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[ONLINE VIDEO GAMING AND SOCIAL MEDIA INDUSTRY – LAWS AND POLICIES FOR REGULATION IN THE BEST INTEREST OF CHILDREN AND YOUNG ADULTS]

This paper exposes how the Online Video Gaming and Social Media Industry is made addictive by design and has converted into and "Online Tracking Industry" that thrives on User Data and Profile tracking. It exposes how the player is not playing the Online Video Game – instead the Game is playing the Player. It gives solution for the – (a) law and policy makers, (b) teachers and schools, and (c) parents and guardians, so that the risks and damages can be mitigated. This paper brings out a need for rating system to rate the Online Video Games and Social Media on the basis of its – (a) addictive properties, (b) violent and sexual content, and (c) privacy and security features.

CHANNELISING DIGITAL MEDIA IN THE BEST INTEREST OF SOCIETY

DIGITAL MEDIA & SOCIETY

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I. INTRODUCTION

Recently there was news of ban of the PUBG mobile game in Gujarat and arrests of some young adults who were playing the game. This made the whole nation to take notice of a phenomenon that a majority of the population is facing but for which there is very little attention from – (a) law and policy makers, (b) teachers and schools and (c) parents and guardians. PUBG Mobile is undoubtedly one of the most popular mobile games in India. Tencent, the makers of PUBG have received flak for not doing enough to prevent children from getting "addicted" to the game, for affecting their studies and affecting their overall behaviour due to the promotion of gun violence in the game. The ban and news around it has triggered a national conversation around regulating online gaming in India. When we look around and talk to people in general, almost everyone is facing the problem of people spending more than desirable amount of time looking into the screens of their smart phones. But, very few have an understanding of the reasons of the malaise and what could be the solution.

What needs to be discussed and understood is the lack of laws and regulation surrounding gaming in India, the lack of any law requiring compliance with international guidelines and rating systems and the nuanced difference between – (a) An Online Game being objectionable due to its violent and sexually inappropriate content AND (b) The addictive nature of the Online Game. And then the differential adverse impacts of "Violent and Sexually Inappropriate Content" and "Addictive Nature" of the Online Games upon children and adults also needs discussion and solution.

The lack of appropriate laws and regulatory mechanisms is leading to orders such as the ban of PUBG under Section 144 of the Criminal Procedure Code, 1973, the same provision used for internet shutdowns. There are laws that deal with factors like content regulation and intellectual property violation. However, none could apply to PUBG, since prima facie the issue is not with its content (except for children), but the extreme addiction it triggers. India has a number of regulations in relation to content. Examples are –

1. Indian Penal Code, 1860,

2. Information Technology Act, 2000,

3. Protection of Children from Sexual Offences Act, 2012

4. Indecent Representation of Women (Prohibition) Act, 1986, which prohibit obscene or sexually explicit content, and

5. Young Persons (Harmful Publications) Act, 1956, which prohibits violent content

The Young Persons (Harmful Publications) Act, 1956 applies only to publications in the nature of 'books, magazines, pamphlets, leaflets, newspapers, and the like', indicating that it may not apply to content in the nature of video games. A key factor is that these laws only prohibit the publication and distribution of such content.

With the exception of such content in relation to children, the creation and consumption of such content is not prohibited. But, the problem also is that there is no mechanism for age verification of the Online Gamers.

One of the more vexing concerns in this age of ubiquitous and unrelenting data collection is figuring out what should be done to safeguard the privacy of our children online. The draft Personal Data Protection Bill prepared by the Justice Srikrishna Committee attempts to address this issue by requiring those who collect data from children to implement mechanisms for age verification and parental consent. While on the face of it, both these measures seem perfectly reasonable, there are practical problems inherent in each of them that must be carefully considered before the government commits to implementing either.

In the first place, when it comes to age verification, the only reliable method is to check a person's identity documents. That being the case, it seems inevitable that once the Bill becomes law, internet companies will demand proof of identity from all their users—young and old—before signing them up. This is a fundamental change to the way things are currently done

and will radically transform the basis on which much of the internet, as we know it, functions. Today your online identity can, for the most part, be appropriately dissociated from your real world identity. **However, once the law requires internet companies to verify the age of all their users, the basic anonymity we have come to cherish will quickly disappear.**

The deeper consequences of this decision will only be understood when examined in the context of the second stipulation set out in the Bill — that parental consent should be used as an additional measure to protect the privacy of children. Parents are the legal guardians of their children, and it seems reasonable to assume that they will always act in their best interests. In the online context, however, evidence has shown that this is not always the case.

