Embedded (real money purchase)	Isolated (virtual unsellable object)	Overwatch, Star Wars Battlefront II, FIFA 17 Ultimate Team
4	Embedded (real money purchase)	Embedded (virtual sellable object)	PUBG, Team Fortress 2, CS:GO

Nielsen and Grabarczyk argue that this typology suggests that the fourth type is "*functionally similar to gambling",* noting the exceptional amounts of money involved ('lootboxes' that cost only a few dollars, rewarding items that can sell for thousands). This is also useful for distinguishing between collectible cards and lootboxes, because the type of lootbox in the recent Star Wars Battlefront II controversy only involve economically isolated objects.

However, this distinction between fourth type – where items can be resold - should not preclude the investigation and regulation of the third, where the items are not resellable for real money.

Games are extremely engaging, immersive and compelling. That the third does not offer the opportunity to monetize the rewards does not mean they are not a predatory form of gambling. This is reflected by the Belgian Gaming Commission's recent decision[2] that loot-boxes are a form of gambling, even if players can't trade or sell the options they are rewarded, noting that:

> "*What is important is that players attach value to it and that this value is also emphasised by the game developers themselves*" (p.10)

[1] Nielsen, R. & Grabarczyk, P. (2018) Are Loot Boxes Gambling? Random Reward Mechanisms in Videogames. In *Proceedings of the 2018 Digital Game Research Association Conference*, Torino, Italy.
[2]https://www.gamingcommission.be/opencms/export/sites/default/jhksweb_nl/documents/onderzoeksrapport-loot-boxen-Engels-publicatie.pdf

I note here that it may be the case that children – who do not place the same value on 'real' money as adults – are more vulnerable to the configuration of economically isolated rewards that have significant social and cultural value to players (such as being able to play with Cristiano Ronaldo in FIFA) or advantages in competitive games (such as in Angry Birds 2).[3]

Predatory Practices

Many freemium games employ highly strategic, manipulative and predatory practices to ensure players attach maximum value to the chance-based rewards. In my own research into Candy Crush Saga[4], I found that the pressure from social competition was very persuasive in getting players to pay money to remain competitive against their friends. 'Loot-boxes' similarly employ similar persuasive and manipulative mechanics to encourage players to make micro-transactions. The recent controversy around Star Wars: Battlefront II was exacerbated by the way rewards gave in-game advantage, a very persuasive configuration in a competitive game.

I note here that the focus of the inquiry on or as gambling may give the impression that 'loot-boxes' are configured like traditional gambling games, which have fixed (consistent) odds and rewards that are knowable. This is potentially not the case with loot-boxes, which do not disclose the odds. It is possible that some loot-boxes are configured with variable odds, which change based on factors such as player profile (e.g. less likely to reward wealthier players) or behaviour (e.g. more likely to reward players the more they spend). This latter example of predatory and manipulative practice exploits the 'Gamblers Fallacy' - "*the expectation that the probability of winning increases with the length of an ongoing run of losses"*[5]. In their recent article,[6] Rune Nielsen and Pawel Grabarczyk note several other characteristics of gambling that are likely to be manipulated by the way that loot-boxes are configured. For example, players of 'Marvel Strike Force' recently identified that different players of the game are given different odds in the game's chance-based micro-transactions.[7] This is easily implemented when reward cannot be traded for real-money, potentially making them more harmful than rewards that can subsequently be traded for money. It is very likely that many large freemium games, which can draw millions of dollars a day in revenue, employ similar strategies to maximize their income. This is almost impossible for research to investigate, as such practices are kept strictly confidential. The potential impact of this on player's attitudes towards real-world gambling are also potentially problematic, and may be contributing to the explosive growth of problem gambling in 18-25 year old Australian men.[8]

Compounding these manipulative practices is the pervasive and everyday nature of mobile game play, where the majority of revenue comes from in-app purchases. Players are heavily incentivised to permit mobile games to send them push notifications, for example to remind

