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A STUDY OF ARTIFICIAL INTELLIGENCE WITH SPECIAL REFERENCE TO METAVERSE AND ITS EFFECTS ON INTELLECTUAL PROPERTY RIGHTS IN INDIA

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Abstract

Artificial intelligence is spreading its roots in various fields, using the concept of enabling computers to learn and perform complex tasks that previously required a lot of human effort. Systems powered by artificial intelligence can analyse and respond to various data security breaches in real time. Every individual is now surrounded by AI and they somewhere depend on them. Metaverse is one of the branch of AI advancement which is paving its ways faster in human lives. AI has emerged as a vital component in the development of Metaverse. Metaverse is a virtual reality and augmented reality universe which helps people to make social connections virtually. From sitting at a place an individual can connect to any corner of the world and can live a moment as well. Recently Facebook has connect itself with Meta business like wise many companies are heading towards the Metaverse. Companies are using technology which make and create virtual world for the users but the challenge is with respect to intellectual property rights. When companies are using such technologies whether they can claim IP rights over their innovation or not. The concept with IPR and metaverse is crucial because it may raise questions with regards to rights on the invention, infringement of piracy etc. This paper explores the intricacies of determining the rightful ownership of content produced by AI agents within the metaverse. This raises concern over the legal regulations of metaverse with IPR. This research delves into the futuristic challenges and opportunities in IPR with metaverse.

Key words: Artificial Intelligence, Metaverse, Virtual reality, Augmented reality, IPR

Introduction –

The Metaverse, often described as a collective virtual shared space, is rapidly evolving and gaining ground in our digitized world. The world has moved into digital era that offers innumerable specialized technical tools and new opportunities every day. In this virtual era, unique and new aspects and ideas of virtuality are on the agenda. Metaverse is certainly one of them. The metaverse is a digital - virtual space that permits you to have a communication with other people, you can find unknown places and object online. The design and functionality of digital – virtual world has provided a platform to people through which they can work, shop, play or communicate through their digital avatars in a common space. The concept of a metauniverse began to penetrate into everyday life through striking examples. In April 2020, the virtual concert of American rapper Travis Scott was attended by more than 12 million people¹.

It integrates various technologies including AI, to create immersive, interconnected virtual environments. As the metaverse becomes an integral part of our daily lives, it brings many numerous and ethical concerns with IPR standing at the fore front. There are questions related to metauniverse which are unresolved and unanswered even now, such as How is "ownership" defined in digital art? Is ownership limited here to just licensing and providing the service? Taking into account that the metauniverse is a limitless market; When personal data of an individual is stored and users connect profoundly with each other, and thus it is obvious that this may lead to some legal problems. However, such questions are still being debated.

AI and Metaverse...why it is in huge use ?

AI is not defined anywhere, yet AI frameworks are frequently depicted as “innovative, autonomous, independent, rational, unpredicted, evolving, developing, capable of data collection, communicative, effective, accurate, and having free decision among choices”. Artificial intelligence has become an important pillar of Metaverse. Metaverse is a virtual - augmented reality where users can have an interaction with each other, they can play and build things just like in the actual world. Users can interact with digital 3 Dimensional objects and virtual avatars.

¹ ANYUR AYDIN, THREE-DIMENSIONAL LAW METAVERSE LAW RESEARCH GATE (2023), https://www.researchgate.net/publication/368469297_THREE-DIMENSIONAL_LAW_METAVERSE_LAW (last visited Sep 13, 2023).

Metaverse is experienced by the millions of the users in real time and every second it is updated by creating a large amount of information², Artificial intelligence is necessary to process such data and to ensure the smooth operation of Metaverse. Artificial intelligence can project real movements, facial expressions, emotions into virtual Metaverse users using body language and speech. Artificial intelligence can be used to synchronize the speech of the user with the lip movements of the avatar³.

AI can also simultaneously translate users' speech in the Metaverse and make it easier for people from different nations to access it. One possible way to use artificial intelligence could be to detect illegal user activity. The distinction between the virtual and Metaverse worlds will become increasingly hazy due to the influence of AI. AI can be used by developers to persuade users to spend a lot of time in the Metaverse.⁴

The concept of Metaverse is huge. To begin with, there are different metaverses and some focus on specific activities like sports or gaming. Meta vision is a 3Dimensional social media platform that enables personalized communication based on artificial intelligence for every user. In addition, Metaverse can also be a centre for information, entertainment and work. It will probably become the next version of the Internet.