Therefore, before making any law for banning or devising any regulatory mechanism for Online Gaming, it is very important to understand –

- ➢ **What are the factors that lead to high popularity and high usage of Online Video Games and Social Media?**
- ➢ **What is the business model of the Online Video Games that is prima facie available free of cost for the players?**
- ➢ **How do the Online Gaming Companies form partnerships with Social Media Companies?**
- ➢ **Why and How the Online Games are made addictive by their promoting Companies?**
- ➢ **How high usage and addiction leads to more business for Online Gaming and Social Media companies?**
- ➢ **What is the solution at the law and policy level to ban and/or regulate production, publication, distribution and consumption?**
- ➢ **With respect to children, what is the solution at the prevention level and what are the precautions to be taken up by – (a) parents and guardians, (b) school and teachers?**

II. FACTORS LEADING TO ADDICTION TO ONLINE GAMING AND SOCIAL MEDIA

The factors contributing to the addictiveness of PUBG and Online Games of similar nature include that it has come at a time when smart phones are ubiquitous and data packs have become affordable, not to mention the fact that the game itself is easily accessible on play stores and is available free of charge. Each of these factors increases the wide reach and addiction the game is triggering.

Today's digital devices are –
   a) **Immersive,**
   b) **Interactive,**
   c) **Portable, and**
   d) **Ubiquitous.**

There have been report of Video games being addictive and prone to inducing "Gaming Disorder", but the new generation **online video games are wholly immersive**. These are huge digital landscapes that unfold in eye-popping detail and the nuanced gaming characters evolve in structured and looped manner. Online Video Gaming is a multi-million dollar industry. **The gaming companies** deliberately design them with the help of neurobiologists and neuroscientists to hook up electrodes to the test gamer, to make players want to keep playing. The online video games are made available on every platform — gaming consoles, computers, smartphones. Teenagers today are more tethered to the new multi-media applications that are powered by latest and most advanced technology than any of their previous generation. The "digital natives" are playing more sophisticated games at younger ages than their parents ("digital immigrants") ever did.

The games have been hugely criticized for them being especially tweaked and designed to make them as an escape from human interaction. But today's games like PUBG offer a different sort of social connection. Today's games are MMOs (Massively Multiplayer Online Games) that allow gamers to play together from any place at any time, and many describe a powerful sense of attachment to those who share this virtual space. Logging off is made that much harder, more by design than chance, for kids who feel a very real bond to their online friends and teammates. This has resulted in a big rise in the number of parents who are worried that their children are getting addicted, or at least compulsively attached, to the online video games.

While there is no research based evidence proving video games as reasons for school shootings and everything else under the sun (as many media reports and many sensationalist activists keep saying), they do have a significant effect on our psychological well-being. The suspense, combined with the high-end sophisticated audio-visual effects and rush of acquiring a new item and thus unlocking more of the game creates an integrated experience that releases an excess of dopamine.

These effects and design choices are similar to the neurological effects that a gambler gets from winning, or a smoker gets from having a cigarette, or a drug uses from getting a dose of cocaine. This can lead a person who plays online video games for long hours to find real world activities to be significantly less entertaining or not worthwhile. The ease at which someone can get a rush from gaining a level or beating a stage can greatly outweigh the desire to put significant effort into work to achieve the same innate rush of success.

