



ESG
Gaming

ESG GAMING

Discovery Sprint Report

September 2023





Introduction

This report documents the contents, thinking and outputs of the Discovery Sprint workshop facilitated by MDRx and Theory of Change and Literature Review workshops facilitated by Bournemouth University.

In these workshops, our partners helped us to understand, learn & analyse the current gaming industry and the initial vision set by ESG Gaming, with the aim to create a high-level strategy, experience, and direction for a proposed product. The workshops also helped us to understand current and emerging research trends helping us to be guided by best practise and evidence available.

Further work with our partners will commence as we move to the build, learn and consumer insight stages. All this work will be published transparency on our website.

Our aim

The aim of this discovery sprint engagement was to:



Craft a product concept



Present background research on the market



Develop a high level user journey



Analyse product market fit



Define the business model



Define a Theory of Change to undertake impact



Undertake a literature review to understand the evidence

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- **Page 10 Industry trends and problem areas** Understand the current industry trends within gaming and the associated problem areas
- **Page 13 Decision criteria** Select and prioritise decision criteria to consider when choosing a particular problem to address
- **Page 22 Users, buyers, problems** Identify all the potential users, buyers and problems associated with gaming and prioritise our target for all
- **Page 29 Crafting a vision for the Product** Outline a potential solution for the problem; what success looks like; and what hypotheses we have to prove true or false to achieve success
- **Page 32 Understanding our Theory of Change** Setting out an initial 'Problem statement' which will summarise what we need to understand and our intended direction
- **Page 37 Understanding Risk** Our project and academic team have spent considerable time thinking through the potential risks and 'known unknowns' and this work is summarised as follows



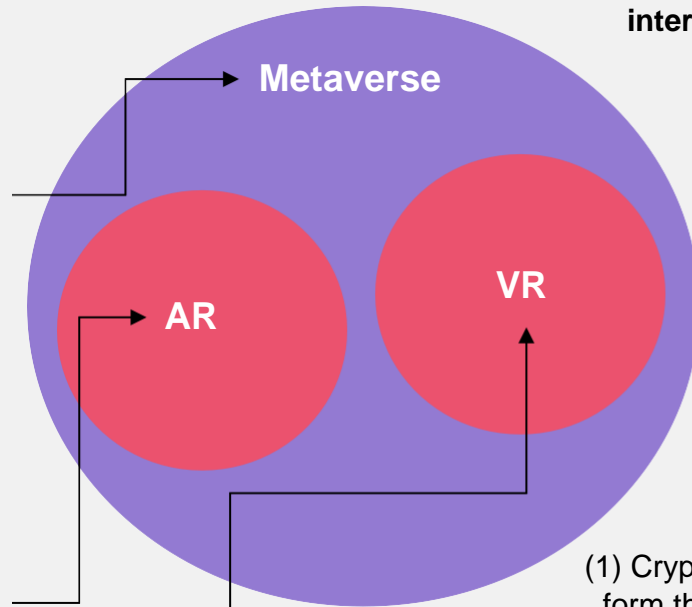
Terms and definitions

Key terms: Tech

Metaverse: We define the metaverse very simply as the melding of digital and physical capabilities. However, it's also often defined as a 3D enabled digital space that can use virtual reality, augmented reality and other advanced internet and semiconductor technology to allow people to have lifelike personal and business experiences online.

AR: Augmented reality uses technology to add or augment a person's view of reality with a computer-generated image. For example, Pokémon Go or the IKEA furniture placement app.

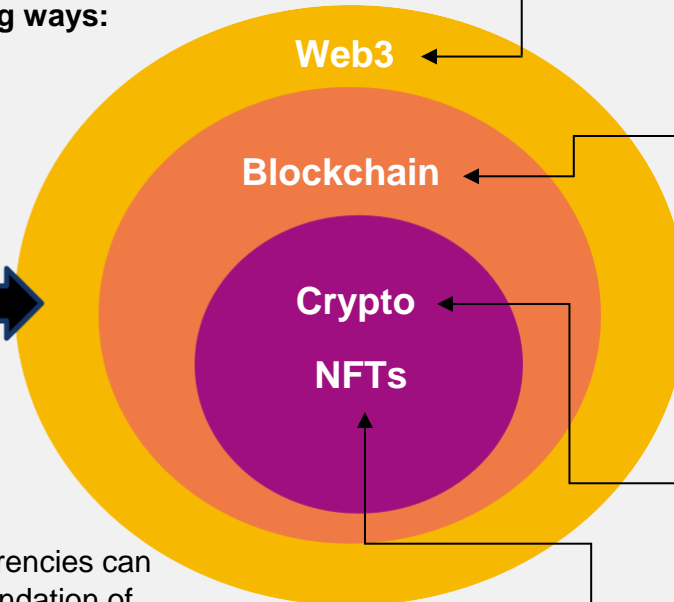
VR: Virtual reality does not include a physical world component (besides a handset or other equipment such as a helmet or sensor-laden gloves). In VR, users enter a computer-generated simulation but can interact with it in a way that seems real. For example, Google Daydream and Google Expeditions.



The Metaverse and Web3 can come together in interesting ways:



- (1) Cryptocurrencies can form the foundation of economic and monetary systems in the metaverse
- (2) NFTs make it possible for unique items to exist in digital worlds
- (3) Web3 offers the possibility for digital worlds to be built on decentralised platforms (e.g., decentraland)



Web3: New version of the web, built on blockchains, that would (in theory) be decentralized, democratic and peer-to-peer.

Blockchain: A distributed ledger – ie., a database hosted by a network of computers instead of a single server - that offers users an immutable and transparent way to store information. It is the backbone for Web3 technologies like cryptocurrencies and NFTs

Cryptocurrency: A form of currency that doesn't rely on a central bank, government, or other intermediaries. Technically, it's software that runs on blockchains. There are currently thousands of cryptocurrencies, but the most common include Bitcoin and Ether

