Research & Development Methods CW1

GAMES PROGRAMMING

CALLUM MCLAUGHLIN

2021

## Introduction (introducing the topic and report)

The topic of this report is games monetisation and the monetisation techniques that are implemented by developers into video games. There will also be a comparative focus on the exploitative and predatory nature of some of these techniques mentioned in both reviewed papers.

## Major research challenges in the area

There are several research challenges that have been common ground across all the papers that have been used in this review. The main challenge being that Video Game Design is continually changing with new technological advances and new consumer needs and demands (L.King, 2019). Another problem arises when researchers try to post surveys on different websites and on average around half of the website’s moderators allow it to be posted which cuts their initial dataset possibility in half roughly (Elena Petrovskava, 2021).

Several studies also had the problem of only being able to focus on one group of players in order to achieve sufficient results. If they were to split their focus between PC players, Console Players, portable device players and mobile phone players, they would risk having more responses for some categories and less for others making for a difficult data set to work with (Goncharova, 2017). There was also a paper that had a similar problem in that it could only focus on one provider on games on the PC platform (Zendle, 2020).

Access to data seems to a large shared problem across all research in this area as a lot of the data is protected and some system are even not patented so their designs aren’t disclosed, because of this there is a lot of research out there that cannot properly determine the accuracy of their data (Leon Y, 2021). There are also limitations and challenges that come with the data analysis approach taken in this area and the methodologies used during the study which carry their own limitations such as the Self-Report method which is used in the studies “Loot boxes are again linked to problem gambling: Results of a replication study”, (David Zendle P. C., 2019) and “Predatory Monetisation? A Categorisation of Unfair, Misleading and Aggressive Monetisation Techniques in Digital Games from the Player Perspective”, (Elena Petrovskava, 2021).

There are also several studies in this area that suffer from lack of further work. An example being the study “Adolescents and loot boxes: links with problem gambling and motivations for purchase” describes that the primary limitation to this particular study is its correlational nature but further work would ne necessary to “understand the Naruto of the relationship between loot box spending and problem gambling” (David Zendle R. M., 2019).

## Critique of existing work (approaches taken, methods and techniques)

The existing work that has been reviewed all seem to share similar methods in their data collection and data analysing. Several of the reviewed papers use Self-Report and Open questions which can be good for getting valuable information from participants, but it also opens up the possibility of useless data as the user can write anything they want. This means that each answer needs to be read by the researchers which can take a lot of time. A good alternative would be to mix some open-ended questions with some closed questions that only require yes or no answers so that the data can be automatically processed in some way using those yes/no or check-box answers.

A few of the papers also went and researched patents using the “Google Patents” database which would allow them to identify utility patents using key search words. The reason for doing so is that when a system like a microtransaction is patented, there will be some publicly disclosed technical data outlining the capabilities. This was a very intelligent way to find out how some of these systems are designed, even if they disclosed information is not detailed, it will at least give a general idea how the utility was created and what is involved within it.

Another good research method found within the work is the online surveys that were conducted on the website “Reddit” and the sub-reddit threads that the survey was posted on for 50 of the most popular PC and mobile games. This was also a very intelligent thing to do as a lot of the users on these threads are very passionate bout video games and Reddit is a discussion website. In short, posting on this site and the sub-reddit threads of these games would have ensured enough participants.

## Conclusion

In conclusion, there are a number of good papers on the subject area but not as many as would have been expected. As mentioned before, the Video Games industry is constantly evolving and changing which leads to new work being done and new research coming to light, leaving the old research behind, this seems to be the reason for the lack of research in the area when compared to other mainstream areas of research such as “Computer Forensics” or “Big Data”. Several papers had well thought out methods and approaches which were executed well, and others had fewer desirable methods which led the inferior quality of work.

# Bibliography

David Zendle, P. C. (2019, 03 07). *Loot boxes are again linked to problem gambling: Results of a replication study*. Retrieved from Plos One: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6405116/

David Zendle, R. M. (2019, 06 19). *Adolescents and loot boxes: links with problem gambling and motivations for purchase*. Retrieved from The Royal Society Publishing: https://royalsocietypublishing.org/doi/10.1098/rsos.190049

Elena Petrovskava, D. Z. (2021). Predatory Monetisation? A categorisation of unfair, misleading and aggressive monetisation techniques in digital games from the perspective of players. *Journel of Business Ethics*, 3-4.