Metaverse is becoming so much popular today due to several key factors. At first, it's driven by really cool technology like virtual reality and augmented reality that allow us to explore immersive digital worlds.

And some other reasons may be, in the Metaverse we would be able to do all those things that we are doing in the real world, we could be able to attend the meeting while remaining at home only, distant learning would become more easy, etc. also Metaverse is a place where brand can connect with audience and can create their customer base. Many brands such as nike, vans have their own virtual worlds⁵.

² Luca sambucci, How will AI power the metaverse ? (2022) ,www.artificialintelligence.news/how-will-ai-power-the-metaverse (last visited Sep 13, 2023)

³ Monica J. White, What is the Metaverse? A deep dive into the 'future of the internet', (2021), www.digitaltrends.com/computing/what-is-the-metaverse-the-future-of-the-internet-explained (last visited Sep 13, 2023)

⁴ *Supra Note 2.*

⁵ Bernard Marr, 5 Reasons to Still care about The Metaverse, (2023), <https://www.forbes.com/sites/bernardmarr/2023/08/03/5-reasons-to-still-care-about-the-metaverse/?sh=743974264e04> (last visited Sep 13, 2023)

Major players in the tech industry like Facebook (now Meta), Google and Microsoft are making significant investments to make the metaverse a reality, suggesting it could be the next big thing. The COVID-19 pandemic has increased our interest in virtual workplace, making the metaverse more attractive. In addition, it offers new ways to make money, from buying virtual land to selling digital objects and organizing virtual events, attracting entrepreneurs and investors.

NFT (non-fungible tokens) popularized the concept of digital ownership and this idea extends to the metaverse where you can buy, sell and exchange digital assets. Gaming has played a huge function in introducing the social interplay capacity of digital - virtual worlds, with video games like GTA V, Fortnite, and so forth. giving us a flavour of what is possible. it's far essential to take into account that the metaverse is still in its early years, and its long-term impact on society and technology is not known to us till now, it is something we are still figuring out. In addition to that, the acquisition of "virtual lands" by multinational corporations and individuals to assert territorial control in the metauniverse suggests that this has now become a normalized phenomenon.⁶

Why it is a matter of study?

The emergence of the Metaverse is very much beneficial to the human kind, but however, the challenges relating to IPR are also increasing. While talking about the legality of the actions committed by the digital avatars, which are created and controlled by the humans within the Metaverse is in discussion and not yet develop completely. It is a fact that Metaverse feels 'real' and on the basis of this only there is demand to apply actual world laws to regulate it. But it going to be difficult to decide which rights of the people is to be protected, for eg. right against mental/ physical assault, but in order to prove a case of assault, element of bodily harm is necessary which is not possible virtually, while the rights against the Sexual harassment can be applicable as it doesn't require physical touch. There was a case in which it was proved that the women was sexually assaulted in the Metaverse⁷. Likely, IPR are the creations of the human intellect and intelligence, their applicability will naturally transcend the real virtual border. And also as the Metaverse is a fastly growing virtual world which creates number of opportunities for businesses and individuals and more and more companies are moving to the good side of

⁶ *Supra Note 1.*

⁷ Ashish Deshmukh, Intellectual Property Rights in the Metaverse, (2022), <https://ijclp.com/intellectual-property-rights-in-the-metaverse/> (last visited 13th September, 2023)

the Metaverse, the importance of IP becomes even more important. Thus it creates a need for the establishment of mechanism in order to protect them. Different types of IPR apply to the Metaverse. Copyright law covers virtual objects created by users, such as avatars, buildings and landscapes. Trademark law protects logos and other branding material used in the virtual world, while patent law applies to technological advances that occur during the development of metaverses.