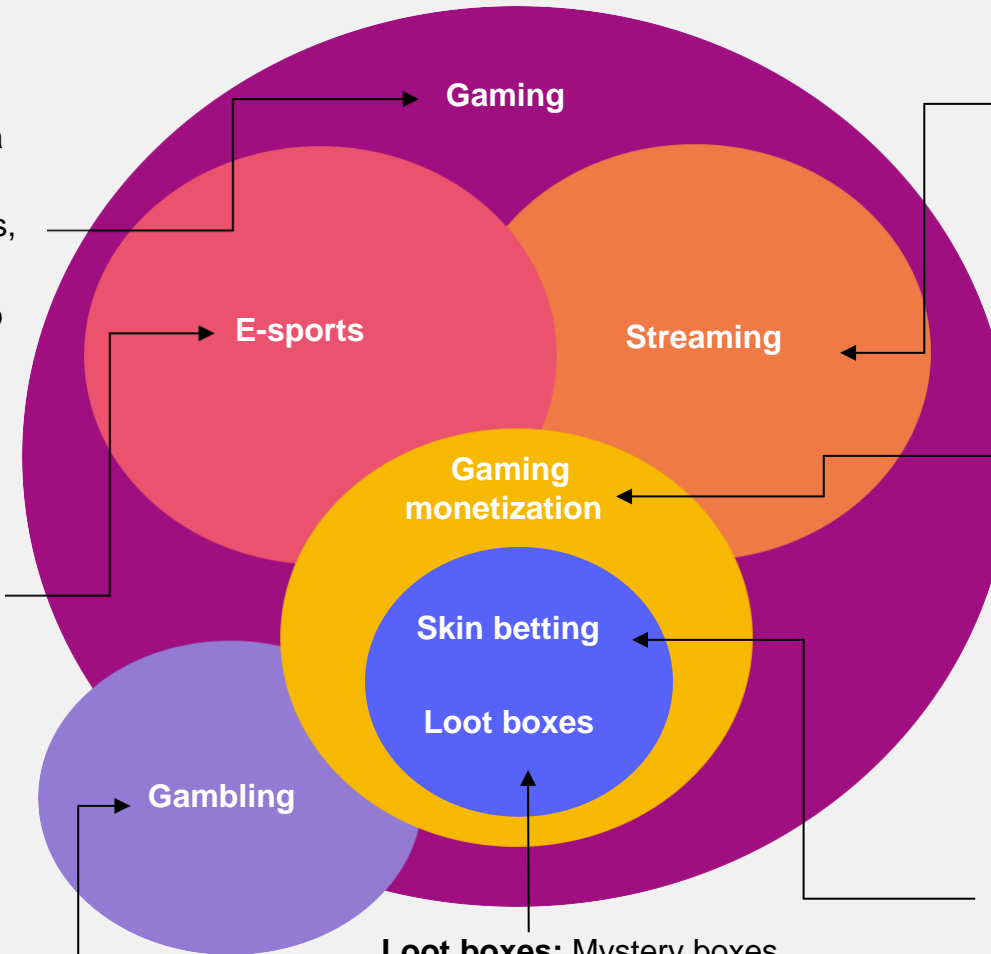
Non-fungible tokens (NFTs): An NFT is a digital deed representing ownership over a unique digital object. These objects commonly include artwork or digital versions of collectibles, such as the illustrated avatars of the Bored Ape Yacht Club or Time magazine covers. They are authenticated on a blockchain.

Key terms: Gaming

Gaming: Playing any type of single or multiplayer commercial digital game via internet-connected devices, including dedicated consoles, desktop computers, laptops, tablets and mobile phones. There are many different types of video games.

E-sports: Form of gaming. Professional or semi-professional competitive gaming in an organised format (tournament or league) with a specific goal/prize, such as winning a championship title or prize money. Engages with the influencer world and is often corporately sponsored.

Gambling: Activity where someone risks money or belongings. There is an element of randomness or chance involved and the purpose is to win.



Streaming: Activity where people broadcast themselves playing games to a live audience online, which can be for educational or entertainment purposes.

Streaming: Allows gamers to play video games on a mobile device or low-power PC by streaming the content from the Internet.

Gaming monetization: Some gaming monetization strategies including loot boxes, skin betting, esports betting and social casino play, incorporate practices from gambling, raising increasing attention amongst regulators.

Skin betting: A player can purchase or win a skin within a game to change the appearance of their character. Skins can sometimes cost varying amounts of money, which can make some skins appear more valuable than others. Skin betting is when players use their skins to bet on online games against opponents.

Loot boxes: Mystery boxes containing a random selection of unknown items which can be purchased with real money, or credits built up within a game to reveal the contents.



Industry trends and problem areas

\$312 billion

The video gaming market is already big at \$227b and prominent projections show it growing fast, predicted to grow to \$312b, with a compound annual growth rate of almost 8%. Advertising and social / casual gaming is projected to drive growth whilst 'traditional' gaming stays flat (pwc, Global Entertainment & Media Outlook 2023–2027)

12 million DAU

Roblox, with 55m daily active users (DAU), dominates the metaverse gaming segment, which skews young (38% below 20 and 74% below 35), and male (59%); the number of users just keeps increasing – by 12m daily active user in 2022/2023 (Roblox, 2023)

£1 million

The games industry trade body UK Interactive Entertainment (Ukie) launched a £1m public information campaign after a government engagement exercise on the >\$15b loot box segment (UK Government, 2023)

Problem areas

Health

Negative health outcomes provoked by gaming behaviour are characterised by impaired control over gaming; increasing priority and precedence given to gaming over other daily activities/interests; and continuation or escalation of gaming despite the occurrence of negative health consequences.

Aggressiveness
Physical injuries
Depression

Features that promote 'states of flow' (loss of time), narrative and character creation features

Immersive environments, including the use of crypto, can contribute to 'states of flow' – increasing problematic gaming

Online Harms

Online harms are described by the 4C classification: engaging with and/or exposed to harmful CONTENT; experiences and/or is targeted by potentially harmful CONTACT; witnesses, participates in and/or is a victim of harmful CONDUCT; is party to and/or exploited by harmful CONTRACT

Child Grooming
Harassment

Social interaction features and identity features can contribute to a higher exposure to social harms

The intensity of immersive experiences, trends towards social gaming platforms and user generated content, create a higher likelihood for online harms to manifest

Economic

Exposure of children to advertising that is difficult to distinguish as advertising, inappropriate advertising for their age, in-game purchasing that nudges/promotes gambling-like practices and in-game purchasing that is necessary to progress in the game.

Economic loss or exploitation

In-app purchases and advertising features contribute to economic loss or exploitation

Economics of tokens can lead to massive financial loss overnight. However, cryptocurrency and tokens can give users agency over company decisions or give them the ability to profit from game-playing.





Decision criteria



Exercise

Prioritising decision criteria

As demonstrated on page 12 'Problem areas', the problem space associated with gaming is vast and therefore we need to bring the focus to a specific problematic attribute of gaming we wish to address. In order to help with this decision of picking a particular problem, it is useful to establish and understand what criteria would affect the decision when choosing between certain problems to address; and what decision criteria will be used to judge the feasibility of addressing and solving a certain problem over another.