Most notably, video games are deliberately designed around taking advantage of our dopamine reward systems.
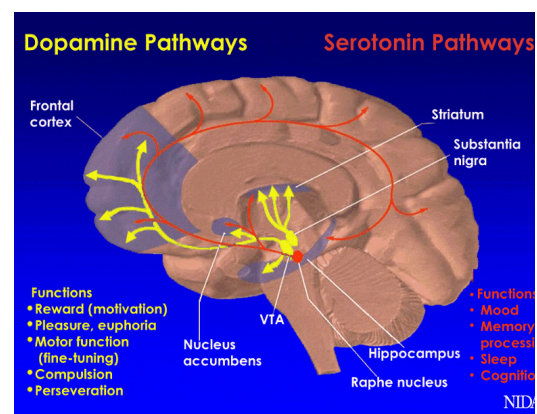
Dopamine is a neurotransmitter in the brain which is primarily associated with feelings of pleasure and motivation, although dopamine plays many, many roles in the brain. The role dopamine plays depends on a few factors and is influenced by the types of neurons it is associated with. Our voluntary movement is completely dependent on dopamine secreted in the basal ganglia. It is also used in the prefrontal cortex to improve our working memory. This means it is also responsible for much of our ability to learn, an effect which is taken advantage of by video game designers to teach the players the ins and outs of their game mechanics.

This is one of the most impactful effects of video game addiction. Since dopamine is tied with our reward center, the relatively simple and designed-to-be-learned elements of videos games can make the more challenging things to learn in life more difficult, as it will take more effort to retain the facts/skills and one will not feel as motivated to pursue the act of learning.

By extension, dopamine also plays a major role in attention. It works by responding to information in the optic nerves, filtering the information in the higher mind to focus on pertinent tasks. This also means it is responsible for what information is in our short-term memory, further impacting dopamine's role in learning.

Dopamine also plays a major role in pleasure, pain, and mood. It is the neurotransmitter primarily associated with how we regulate experiences, thus determining how we perceive these experiences. It has been called the "molecule of happiness," because it is what is linked to feelings of satisfaction and enjoying life's activities. These effects multiply when a person is depressed or does not have other sources of pleasurable activities in their lives. With many children growing up with video games being one of their primary sources of entertainment, this has a sociological effect of entraining whole generations into a lifestyle obsession, with an unconscious disconnect from the real world.

Reward mechanism of online video games are a simple means to trigger dopamine rushes, creating an effect where those who have immersed themselves in digital worlds are conditioned

to feel a specific rush of "feeling good" which is not readily activated through other activities. This is similar to the effects of drugs like cocaine that inhibit the re-uptake of dopamine and which causes extended feelings of pleasure. It also causes us to feel less satisfied from future releases of dopamine. It is this process of diminishing returns that leads people to seeking more and more of a drug to feel the same effects, and what leads to feeling terrible when one stops taking drugs. Online Gaming becomes a means to shut off the stress and triggers of daily life in order to relax and feel a sense of accomplishment when everything seems to be acting against the players.

> **This dopamine reward systems, though problematic and a cause for over use and addiction, would not have been unethical, had this been happening in the natural course of events. But the main issue is that dopamine reward system can be "hacked". Completing a task and getting an in-game reward triggers a real chemical reward in our brains, and games often encourage us to ride that wave of good feelings and move on to the next task (where there is also a reward).**

These cycles are called "compulsion loops," and if one has ever played a game, one would have probably experienced one. Here's how they typically work:

1. The player gets a task to complete and the promise of a reward at the end (motivation)
2. The player is given a clear pathway to completing the task (an achievable challenge)
3. The player completes the task and gets the reward (dopamine hit!)
4. The player gets another task, formula repeats

We complete quests, kill monsters, open loot boxes, and do repetitive tasks with minor variations in mechanics and settings because the games are built in such a way that we are never too far from the next neurochemical party – and this is what we enjoy in Online Video Games. This isn't inherently bad – levelling up, exploring new worlds, experimenting with new items, and most other game elements are there because they make us feel engaged and excited. These positive compulsion loops are essentially a more concentrated form of what we experience in real life. Whether we are getting a promotion at work, upgrading our

smartphone, or making new friends, our brain is giving us positive feedback and telling us to keep up the good work. **What makes online video gaming potentially problematic, though, is when we don't have a clear exit out of the compulsion loop cycle. And even more problematic is that we are under the control of a "Hacked Dopamine Reward System". We, in fact, are not playing the game – the game is playing us!!!**

> What makes online video gaming potentially problematic is that the players do not have a clear exit out of the compulsion loop cycle. And even more problematic is that the player is under the control of a "Hacked Dopamine Reward System". In fact the player is not playing the game – the game is playing the player.

By timing the challenges and rewards well, a game can give us a pleasant feeling of competence and continuous improvement, which can, in turn, be pretty much perpetual – one can always improve at something in the game.