Potential Challenges –

1. Copyright and Metaverse : Copyright laws are made in order to protect the original work of the creators and to provide absolute rights to them over their work. Most common copyrights in the Metaverse are the software applications helping in the creation of the Metaverse, however, the virtual world is a kind of combinatory inventions, which consists of various dramatical, artistic musical works, etc. on which separate copyright claims can be made⁸. As the Metaverse continues to grow, new copyright issues are also emerging such as avatar rights, virtual property rights and the creation of the user generated content. Avatar rights can be referred to as legal rights as the user can create and control the avatars created by them and no other user can use this avatar otherwise it would be a case of infringement. Virtual Property rights refers to ownership of virtual assets as Virtual environment is growing, such property shall have the potential to generate income. However, with the involvement of more artists, software developers, and other stakeholders in the metaverse, the copyrights challenges and disputes are likely to be increased⁹.
2. Trademarks and Metaverse: A trademark is a unique symbol, logo, names, etc. that distinguishes particular goods and services from others. If a symbol which is protected by the actual world laws then, it holds the exact same status in Metaverse also¹⁰. Metaverse is a boon for the companies as it provides a ground for the promotion and marketing of their trademarks in a very cost effective way. Trademarks in the metaverse have the same legal protection as in the physical world. If someone copies or imitates a trademark in the metaverse, they may face legal consequences. However, it becomes difficult to protect

⁸ *Ibid*

⁹ Amir Kashdaran, Copyright Laws in the Metaverse: Challenges and Emerging Issues, (2023), <https://www.linkedin.com/pulse/copyright-laws-metaverse-challenges-emerging-issues-amir-kashdaran> (last visited Sep 13, 2023)

¹⁰ *Supra note 7.*

trademark in the Metaverse as, the people around the world uses Metaverse, so it becomes challenging to enforce the trademark rules on a global scale¹¹.

3. Patents in the Metaverse: In general, patent is granted for new inventions or discovery. In Metaverse patents can be filed for the software processes or hardware components which are used to create the products. Various patent applications are filed for augmented reality and virtual reality technology, software, etc., as it is not possible to patent the metaverse as a whole. The use of the technologies or devices which are already patented in the Metaverse can lead to infringement. It is not easy to get a patent in Metaverse. The technological changes are happening rapidly, and it is a requirement of patent that inventions must be new, unobtrusive and useful. Detection of infringement and prior art in this digital space is difficult. Additionally, the pursuit of patent protection for metaverse hardware and software components need to be balanced with the want for interoperability to improve and enhance user experiences.

All in all, copyrights, trademarks and patents are very crucial in the metaverse. Whether you are an artist, businessperson or technical consultant, understanding and navigating these legal aspects is vital for the protection of your creations, brands and innovations in this interesting virtual world. Legal experts are actively working to adapt existing laws to meet the unique challenges and opportunities of metaverses.

AI and IPR

IPR is a vital tool for safeguarding human intelligence and promoting innovation. AI is relatively a new concept of discussion concerning law particularly in patent and copyrights laws. The differentiation between genuine human consciousness and artificial intelligence consciousness is often a key topic in the IPR and AI debate. One of the most important issues is to determine the liability in cases of failure of invention.¹²

The creation, use, and protection of intellectual property are being significantly impacted by artificial intelligence. Artificial Intelligence is playing a role in the creation of new intellectual property through ACG (Automated Content Generation). AI algorithms can detect patterns in

¹¹Sneha Ramesh , Trademarks Metaverse Strategies and Challenges Faced ,(2023) <https://vakilsearch.com/blog/trademarksmetaverse/#:~:text=The%20metaverse%20operates%20on%20a,value%20of%20a%20brand's%20trademark> (last visited Sep 13, 2023)

¹² Harshit Dayal, Artificial Intelligence (AI) and Intellectual Property Rights (IPR)- Legal status and the future, (2022), <https://ijclp.com/artificial-intelligence-ai-and-intellectual-property-rights-ipr-legal-status-and-the-future/> (last visited Sep 13, 2023)

vast data sets, generate new ideas, plans, or inventions, resulting in the creation of new IP assets. Companies are leveraging AI mechanics to enhance the worth and efficiency of their intellectual property. AI-based systems can analyse very large volumes of data, such as patents, Large amounts of data, such as patents, scientific publications and art, can be analysed by AI-powered systems to identify potential infringements and to simplify technology licensing and transfer. AI is also used for the optimization of IP strategies, to identify licensing opportunities and to manage the IP portfolio more efficiently.