Goncharova, E. (2017, Autumn). *MONETIZATION STRATEGIES IN FREE-TOPLAY MOBILE GAMES*. Retrieved from Semantic Scholar: https://www.theseus.fi/bitstream/handle/10024/134405/Goncharova\_Elizaveta.pdf?isAllowed=y&sequence=1

L.King, D. (2019, 09 17). *Unfair play? Video games as exploitative monetized services: An examination of game patents from a consumer protection perspective*. Retrieved from Science Direct: https://www.sciencedirect.com/science/article/pii/S0747563219302602

Leon Y, X. (2021, 07 23). *Gaming the system: suboptimal compliance with loot box probability disclosure regulations in China*. Retrieved from Cambridge University Press: https://www.cambridge.org/core/journals/behavioural-public-policy/article/gaming-the-system-suboptimal-compliance-with-loot-box-probability-disclosure-regulations-in-china/B2642E2F8B7164236E5477D58D2B26DE

Zendle, D. (2020, 03 07). *The changing face of desktop video game monetisation: An exploration of exposure to loot boxes, pay to win, and cosmetic microtransactions in the most-played Steam games of 2010-2019*. Retrieved from Plos One: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0232780

## Appendix A – Paper reviews

### Paper Review One

*(Approx. 500 words)*

| **Title of the Paper:** Unfair Play? Video games as exploitative monetized services: An examination of game patents from a consumer protection perspective | **Authors:** Daniel L. King, Paul H. Delfabro, Sally M. Gainsbury, Michael Dreier, Nancy Greer, Joel Billieux. |
| --- | --- |
| **Publisher:** Elsevier | **Year:** 2019 |
| **Summary:**  This article focuses a lot of the legislation surrounding games monetization in video games and how in some countries, things like loot boxes are banned completely as they have ruled it as a form of gambling or an unethical business model. The paper goes into a lot of detail to explain how some of the systems are designed and even talks about the patents that are submitted for these “Predatory Monetization Systems”. It goes on to explain how In-game stores are tailored to each individual player based on data that has been collected on that player who is then analyzed to make suggestions and tailored offers to that player, such a limited-time offers which push a sense of urgency on the player to purchase the item for a reduced price. The paper also talks about how it could serve as good educational information for video game players and people working in the industry as it is such a fast-growing industry in which a lot of users hold strong beliefs about the quality of games, such as believing them to be a form of art. | |
| **Problems addressed and research challenges:**  Most of the problems addressed in this research are behavioral and psychological. There are a number of video game players that suffer from the official gaming disorder in the ICD-11 which was recognized in 2019, it has become even more important for medical professionals helping their patients with video game related problems, to understand the financial elements that some games can incorporate, which this paper addresses really well. To surmise, the main problems addressed within the paper are the increased risk of negative financial and physiological effects through predatory monetization. | |
| **Main contribution of the paper:**  The main contribution of this paper is its analysis, from an Australian consumer protection perspective, of the monetization systems that have submitted patents as they disclose key design features and functionality. As it outlines in the paper, not all monetization systems will be patented in order to keep them secretive from the users for fear that if people knew how they were designed there would be negative consequences for the companies such as lower sales. | |
| **Methods and techniques used for gathering, analysis and presenting data:**  This review constitutes a selective evaluation of some of the publicly disclosed technical capabilities and R&D priorities within parts of the gaming industry. To identify utility patents, the database “Google Patents” was used as it includes over 87 million patents at the time of this review. The database was search using keywords “Microtransaction” and “Game”. From there the search identified 429 patents which the titles were then screened for relevance to consumer interaction with monetized schemes which excluded 401 results. The abstracts of the remaining patents were checked for relevance to in-game  purchases, 15 of which were excluded due to high similarity with other patents, leaving 13 patents which were retained for analysis. The data is presented on tables that show a summary of the 13 patents that refer to systems and methods that try to encourage repeat in-game purchases. Most patents describe complex systems that involve the collection of player data and analytics as mentioned earlier to present tailored offers and purchasing opportunities to the player. The systems are designed to optimize the nature and scheduling of purchasing offers to increase the probability that the offer will be desirable to the player. | |
| **Strengths of the paper:**  The paper’s research is conducted well and the methods through which the selection of patents was achieved seemed to be the most logical method of doing so. The paper has lots of references to real-world legal cases to back up its argument such as “Valve vs ACCC”, filed in 2014 and resolved in 2018. The paper also uses many reliable sources to back up its facts and arguments. The tables included in the paper also help with visualizing the data which has been analyzed and it is well presented and referenced throughout. | |
| **Weaknesses and suggestions for improvement:**  The main weakness of this review would be that its aim was to provide an overview of a few of the capabilities of certain monetized systems and games, but it was not intended to be comprehensive in scope. The review of patents was based on a selected sample and does not present all systems and methods related to games monetization. Patents were selected purely on relevance to the topic and whether the patent in question was like another. However, it would be difficult to create a search protocol that would be able to identify all potentially relevant patens without having inside knowledge of the R&D process across all game’s companies. This paper also has a limitation in its lack of consideration for ither international jurisdictions in relation to consumer protection law, as it varies in different countries. | |