[3] https://theconversation.com/loot-boxes-and-pay-to-win-features-in-digital-games-look-a-lot-like-gambling-88010
[4] Carter, M., & Björk, S. (2016). Cheating in Candy Crush Saga. *Social, Casual and Mobile Games: The Changing Gaming Landscape*, 261.
[5] Wagenaar, W. A. (1988). *Paradoxes of Gambling Behaviour*. New York: Routledge
[6] Nielsen, R. & Grabarczyk, P. (2018) Are Loot Boxes Gambling? Random Reward Mechanisms in Videogames. In *Proceedings of the 2018 Digital Game Research Association Conference*, Torino, Italy.
[7]https://www reddit.com/r/MarvelStrikeForce/comments/8rl6nd/ab_testing_discussion_thread_gold_offers_events/
[8] https://theconversation.com/wide-ranging-ban-on-gambling-ads-during-sport-broadcasts-is-needed-to-tackle-problem-gambling-74687

them when they can play again. These appear like text messages on a players' phone. Some games send push-notifications about limited-time offers, such as a discount on purchasing in-game currency, or for a free 'loot-box' for logging in every day. Large companies likely spend considerable resources on identifying the most effective way to send these messages to encourage players to engage in in-app purchases, many of which (as discussed) heavily resemble gambling. For some players (many of whom are children), this would be like having slot machine in your pocket that actively encourages you to gamble at your most vulnerable moment. The senate inquiry should therefore also consider broadening its scope to consider non-gambling, but still predatory, monetisation strategies in mobile games.

Potential Impact on Australian-Based Game Development

In response to the recent media uproar, several researchers in game studies are now researching different elements of loot-boxes. Two researchers, Dr Mark Johnson (Killam Postdoctoral Fellow at the University of Alberta, Canada) and Professor Faltin Karlsen (Professor of Media Studies at Westerdals Oslo School of Arts, Communication and Technology, The Netherlands) have both interviewed game developers about their perspectives towards loot boxes. Both of these research projects (not yet published) have been told by developers that, without 'loot-boxes', the development studio would not be profitable or would have to lay off staff.[9]

As the recent Senate Inquiry into Australia's videogame development industry found[10], independent game developers now comprise the majority of the industry in Australia (p. 12), and Australian-based developers have "had astounding successes, particularly in games for mobile phones and tablets" (p. 11). The IGEA Australian Game Development Survey found that 55% of game development companies in Australia develop for iOS,[11] which is predominantly free-to-play with freemium income. Despite this submission's critical view of 'loot-box' type monetisation mechanics, the author strongly recommends caution around regulation of freemium gaming that may unfairly impact the rich and growing local Australian developers in a global and international marketplace.

This is important because free-to-play games with 'freemium' content is an enormous proportion of the contemporary games market. Some estimates include:

- Free-to-play is USD$82B (or 89%) of revenue in the global games market,[12]
- Mobile is 51% (USD$70.3bn) of the global game market in 2018[13]
- In-app purchases are 79% of iOS app revenue[14]

It is extremely difficult to compete in the contemporary games market with any other revenue model than freemium. In my research into freemium purchases in Candy Crush Saga, several participants were comfortable and happy with paying AUD$20-$50 for a game that they had

[9] Direct communication.
[10]https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Video_game_industry/Report
[11] https://igea net/2018/01/australian-game-developers-march-generating-118-5m-spite-limited-recognition-support/
[12] https://www.superdataresearch.com/market-data/market-brief-year-in-review/
[13] https://newzoo.com/insights/articles/global-games-market-reaches-137-9-billion-in-2018-mobile-games-take-half/
[14] https://www fiercewireless.com/developer/distimo-app-purchases-accounted-for-79-ios-revenue-january

spend hundreds of hours playing. Consequently, recommendations should balance protecting consumers with how to protect Australian-based game development and the potential impact of restricting this market on an important and growing creative industry in Australia.

Conclusion

It is in the opinion of this author that 'Loot-boxes' involving sellable and unsellable items are problematic and harmful, although the extent of the problems and/or harm are difficult to specify. Firstly, there is little existing research into the impact of these mechanics on players (adults or children) and factors such as their positive or negative experience with monetisation, and how it distorts or influences their perception of, and attitude towards, real-world gambling. Secondly, game developers are (understandably) opaque about their income streams, which is a key part of this question. Some estimates have suggested that a very small percentage of players make up an overwhelming amount of revenue in some freemium games, with individual players problematically spending thousands of dollars. Third, developers also do not disclose their practices around loot-boxes. While disclosing odds is relevant, the pervasive element of most mobile games have the potential to be like a poker machine in an addicts pocket, capable of actively targeting players at their most vulnerable moments. In the absence of clear insight into how loot-boxes are actually configured 'under-the-hood', the severity of the problem is difficult to identify. As with all complex problems like this, more research is necessary and warranted.

Sincerely,

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