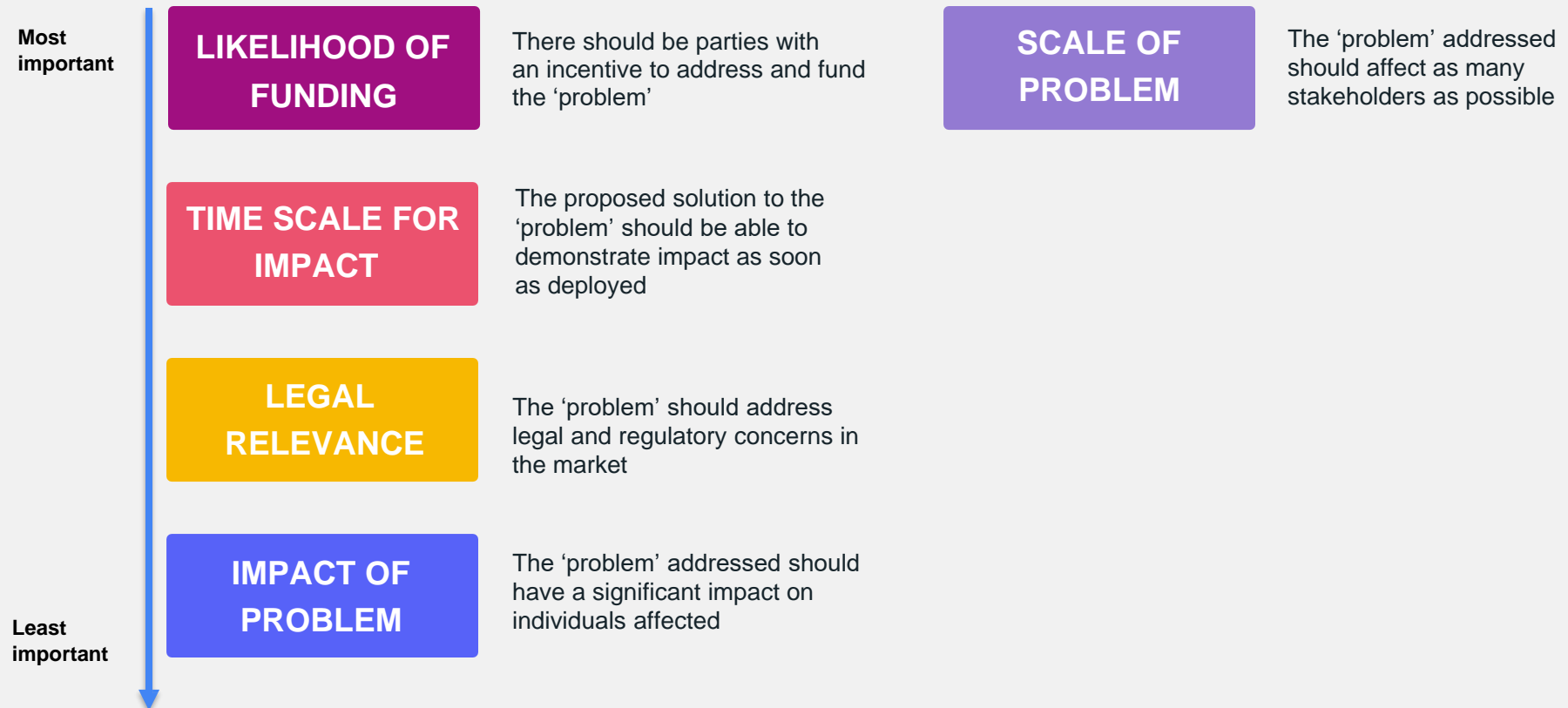
MDRx presented ESG with 6 common and relevant decision criteria which, when in practice, help to establish 'if we chose X problem':

- How long would it take for the solution to make an impact (Time scale for impact)
- Are there interested funders for addressing this problem? (Likelihood of funding)
- How many stakeholders would solving this problem affect? (Scale of impact)
- Does the solution to this problem require the use of complex or emerging technology? (Technology)
- How accessible are the users we would require to test the solution to the problems? (Access to users)
- How legally complex is the problem area to navigate and address? (Legal complexity)

The goal was to discuss the criteria, add or remove any, and then rank the chosen criteria, from the most important to the least important, when making a decision as to which problem in gaming we wish to address.

Prioritised decision criteria

ESG chose to move forward with the below decision criteria highlighting the likelihood of funding and the scale of the problem as the most important criteria to consider when selecting a problem to address. From the original criteria presented, access to users and technology were removed; legal complexity was changed to legal relevance; and the individual impact of the problem was added.





Exercise

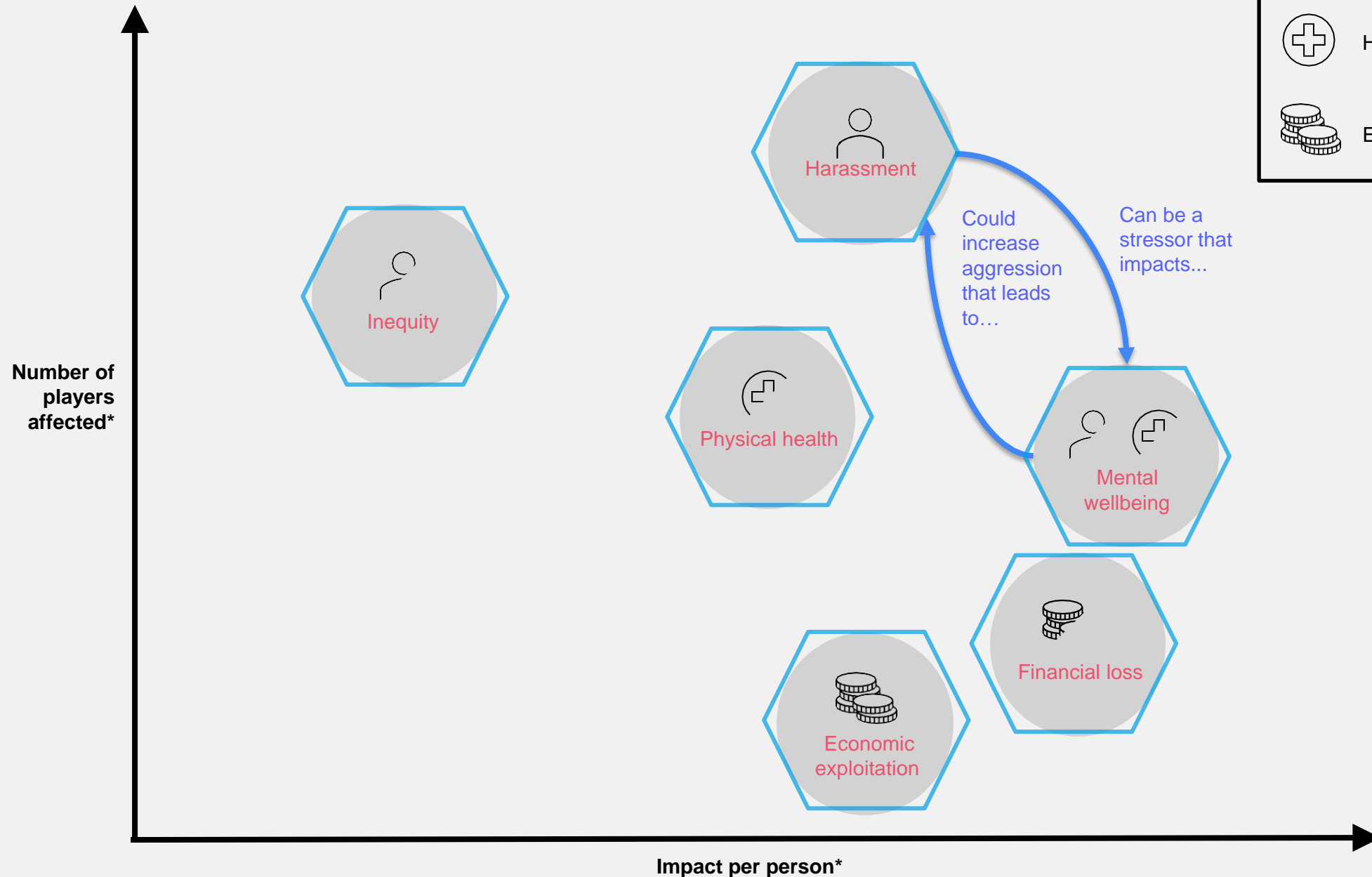
Mapping the problem areas onto decision criteria