### Paper Review Two

**Paper review form**

*(Approx. 500 words)*

| **Title of the Paper:**  Predatory monetization? A categorization of unfair, misleading, and aggressive  monetization techniques in digital games from the perspective of players | **Authors:**  Elena Petrovskaya  David Zundel |
| --- | --- |
| **Publisher:** Journal of Business Ethics | **Year:** 2021 |
| **Summary:**  This paper details a study that was made through asking 1104 players of video games to describe a time when they had been exposed to in-game transactions which they perceived to be misleading, aggressive, or unfair. The study found that 35 separate techniques over 8 domains. The paper goes on to explore the diversification of monetization beyond the sale of games as standalone products and that there is concern that new approaches to video game monetization may be implemented in way which could be described as unethical, exploitative, and not in the best intertest of the players. | |
| **Problems addressed and research challenges:**  The paper addresses the widescale discontent that video game players feel when talking about micro-transactions and how they are implemented into video games. The survey found that out of 35 separate techniques, several of these reported practices seemed to not align with existing UK consumer protection regulations. The paper explores potential misalignment as well as the implications of identifying what players believe to be predatory and unethical monetization techniques. Data was collected through several online surveys using the discussion website “Reddit”. The survey was posted on “Threads” relating to the top 100 mobile and PC games. A problem that the researchers ran into was that they would need permission from the moderators of each respective thread to post their survey and out of 100 possible threads to post the survey on, only 50 allowed them to do so. This led to the dataset that was originally planned to be cut in half. | |
| **Main contribution of the paper:**  Each of the 35 monetization techniques mentioned were coded. Two different coders who are both experts in the monetization field worked together to create a categorization. Once both had created their separate coding schemes, they met to merge the code and resolve discrepancies. After this, an “independent rater” coded a subset of the data against the codebook. The same subset was coded by one of the original coders and a kappa score was calculated with an agreed ‘almost perfect agreement’ score being classed as 0.81. The first pass was calculated at 0.62 after which some trends of disagreement were resolved, and the same process was repeated by both the 2nd coder and the independent rater which resulted in a kappa score of 0.92. This score was agreed upon as high enough to be confident in the reliability of the results which as was previously stated, displayed 35 monetization issues that were reported by players as being either misleading, unfair, or aggressive. | |
| **Methods and techniques used for gathering, analysis and presenting data:**  The data was gathered through online surveys on Reddit and Twitter where 1471 players responded and after data cleaning and processing resulted in 1104 that were included in the analysis. Content analysis was used as a data analysis method in order to identify patterns and classify the 35 techniques that were presented by the participants into 8 categories. The data is presented in the paper on tables which display each technique that was mentioned by the participants and which of the 8 defined categories they fall under. A short explanation of each of the 35 techniques is also included in the paper with most having referenced real world examples. | |
| **Strengths of the paper:**  The paper has large data set to analyze which will give a variety of data, the data was also processed through data cleaning and as opening questions were used, there is a vast amount of information. The paper makes good use of quality references and uses some of those references to make use of pre-established standards of which to compare to the monetization techniques found. Another strength of the paper which may well have aided in the accuracy of the information is that the survey did not ask for any background characteristics of the participants as this could have impeded open discussion due to less anonymity. The paper also makes a clear distinction between optional and forced micro-transactions and is critical of both respectively but in different ways as they are both very different. The results are presented in tables which are easy to read and specific information relating to each technique can be found quickly and easily due to this format of data presentation. | |
| **Weaknesses and suggestions for improvement:**  The study that was conducted used the Self-Report methodology which does indeed seem like the most appropriate for understanding the player perspective, however, it has one obvious limitation which is subjectivity. A player may have a certain perception of an implemented technique whereas the reality could be far from that perception. This could be exacerbated by existing player pre-conceptions of in-game transactions as ‘bad’ which could lead players to be harsher in their assessment of micro transactions in the survey. The survey also used open questions which opens the possibility for redundant information which may be unrelated to the study, it also opens the possibility for answers to be given based on misinterpretation of the questions. I would suggest that a mix of open and closed questions be used for a study like this in the future so that there is no possibility for a participants response to be superfluous if some of the questions ask for a simple ‘Yes’ or ‘No’. The study did not collect any player demographics which means they cannot control whether the views that are expressed in the survey were owner-representative of any particular group such as ‘Female Gamers’. | |