There are some very popular games that literally require players to work on a farm, drive a truck, or do some other job that we wouldn't be so keen on in reality. This is partially because it's something one can feel good at (competence), but even more so because they grant us autonomy (but which actually is fake autonomy). No boss, no threats of failure, just the player, creating his/her own reality and which is now happening in MMO (Massively Multiplayer Online settings)!

Being part of a team and working well with others is a fantastic way to get our dopamine flowing, and as a side benefit to game developers, having other people depending on us makes it more likely that one will consistently show up to play the game. Games can actually be a great way to form friendships and strengthen social bonds, but developers can also leverage relatedness (play with your friends! Invite your friends! Compete for high scores with your friends!) to maintain our interest. There is conspiracy to keep us logged in and connected.

One often wonders whether we own our technology or our technology owns us. Our use of technology changed from a tool we want to use into a tool we must use. The devices and

services have crept further into our personal lives, demanding more of our attention and engagement.

But, why do we behave the way we do? Why are we always hooked to the digital devices? Is there someone who is planning and plotting to keep us using more and more of social media and online gaming? We need to understand that most of the content we consume online is also watching us, recording us, and building a digital

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We binge on a lot of things in the modern world – TV shows, video games, food, alcohol, social media, and all the other menu items available at our modern-day dopamine buffet. It's great in the sense that we've never had so many options for enjoying life, but it also means that the companies responsible for serving up the feast are highly incentivized to keep us logged in and using their Online Gaming and Social Media applications.

As mobile games and in-game payment models become the new norm in video gaming, we are in for a whole new generation of carefully-tailored compulsion loops that most people will find hard to resist. Who likes saying no to some free dopamine? As game consumers, if one finds a game using compulsion loops without a satisfying end in sight, the game may be taking more from the players in terms of time than what they are getting back in terms of enjoyment.

In the case of Children, one of the most critical issues with Digital Technology is the impact on their digital identities over their life course. This digital identity is extremely dynamic and keeps changing and updating as the software platforms are constantly busy in the acquisition and processing of information (updates, photographs, additional information). The most significant player in the construction of digital identity is the host of online gaming and social media services that collects and utilizes the personal data, more often than not for economic purposes. Within this context, the data that is collected from and of children may, at any uncertain point in the future, be utilized and analysed by indeterminate algorithms, for indeterminate clients, to create digital identities or to perform any operation in the digital space, of which the individuals/children are unaware and have no control.

> **So, in nutshell it is an online tracking industry that runs on a hacked dopamine reward system. It thrives on – (a) keeping us logged in and using the online video games and social media more and more, and (b) making us lose our agency ("agency" means independence of our thought and decision making). The Companies earn money on the basis of these two hard realities and their business model is anything but ethical.**

III. BUSINESS (MONETISATION) MODEL OF ONLINE GAMING AND SOCIAL MEDIA INDUSTRY

Persistent identifiers are the main fuel of the online tracking industry. These are used by the companies to learn the websites that we visit and the apps that we use, including what we do within those apps, mostly in violation of the laid down policies. A persistent identifier is just a unique number that is used to either identify us or our device. Examples of persistent identifiers used in real life are our Social Security Number and phone number. Cookies use persistent identifiers to identify us across websites and apps.

On our mobile device, there are many different types of persistent identifiers that are used by app developers and third parties contacted by those apps. For example, one app might send an advertising network our device's serial number. When a different app on our same phone sends that same advertising network our device's serial number, that advertising network now knows that we use both of these apps, and can use that information to profile us. This sort of profiling is what is meant by "behavioral advertising." That is, they track our behaviors so that they can infer our interests from those behaviors, and then send us ads targeted to those inferred interests.

In 2013 with the creation of the "ad ID": both Android and iOS unveiled a new persistent identifier based in software that provides the user with privacy controls to reset that identifier at will (similar to clearing cookies).

Of course, being able to reset the ad identifier is only a good privacy-preserving solution if it is the only identifier being collected from the device. Imagine the following situation:

1. An app sends both the ad ID and the IMEI (a non-resettable hardware-based identifier) to a data broker.
2. Concerned with her privacy, the user uses one of the above privacy settings panels to reset her phone's ad ID.
3. Later, when using a different app, the same data broker is sent the new ad ID alongside the IMEI.
4. The data broker sees that while the ad IDs are different between these two transmissions, the IMEI is the same, and therefore they must have come from the same device. Knowing this, the data broker can then add the second transmission to the user's existing profile.