Having reviewed and prioritised the decision criteria, we were able to explore and identify which problem areas, as presented on page 11 'Problem areas', provide the best opportunities to address and achieve our priorities of impact.

MDRx presented two-dimensional decision criteria projections, where the placement of each problem type is determined by its desirability, with higher positions being more favorable.

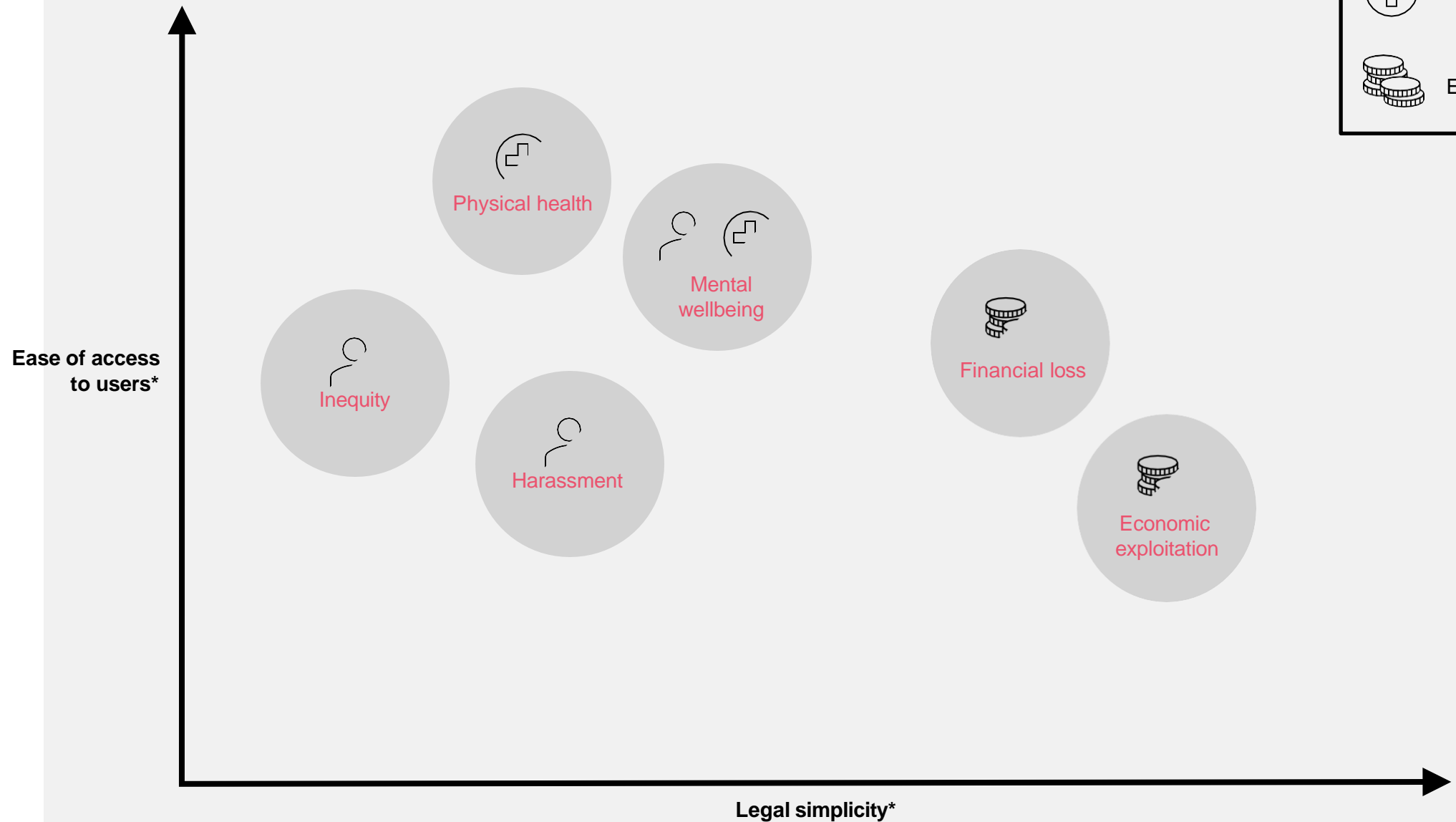
MDRx discussed with ESG to assess the position of each problem type on these projections, considering the evidence presented during the industry and problem area review.