AI algorithms can be helpful in detection of IP violations, such as in detecting violations of copyright, trademark, or patent on online platforms. Patent infringement and intellectual property violations can be assessed through the use of artificial intelligence techniques like machine learning and natural language processing, which can then compare and contrast the copyrights and patent claims.

The intersection of AI and intellectual property rights creates challenges for the ownership and liability of AI-produced works.

The question always remains as to who gets the copyright/ownership of a work produced by AI. Either the owner's who programs the AI system, the person who provided the data to the AI system, or the AI system. The current IP laws are not that much competent in dealing with the inventor identification issues and such other violations when AI is involved in intellectual property creation. Section 2(t) and Section 2(d) of the Indian Copyright Act explicitly state that the term "patentee" or "author" is reserved for human beings only, which means that machines cannot be protected under these laws.

M/S Kibow Biotech Vs. M/S Registrar of Trade marks, The Hon'ble Delhi High Court ruled that AI system cannot be treated as the owner of the trademark. The court further said that under the Trademarks Act 1999, only a person can apply for registration as the owner of a trademark and that artificial intelligence systems cannot be treated as persons under that Act.

Ferid Allani Vs. Union of India¹³, The Hon'ble High Court of Delhi has analysed that, whether a work created with the help of artificial intelligence can be copyrighted in India. The court

¹³ W.P.(C) 7 of 2014

said that works created by artificial intelligence can receive copyright protection if they meet the requirements of authorship and originality set out in the Copyright Act 1957. Further The Hon'ble court said that the authorship of such work must be credited to the person who chose to make such work, likely the person who is the developer or user of such an artificial intelligence system.

Legal frameworks concerning IPR and AI:

At the international level, the Metaverse has no such conventions or agreements specifically dealing with intellectual property rights.

But, there are some provisions within the Berne agreement that can be related to Metaverse's intellectual property rights.

"According to The Berne convention for the protection of Literary and Artistic Works, stipulates that signatory countries must grant authors total and exclusive rights to their creations, regardless of their form or expression. This convention has been ratified by 181 countries."

"Other international agreements had been introduced to the Berne convention, one of them is WIPO Copyright convention, 1996, which updates The Berne convention for the digital age. The prior consent of copyright owner is must for the reproduction of preserving 'digital' work in digital form on an internet device (such as NFT or metaverse), according to the Agreement (Agreement on Article 1(4) of the WIPO Copyright Treaty, 1996). It would appear that the law is not always implemented slowly."¹⁴

Intellectual property rights in India are primarily concerned with traditional intellectual property, including patents, copyrights and trademarks, etc. Law is not specifically designed to meet the challenges and opportunities of the Metaverse.

Indian copyright law ensures the protection of literary, musical and artistic works. While it may cover some aspects of Metaverse content, such as virtual art and music, it may not comprehensively address ownership of user-generated content, virtual assets, and virtual worlds. Updates and clarifications to copyright law may be necessary to better accommodate metaverses.

¹⁴ IPR challenges and Metaverse by Mayank Pandey, (Journal of Legal Research and Juridical Sciences) (last visited Sept 13, 2023)

The Indian Trademark Act protects trademarks and logos used in business. While this may extend to Metaverse's virtual trademarks and logos, it may not provide clear guidance on how to register and protect virtual trademarks in this digital space. More specific policies or guidelines may be necessary to protect trademarks in a virtual environment. In India, patents are generally applied to inventions and processes. In connection with Metaverse, inventions related to virtual reality, augmented reality or virtual world technologies may be patented. However, patent laws may need to be developed to accommodate the new technologies and inventions inherent in the Metaverse.

While India's current intellectual property laws may offer some protection in the Metaverse, they may not be fully adequate to meet the unique challenges and opportunities of this digital space. Legal updates and special rules tailored to Metaverse may be necessary to provide clearer guidance and protection regarding copyright, trademark and patent issues in the virtual environment.