In this case, sending a non-resettable identifier alongside the ad ID completely undermines the privacy-preserving properties of the ad ID: resetting it does not prevent tracking. For this reason, both iOS and Android have policies that prohibit developers from transmitting other identifiers alongside the ad ID. For example, in 2017, it was major news that Uber's app had violated iOS App Store privacy guidelines by collecting non-resettable persistent identifiers. Tim Cook personally threatened to have the Uber app removed from the store. Similarly, Google's Play Store policy says that the ad ID cannot be transmitted alongside other identifiers without users' explicit consent, and that for advertising purposes, the ad ID is the only identifier that can be used. But, there are lots of violations by the online gaming and social media industry (read online tracking and profiling industry!).

How Do Mobile Games Make Money? Most Popular Monetization Models

The meteoric rise in mobile device popularity and technological capability has fueled the extremely popular mobile app industry. Mobile games are amongst the most popular types of apps — in 2017, 80% of all app revenue came from gaming apps for both the Apple iOS App Store and Google Play Store. The global gaming market was targeted to reach $115 billion in 2018; the mobile gaming industry accounts for $50 billion dollars in all of global gaming revenue. Thus it is clear that the mobile app industry is lucrative and continuing to grow in size each year.

How do mobile games make money? Game monetization is the method by which a game product makes money for its developers and copyright owners. There are various revenue models that mobile games use to generate profit.

Mobile games have come a long way since the days of playing Nokia's Snake on a tiny screen. The first known mobile game was a prehistoric version of Tetris, installed on a mobile phone called Hagenuk MT-2000 in 1994. The launch of Apple's App Store in 2007 marks the early days of mobile gaming as we know it today. Developers flooded the marketplace with games, many

of which were incredibly addictive. Some early hits have faded from memory (Angry Birds, est. 2009), while others remain dominant in popularity (Candy Crush, released in 2012).

Mobile gaming apps have never been more sophisticated and new developments like real-time multiplayer abilities, livestreaming, and cross-device synchronization continue to drive industry growth. Another growth factor is the explosion of social media interest in gaming on platforms like Twitch and YouTube. As of April 2018, top mobile games like Fortnite and Candy Crush Saga earned more than one million dollars in *daily* revenue on iPhones alone.

The very first gaming apps fell into one of two broad categories: 1. Free Mobile Games (sometimes monetized through ads); **2. Paid Mobile Games (just a single upfront payment).** Now, gaming monetization models have become significantly more complex and varied. The lucrative nature of mobile gaming influences game design and development, so creators can profit from their games.

Methods Used To Monetize Mobile Game Apps

FREE MOBILE GAMES

Free-to-Play (F2P or FTP) games are free to initially download, but require payment for various upgrades.

Freemium games are free to download and play but offer small in-game purchases known as micro transactions. The top grossing mobile games in 2018 have all been freemium model games, for example Clash Royale, Fortnight Battle Royale, and Candy Crush Soda Saga.

Micro transactions allow players to purchase additional virtual goods like extra game play levels, cosmetic skins, exclusive gear (e.g. armor, shields), loot boxes, or in-game currency. In-game purchases vary - some enhance the player's power or speed up their progress within the

game, while others are entirely cosmetic. An example of a micro transaction for a role playing game (RPG) is a player purchasing a limited-edition potion which gives their character special powers that would be otherwise very difficult or time-consuming to obtain via normal game play.

Since the purchases are usable within the game, micro transactions are especially tempting for avid, devoted players. Micro transactions can potentially lower the skills barrier needed to progress within the game, which can make the game feel out-of-whack for those who choose not to spend. Game developers must be very careful in designing micro transactions so that don't significantly unbalance competition between players or worse, make players feel extorted (i.e. feel like they *must* spend their money to be able to function within the game).

Advertising model games are typically free, but contain ads as a means of revenue.