Severity of negative outcomes



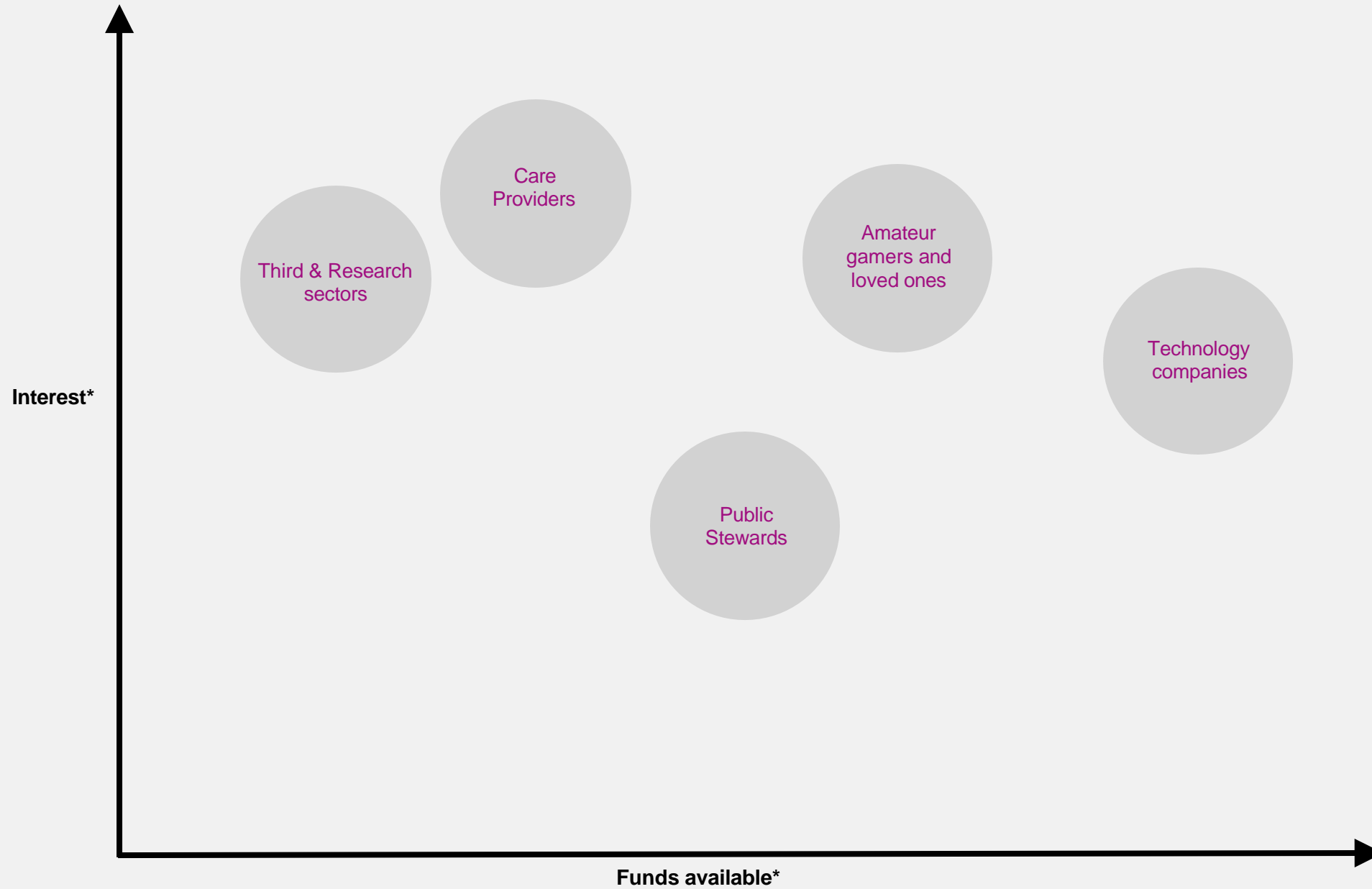
*No scale implied;
inferred from
available evidence

Access to users / legal simplicity



*No scale implied;
inferred from
available evidence

Likelihood of funding



*No scale implied;
inferred from
available evidence

Breakdown of funding groups

The below list breaks down the groups identified as likely funders on page 19 'Likelihood of funding', to provide further detail as to who exactly the funding party could be:

- Third and Research sectors
 - Not for Profit
 - Academics
- Care providers
 - Social care
 - Care homes
 - Clinicians
 - Medical professionals
- Public stewards
 - DCMS
 - Innovate UK
 - DWP
 - GambleAware / Gambling Levy Board
- Amateur gamers and loved ones
 - Consumers of games
 - Parents of gamers
- Technology companies (See next page)

Breakdown of funding groups - Technology companies in gaming

Production

Independent developers including:

Studios:

- Tencent
- PlayStation Studios
- Xbox Game Studios
- NetEase
- Activision Blizzard
- Nintendo
- Electronic Arts

Distribution

Distributors including:

- Apple App Store
- Google Play
- Steam
- Xbox Games Store
- PlayStation store
- Nintendo eShop
- Epic Games Store
- GOG

Consumption

Mobiles including:

- Apple (30%)
- Samsung Galaxy (24%)

Tablets including:

- iPad (55%)
- Galaxy Tab (28%)

PCs including:

- Lenovo (24%)
- HP (20%)

Consoles and wearables including:

- Nintendo Switch
- PlayStation 4 & 5
- Xbox One & X/S



Users, buyers and problems



Exercise

Defining users & buyers

The "user" is the person who actively uses your product to make progress, yet they may not necessarily be the one paying for it.

The "buyer" is the decision-maker responsible for purchasing your product, which comes with a set of expectations.

Understanding all potential users and buyers within the gaming industry is crucial. It's important to note that these roles aren't always distinct; a user can also be the buyer, so it's important to establish the difference.

A comprehensive understanding of the market's makeup allows for the identification of predominant groups, which, in turn, informs the types of issues that may need addressing.

MDRx and ESG spent time compiling a list of potential users, buyers, and their respective characteristics in the gaming industry, subsequently sorting them into the clear categories of 'Potential Users' and 'Potential Buyers'.

Expertise outputs – users and buyers

Below are the all the users, buyers and characteristics identified by the group in the workshop, grouped into related segments:

Potential users

Over 65s; Older population; Dementia sufferers; Retired professionals; Lonely or isolated people; Nursing home residents

Professional parents; Single parents; Trauma/Lived experienced parents; Parents in the tech industry

Gen Z; 18 – 35 y/o; Youth living outside of home; Youth living with guardians; Influencers; Safety and content moderation employees

Very young children; Children in social care; Children up to 18 y/o

Characteristics: Seeking escapism; Seeking like-minded individuals; Full time education/training; Seeking social experiences; Gaming is their source of entertainment

Potential buyers

Vocational training programmes; After-school programmes; Schools; Youth clubs

Parents of Gamers ; Parents of Gen Z; Parents of very young children

Hardware makers; Games makers; Games publishers; Gaming distributors

Trade bodies; MP; Government; Professional bodies

ASA; Regulators; Lawyers

NHS; Health providers; Social care homes; Health insurance providers

Exercise

Defining the problem

The problems associated with gaming are vast and span areas such as Health, Economics and Online Harms, therefore we need to bring the focus to a specific problematic behaviour we are addressing within the gaming industry.