Case study –

- In E.S.S Entertainment, Inc. Vs. Rockstar Videos, Inc¹⁵,

In this case, the applicant i.e. E.S.S Entertainment has brought up a trademark infringement case against the manufacturer of Grand Theft Auto (GTA) Video/ computer Games. The contention of E.S.S was that, the imitation of strip club's logo within GTA: San Andreas had no relevance and it may mislead and confuse the consumer as whether E.S.S had engaged in any digital rendition. The facts of the case are, artists for rockstar took the picture of the locations in order to recreate it in the GTA games. One photo shows E.S.S.'s "play pen" strip club announcing the aspect of a virtual "pig pen" strip club. The pig pen uses the same font which is the play pen signage. The court has applied roger's balancing test in order to come to the conclusion, according to roger test, any artistic work can only be considered as infringement if it has artistic meaning or if the work must be clearly misleading as to the source or content of the referent. Though, the court finds that there is artistic relevance of the virtual logo with the real logo and imitation can cause the insufficient confusion, the court had ordered in favour of the defendants as there is no trademark infringement caused by the Rockstar Videos, Inc, due to insufficient evidence on part of petitioner which proves that the consumer is likely to believe that the same

¹⁵ No. CV 05-02966 MMM (JTLx).

company that owns a strip club can also be responsible for a "technologically advanced" video game.

- In Tata Sons Limited Vs. Greenpeace International¹⁶.

In this case trademark infringement claim was made by the TATA on green peace international, which is an NGO. In this case, DPCL (Dhamra Port Company Limited), a 50-50 joint venture project between TATA Steels and Larsen and Turbo (L & T), received concession by the government of Odisha to built a port at the mouth of the Dhamra river in Odisha, but the Green Peace organization has expressed concern about the construction as it will damage the mangrove forest and the surrounding nature including wildlife. In order to create awareness among the people and to raise voice against the construction project, the Green peace has launched a video game, the game used the logo of TATA, thus the TATA has initiated suit a trademark infringement suit against Green Peace. In this case, the court considered that the violation of Sec - 29 (4) would occur if the commercial entity uses the trademark, Green Peace is a non-governmental organization, and it is not engaged in any profitable endeavour or in any competitive business activity with TATA. Therefore, the court concluded that the use of TATA mark is denominative.

- Amarreto Ranch Breedables, LLC Vs. Ozimals¹⁷, Inc

Second life is a website where users can live their own virtual lives. Users can create and sell their own virtual products. Ozimals is a company that creates virtual rabbits that can be bought and raised on the platform by feeding them the virtual food. Amaretto Ranch Breedables sells virtual horses that can also be bought and bred in the same way. Second life is operated by Linden Research. This is a case of copyright in the United States District Court for the Northern District of California involving digital - virtual animals in Second Life. DMCA takedown notice was sent by Ozimals to Linden's research, claiming that Amaretto's virtual horses were infringing on their rabbits and demanded their removal. Amaretto responded with a DMCA counter-notice and sought a temporary restraining order from court to obviate Linden Research from removing its virtual horses. This was allowed and maintained as the case progressed. Amaretto argued that Ozimals' DMCA notice was copyright infringement and insisted that their horses didn't infringe any copyright. Ozimals countersued for copyright infringement, but the court ultimately dismissed both

¹⁶I.A. No.9089/2010 in CS (OS) 1407/2010

¹⁷No. C 10-05696 CRB

claims.

- Alice Corp. v. CLS Bank International ¹⁸,

In this case the Hon'ble Supreme Court of the United States concluded that a software implementation of a foreign method was not patentable because it was an "abstract idea". This only makes it harder to patent metaverse technologies. Anyone tasked with enforcing a metaverse patent will almost certainly claim that the claimed subject matter is an embodiment of "abstract thought", which are usually not covered by patent protection.

Conclusion –

Integrating the metaverse with artificial intelligence presents both exciting intellectual property opportunities and challenges. Understanding and engaging with legal frameworks and case studies is essential in this evolving digital landscape. Further research and adaptation of existing laws are needed to provide clear guidance and protection for Metaverse participants in copyright, trademark and patent matters.

¹⁸ 573 U.S. 208 (2014)