- **Display ads** are the most standard type, which can include static ads, dynamic display ads, banner ads, video ads, and pop-up ads. Neko Atsume occasionally inserts dynamic display ads as a small banner at the bottom of the screen.
- **Interstitial ads** are ads that are shown automatically in intervals. Interstitial ads are common for games with a level-up progression since they can be displayed between levels where there is a natural break in the gameplay, making them relatively unintrusive. For example, Ray-Man Adventure requires the player to watch a 30-second video after beating a level.
- **Incentivized ads** offer an in-game incentive, like an in-game currency or a boost, in exchange for interacting with an ad (e.g. watching a video ad). Puzzle game Candy Crush will offer to give users a bonus if they watch a short video before beginning a new level.
- **Contextual ads** are integrated into gameplay, often as branded gameplay objects or branded storefronts within the scenery of a game. Think branded Pokestops in Pokemon Go or billboards on the streets of Grand Theft Auto.

Shareware model games will allows the player to play a free trial or demo version of a game, but require payment to unlock the full game license. Shareware gives free users limited game play compared to the full game - the idea is to entice users to pay for the game once they've gotten a taste. This model is somewhat outdated as the vast majority of mobile game developers have embraced freemium.

PAID MOBILE GAMES

Up-front payment model applies to games that are purchased via a one-time payment then downloaded directly onto a mobile device. A few popular examples of paid games include Minecraft, NBA 2K18, and Grand Theft Auto: San Andreas.

Subscription model games charge a recurring fee to continue playing them, usually on a monthly basis. It's uncommon for mobile games to use the subscription model - it's more frequently used for massively multiplayer online games (MMOs) and other video games that require continuous server hosting and administrative overview in order to operate. Mobile games don't lend themselves to a subscription model in part because they tend to be fleeting in popularity. Consumers tend to grow bored of mobile games, constantly looking for a novel diversion.

That said, chief marketing officer Al Campa of the business intelligence form App Annie predicts "I think you'll start to see subscriptions making their way into gaming." The success of media apps like Netflix and Spotify suggest that there's a market for paying a monthly subscription to access collections of games. "The gaming world needs to continue coming up with new hits all the time," explains Campa.

MONETIZING MOBILE GAMES IRL

Mobile games with a strong brand and fan base can tap into revenue streams outside of the app itself.

Event marketing hosted by game creators bring together an army of avid gaming fans. From huge conventions like E3 and VidCon to regional competitions, gaming fiends are eager to connect with fellow fans at events. Other in-person events that draw die-hard fans include charity tournaments, festivals, and one-off experiential events. These photogenic, interactive events create photo-worthy moments for selfies, videos, and tweeting, which helps them to amplify the brand's message beyond those in attendance. There's significant opportunity to sponsor an event to further establish a gaming brand.

Merchandise is another outlet for mobile gamers to bring in revenue. Zealous gaming fans will don T-shirts and snap up collectible merchandise as an extension of their love of the game. Popular games, as well as cult indie games, can commoditize their brands by producing merch.

Tricks to Push Users to Make Purchases While Playing Addictive "Free" Games

Game developers have come up with truly ingenious tactics to make their games profitable. Leveraging a sizable pool of user behavior data, game creators learn to push the buttons of their gaming community. Game developer companies with a large roster of titles can test out different tricks and dedicate manpower towards marketing various upsells.

Whales, named after high rollers at casinos, are players who spend a disproportionate amount compared to other players. Although gaming apps aim to draw revenue through all of their players, they tend to make the bulk of their earnings from a smaller subset of devotees.

VIP Programs are an emerging tactic to retain power-users who are deeply devoted to the mobile game. Extra bonuses that come with membership can include performance enhancers that give a competitive advantage, elimination of advertisements, customer service support

In addition, some mobile games [World of Tanks Blitz, Poker King, TMNT Legends] offer a monthly VIP or premium tier accounts, which offer game play bonuses within a pre-specified timeframe.

Special offers can lure an apathetic player by giving them a strong incentive to make a purchase and get back in the game. Like an e-commerce display ad showing that an item once abandoned in a shopping cart has since gone on sale, special offers are all about timing and knowing one's audience.

A once avid player hasn't opened the app in over a month? Offer a discounted starter pack for a hot new game. Is a player grinding to beat a boss? Tempt them with a special booster pack that will help them build skills more quickly. A user is obsessed with customizing their avatar character? Sell them a pack of limited-edition skins or clothing.