Identifying all the associated problems, helps to inform and understand how, if at all, each problem impacts the users identified in the Users and Buyers exercise.

MDRx and ESG spent time writing down all the problems associated with the gaming industry; following which these were grouped into 2 segments that emerged from the exercise; 'Problems associated with gaming' and 'Problems gaming could address'.



Expertise outputs – problem

Identified problems in the workshop:



Expertise outputs – problem

While working on the exercise, it became evident that the issues compiled by the team could be categorised into two groups: challenges related to gaming itself; and difficulties encountered, especially by the older generation which might find solutions through gaming. Below are the problems identified in the workshop, grouped into related segments:

Problems associated with gaming

Gambling mechanisms within gaming; Users being misled by gambling mechanisms and advertisements; In-game purchases; Loot boxes; Dark patterns leading to economic harm/financial loss; In-game exposure to harmful content

Lack of visibility of children's gaming activity; Lack of education around harms and protection

Lack of regulation

Physical health affected; Mental health affected; Depression

Social isolation; Lack of real world connections and experiences; Worse social skills due to gaming

Lack of representation; Inequality; Mysogony; Harassment (gender, race, religion, ability); Peer Pressure; Threatening in-game actions

Problems gaming could address

Depression; Dementia

Loneliness; Lacking a sense of belonging; Social isolation

Unfamiliarity with technology

Reduced motor skills; Reduced mind stimulation



**Crafting a vision
for the product**



Exercise

News story

We want to understand the vision for the product and what would make it a success.

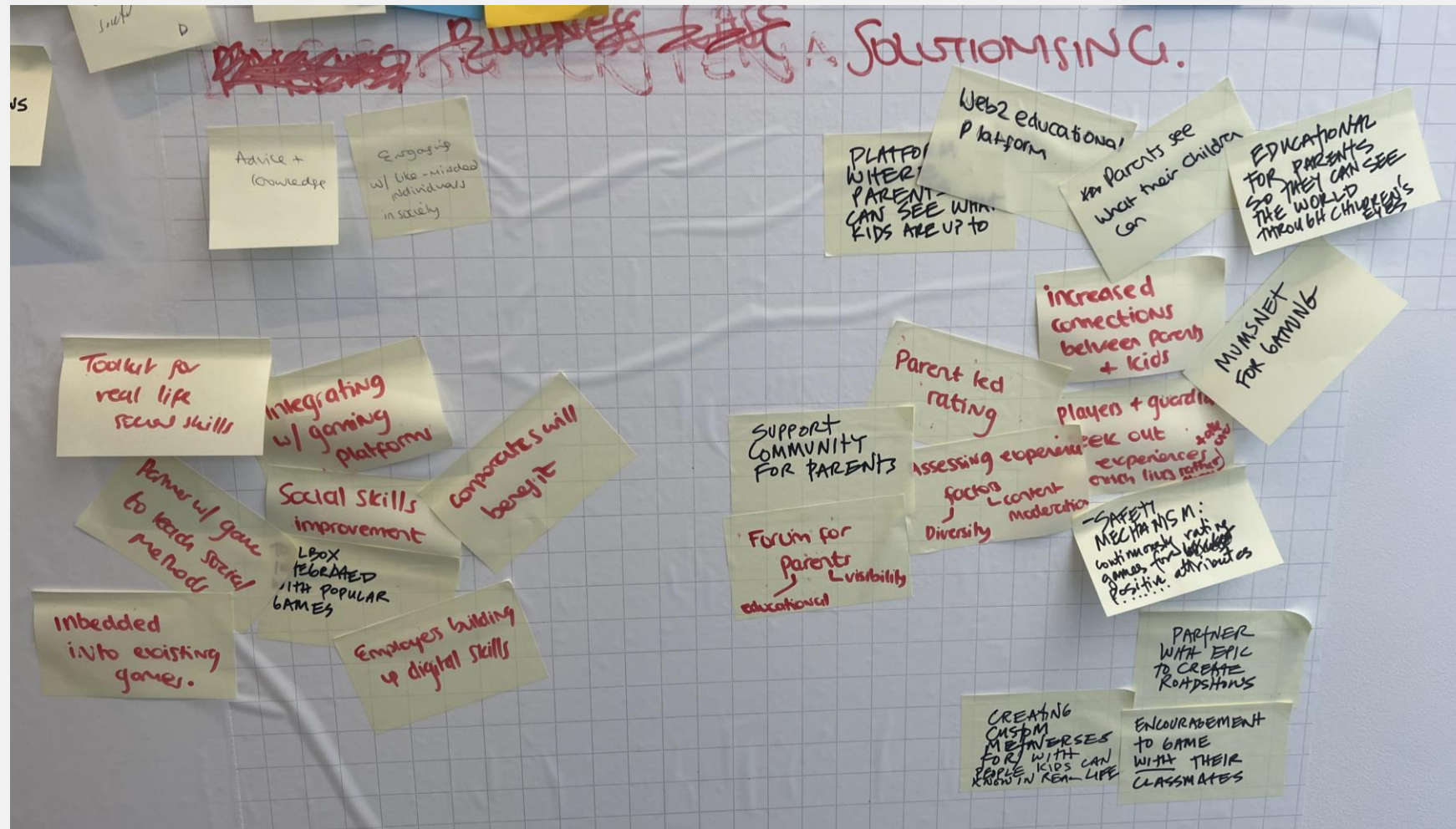
By establishing this, it helps to inform what sorts of opportunities we want to enable with the product and starts to introduce potential solutions to the problem, that could achieve the desired success.

An interesting way of shaping this and focusing on the desired outcome is to write a future news article as if the product has been launched – by doing this you can articulate what your product did, who it impacted and why it was such a success. This helps to package up the product concept.

MDRx and ESG has taken time to craft a news article or press release set in the future (after the launch of the product) and play it back to the rest of the group.

Expertise outputs – news story

3 groupings of 3 ideas that arose out of the news story playbacks:





Understanding our Theory of Change

Creating a Theory of Change

We know there is a lot of hype surrounding the metaverse with mixed views about its wider adoption. Therefore ESG Gaming has focused on undertaking a six-month literature review of the research and evidence and from this we have been able to create a comprehensive theory of change.

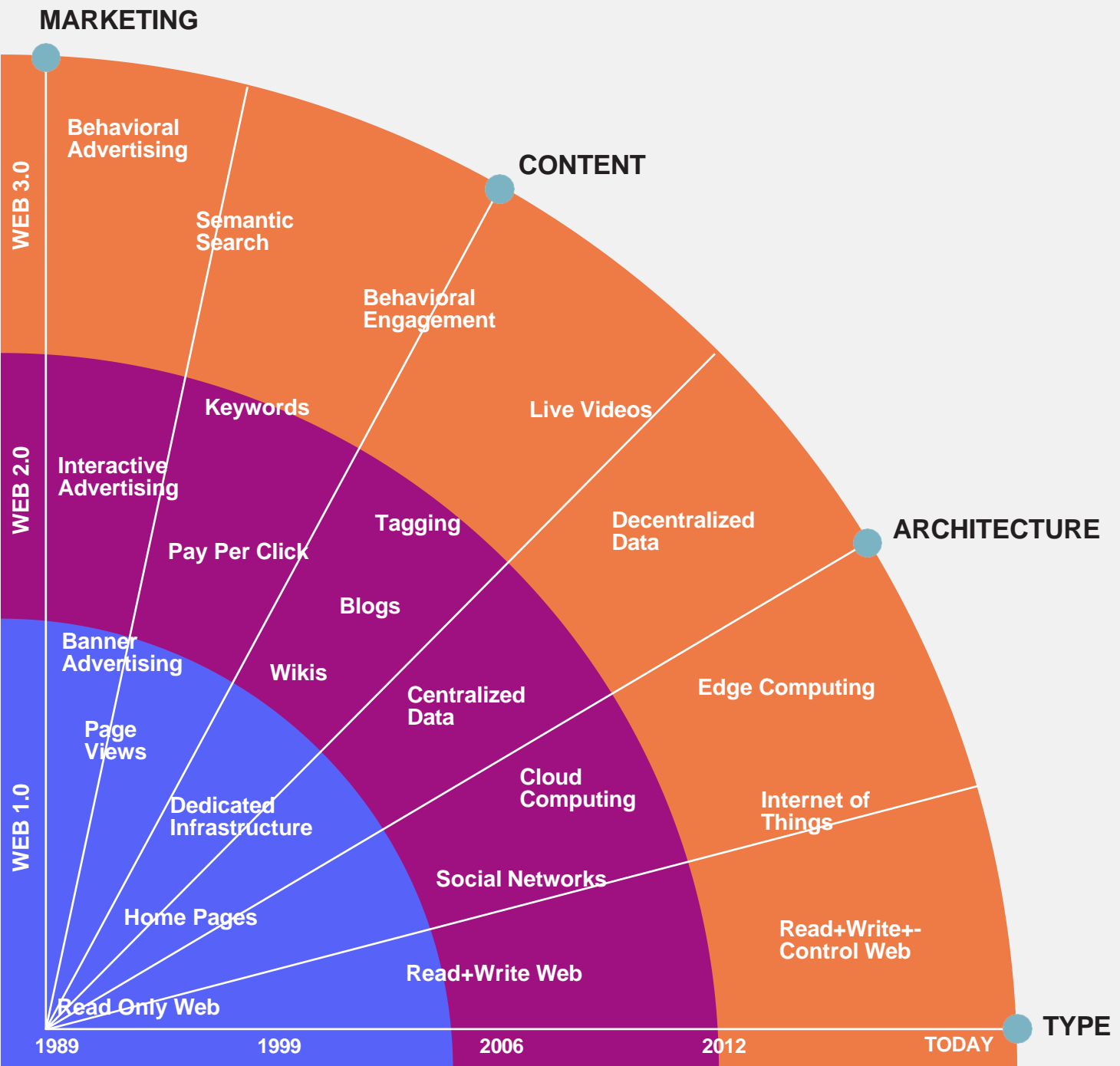
The ESG Gaming, theory of change, has been co-created with academics from Bournemouth University who focus on psychology, game design, computer science and this has been co-created with academics who focus on interdisciplinary topics and research with technology in the areas of psychology, game design, computer science, and Human Computer Interaction. Led by Dr Sarah Hodge, our theory of change will set out an initial 'Problem statement' which will summarise what we need to understand and our intended direction of travel. The theory of change will then show the (i) the evidence of need; (ii) the activities we will deliver; (iii) outcomes from those activities, and (iv) the social impact we will create. Best illustrated, a theory of change describes the change we want to make and the steps involved in making that change happen.

The evolution of the internet

To understand Web3, it makes sense to understand what came before. The first version of the Internet, known as Web1 arrived in 1989 and comprised of a collection of links and homepages. Websites weren't particularly interactive. You couldn't do much apart from read text and publish basic content for others to read. Some call Web1 the 'read phase' of the internet.

Web2 came next in 2004. This version of the Internet allowed consumers to not only consume content but create and publish content on blogs and Internet forums. The emergence of social media platforms; Facebook in 2004; Twitter in 2006 and Instagram in 2010 all took content sharing to new heights and as we know it today. As technology continues to evolve, challenges with Web2 include equal access, information control, intellectual property, copyright, authorship, trust, privacy, security, and cultural considerations. The truth is a few very large organisations own all our data. Some call Web2 the 'read and write' phase of the internet.

Rather than just using tech platforms in exchange for our data, imagine if consumers can participate in the governance and operation of the protocols themselves. This means consumers can become participants and shareholders, not just customers of products. This is Web3 and might be described as the 'read, write and own' phase of the internet



WEB 1.0
Versus
WEB 2.0
Versus
WEB 3.0

Theory of Change

With the continued evolution of the internet from web2 to web3, we need to understand the potential risks and opportunities for consumers. The gaming sector are early adopters of web3 and this sector will transform consumer engagement with this latest evolution of the internet. Therefore, we would like to understand the opportunities and risks to consumers, which will enable organisations such as ESG Gaming and our partners to develop the awareness, educational and support eco-system within web3

Problem statement

With the continued evolution of the internet from web2 to web3, the potential risks and opportunities for consumers, particularly vulnerable, those at risk and young people are not fully known.

Our academic research considered

- The differences between web2 and web3, including some of the specific risks and challenges for web3 as well
- opportunities for consumers, in the context of competitive (esports) and non-competitive gaming.
- An analysis of the specific web 3 features, activities and experiences which related to risks, challenges, and opportunities for consumers, in the context of competitive (esports) and non-competitive gaming.
- Considerations of the different types of consumers, the user's awareness, and how this might influence
- the challenges risks and opportunities, in the context of competitive (esports) and non-competitive gaming.
- Understanding the risks a contrast between the context of gaming with other risky activities to understand if gaming
- pose specific, similar or different risks and opportunities.

Bringing focus to awareness, educational and support eco-system

To understand the opportunities and risks, ESG Gaming will focus on consumer (i) Gameplay; (ii) Player Protection and (iii) Mental & Physical Health.