Game creators can market offers via emails, push notifications, and in-game banner ads. This makes the messaging almost inescapable to a heavily invested player. In a sense, it's unsurprising that mobile games are so lucrative. Considering the domestic market alone, 77% of Americans have smartphones and are virtually always with them. People frequently look at their phones out of habit and boredom and mobile games provide an instant dose of entertainment. The industry is ripe with potential for customer loyalty and a large customer lifetime value.

INFLUENCER MARKETING FOR MOBILE GAMES

Mobile games are a great fit for influencer marketing partnerships because they appeal to all demographics and have a low barrier to entry. Since the majority of people own a smartphone and have access to mobile app marketplaces, a game download conversion can happen with just the tap of a smartphone.

Mobile games lend themselves well to videos and screenshots, meaning that creators can easily develop visually compelling content that will showcase video games in action. More and more video streaming platforms promote gaming as the industry continues to expand. Influencer marketing will continue to play a role in mobile app monetization going forward.

Although freemium is currently the dominant form of monetization, the ever-changing industry will continue to evolve. It's possible that subscription to access a library of games (ala Netflix) or a new game-changing monetization model will crop up as mobile gaming continues to evolve.

IV.   THE PROBLEM AND ITS SOLUTION

The main problem for the children and young adults posed by the Online Video Gaming and Social Media Industry are –

1. **Online Video Gaming is potentially problematic because the players do not have a clear exit out of the compulsion loop cycle. And even more problematic is that the player is under the control of a "Hacked Dopamine Reward System". In fact the player is not playing the game – the game is playing the player.**

2. *But, why do we behave the way we do? Why are we always hooked to the digital devices? Is there someone who is planning and plotting to keep us using more and more of social media and online gaming? We need to understand that most of the*

content we consume online is also watching us, recording us, and building a digital version of us. That digital version of us is quite valuable. So the *true* owners of technology need us to be as engaged in the technology as possible. Because WE are the product they are selling. Our Digital Identity and our Online Behaviour (tracked by algorithms of the Digital Media companies) are the products.

3. In nutshell it is an online tracking industry that runs on a hacked dopamine reward system. It thrives on – (a) keeping us logged in and using the online video games and social media more and more, and (b) making us lose our agency ("agency" means independence of our thought and decision making). The Companies earn money on the basis of these two hard realities and their business model is anything but ethical.

4. With the exception of content of the Online Video Games (violent and sexual) in relation to children, the creation and consumption of such content is not prohibited. But, the problem also is that there is no mechanism for age verification of the Online Gamers. There is no provision for Online Video gaming and Social Media Industry to be regulated for the reason that it is addictive.

5. It is also very difficult technically to monitor and regulate huge number of apps for violation of AD ID sharing policy. They very frequently share persistent identifiers of the users along with the AD ID and it is very difficult to check and contain and by the time it is contained much damage has been done. This makes the Online Tracking Industry flourish and lucrative. It is also an incentive for the Online Video Gaming and Social Media Industry to have us logged in maximum numbers of hours so that we can be tracked and products and advertisements be pushed, especially when we have compromised our agency (independent thinking) under the influence of the 'hacked dopamine reward system".

There are two levels at which the solution to this menace can be sought – (a) Law and Policy and (b) User level, monitored by parents, guardians, teachers and school.

There is a need for rating system to rate the Online Video Games and Social Media on the basis of its – (a) addictive properties, (b) violent and sexual content, and (c) privacy and security features. This rating has to be done for safety of its users age-wise. This rating should be a basis of accreditation.

The accreditation may be used in two ways –

1. By the law and policy makers to regulate and/or ban any application – wholly or for a certain age of users. This action taken selectively for certain age of users (children and young adults) will require age verification of the users on the basis of documents (not self declaration). Yet this would be difficult for selective ban or regulation.

2. By the parents, guardians, teachers and schools as well as by the users themselves to play and use with caution and discernment.

The situation is so complex and difficult to be monitored and regulated centrally by legal and policy mechanisms that it is more prudent to seek solutions at the Users' discretion, discernment and caution level. The educational institutions should take upon themselves, with the help of experts and NGO, to build the knowledge and skills of children and young adults to be safe and secure. The well meaning leaders of the Online Gaming and Social Media Industry should also come forward towards this cause of safety, security and data privacy of children and young adults.