Outputs

1. Build an immersive, virtual reality environment, where consumers and educational professionals can access high quality, accredited & evaluated learning materials.
2. Build a virtual reality community, where consumers and educational professionals can socialise, share learning, seek support, increase mental health and reduce isolation.



Outcomes

1. Consumers have appropriate information to increase their knowledge and awareness of (i) Gameplay; (ii) Player Protection and (iii) Mental & Physical Health.
2. Educational professionals have high quality, accredited & evaluated learning materials to deliver to students in a web3 environment.
3. Parents have appropriate information to increase their knowledge and understanding of (i) Gameplay; (ii) Player Protection and (iii) Mental & Physical Health.
4. Consumers will be able to collect non-fungible tokens (NFTs) to celebrate their learning achievements.
5. Educational and recreational social activities will take place to build community cohesion, reduce isolation and increase awareness of web3 more generally.
6. Expert discussion and learning seminars will take place to increase knowledge of web3 and ongoing future trends.

This will mean

Consumers, educational professionals, parents and guardians have resources available to support awareness and inform users, of web3 technology. This will increase awareness, knowledge and confidence to embrace the digital future in a safe and inclusive manner.



We will achieve our mission

ESG Gaming is a passionate advocate of emerging technology and is committed to working alongside the digital entertainment sectors to ensure the experience is open, inclusive and positive for all consumers and stakeholders.

And deliver our vision

To ensure that consumers worldwide possess the skills, knowledge, resilience, and tools to engage with digital entertainment in a safe, responsible, positive, and inclusive manner.



Understanding risk

Understanding and mitigating risks


We know there is a lot of hype surrounding web3, with mixed views about its wider adoption. However what we cannot ignore is the sheer volume of work happening in this space, whether that is building virtual environments or the tech to access these environments. It is no wonder Goldman Sachs suggests metaverse alone represents an \$8 trillion market opportunity. We know the gaming and entertainment sectors are early adopters of this technology, however at ESG Gaming what we want to do is ensure consumers, educational professionals and parents are not only more aware of, but actually informed users, of web3 technology. This will increase awareness, knowledge and confidence to embrace the digital future in a safe and inclusive manner.

Building a web3 platform does come with risks, not least because what we are proposing hasn't really been done before. Our project and academic team have spent considerable time thinking through the potential risks and 'known unknowns' and this work is summarised as follows



Primary risks

REF	RISK	DATE ADDED	CURRENT CONTROLS / MITIGATIONS	SLT/BOARD OWNER	Current Rating		Overall Rating
					L	I	
Project Governance and leadership							
G1	The Board does not provide an effective level of leadership and governance.	Sept-23	Skills matrix will be developed and used to identify skills gaps when recruiting for ESG Gaming Directors.	Board Chair	1	3	3
			Board to meet every eight weeks. Sub-committee structure also be established with initial Finance, Audit and Risk sub-committee (FARC) who will meet six times a year in year one (alternative to board meeting dates) reporting back to main board. Minutes to be published on ESG Gaming website				
			Register of Conflicts in place for board members, reviewed at every board meeting. Published on ESG Gaming website				
			Quality Management System to be developed in 2023 as part of ISO: 9001 and Investors in People assessment				
			Board to achieve ISO: 9001; Investors in People; B-Corp and Fundraising Regulator approval				
G2	Loss of confidential or personal data due to security breach or inadequate controls.	Sept-23	QMS to be developed in 2023 to include data processes. ESG Gaming registered with Information Commissioners Office (ICO)	Board / FARC Chair	1	1	1
			Contracts with external delivery partners will be put in place and contain clauses around data protection and confidentiality.				
			Data protection policy in place and training is mandatory part of new board / employee induction.				
			Microsoft Sharepoint used for ESG Gaming file storage, with back-up arrangements in place.				
			As a general rule, ESG Gaming will not collect personal information from consumers				
G3	ESG Gaming fails to protect its intellectual property	Sept-23	Trade Mark registration completed with intellectual Property Office (IPO)	Board Chair	2	4	8
			Pro-bono legal support to be sought wrt product protection				
Platform build							
S1	Failure to build Web3 platform within three months	Sept-23	Work with trusted supplier who has a track record of major project delivery	Chair Advisory Group	1	4	4
			Ensure bi-weekly build meetings to iron out any issues in a timely manner				
			Establish reporting to Advisory Board and ESG Gaming board bi-weekly during build phase				
Platform Awarding Body approval							
P1	Project not awarded assured status by awarding body	Sept-23	Longstanding relationship with Awarding Body which aids communication and knowledge of timelines	Chair Advisory Group	3	3	9
			Deliver training to Advisory Group on Awarding Body Standard				
			Having early conversations with awarding body, so project can be factored in to their planning timeline				
Platform reach is low							
L1	Platform reach results in low transition of consumer interest	Sept-23	ESG Gaming Directors and partners are well connected and leaders in the sector. Very well known and high respected	Board / Chair Advisory Group	2	2	4
			Robust marketing strategy to be developed with clear measureable outcomes, which are reviewed at every board. Use of paid media is an option if required.				
			Relationship with Trade Press, regulators, Gaming publishers, Govt departments is strong and will be used to used raise awareness.				



Relevant research & references

For further reading, we have documented some additional research and associated references in the following pages

Negative outcomes for game players

- Gaming is associated with negative outcomes for players in social and economic wellbeing, and health (1)
- Both game and gamer characteristics are associated with negative consequences of gaming (2) but causal relationships to health outcomes are actively debated (3)
- Core features of popular 'Play to Earn' web3 games (earning points, managing in-game resources) are also those rated most highly by problem gamers (4)
- Digital convergence and 'gamblification' has blurred boundaries between gambling & gaming, with the rise of gambling and gaming ecosystems (5)

(1) Problem Gaming: A Short Primer, Green et al., 2018

(2) An Overview of Structural Characteristics in Problematic Video Game Playing, Griffiths et al., 2017

(3) A weak scientific basis for gaming disorder: Let us err on the side of caution, van Rooij et al., 2018

(4) Understanding the mechanics and consumer risks associated with play-to-earn (P2E) gaming, King et al., 2022 The evolution of young gambling

(5) studies: digital convergence of gaming, gambling and cryptocurrency technologies, King et al., 2023

Game and gamer characteristics associated with problem gaming

- Some characteristics are more associated with problem gamers e.g., personality traits like impulsivity (1)
- Some of these characteristics are also associated with participation in gambling-like activity (2)

(1) Novel approaches for treating Internet Gaming Disorder: A review of technology-based interventions

(2) A scoping review of the association between loot boxes, esports, skin betting, and token wagering with gambling and video gaming behaviours

RESEARCH AND REFERENCES

References for severity of negative outcomes mapping on page 17 and 18

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