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An analysis of objective imputability in the metaverse, from the perspective of conventional law.

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Abstract

In a globalized world, the development of new augmented reality technologies through 3D makes it necessary for the Law to adapt to these new spaces and needs within society, therefore, the presence of these augmented reality spaces make possible the interaction of individuals without any type of regulation in addition to that already imposed by the programs or platforms, however, the latter evoke the structuring and interaction of the platform as such, it does not take into account elements that can be constituted as infractions and crimes, Nor is the Law sufficiently developed to generate legal assessments of these intangible spaces. The research has as its general objective, to carry out an analysis of the objective imputability of the metaverse and the new 3D augmented reality technologies, the specific ones: to examine the objective imputability in the new technologies of 3D augmented reality, contrast the objective accountability of and a physical reality to virtual reality, in addition to determining value judgments on factual elements that can be attributed to the new technologies of augmented reality. The methodology is based on a transversal design, with an exploratory scope, the modality is qualitative, the methods used were systemic-structural-functional, legal hermeneutics and legal dogmanics. It is concluded that when examining objective imputability, the precepts do not change in a resounding way but rather expand to a more contemporary and modern scope in the assessment of objective imputability and the theory of typicity, since the degrees of participation of the active subject

must be considered, the imputability of the de facto domain by the platform or computer system in charge of the metaverse quarters, and the proportionality of the penalty in relation to the damage to the property legal protection and reparation for the victim.

Keywords

Augmented reality, objective imputability, metaverse.

Introduction

Science fiction stories such as Snow Crash or Ready Player One have described the metaverse as a virtual world of unlimited potential for entertainment and value extraction. Authors such as Van Rijmenam (2022) state that the metaverse is described in these books, a centralized entity controls the metaverse, including all data, digital assets and the people who enter it. This is a dystopian future that is by no means impossible to happen in the real world, given that we have already built a centralized, closed, proprietary, extractive Internet. Today's web is governed by shareholder supremacy rather than user centrality, and we've all become addicted to "free" access to these platforms.

The metaverse is a new beginning for creating something new, much like the early days of the Internet. Billions are being invested in building the metaverse, and tech moguls call it the future, but what is the metaverse? term coined in 1992 by writer Neal Stephenson. Its most basic definition refers to the "concept of a fully immersive virtual world where people come together to socialize, play and work." It is a simulated digital environment that combines augmented reality (AR), virtual reality (VR), blockchain and social media principles to create areas of rich interaction between users that mimic the real world.

However, the endless supply of activities proposed by the metaverse that can be carried out by users and consumers of these services makes it even more uncertain from the legal perspective, since traditionally, the Law is known as a discipline that regulates social relations in society, and that through the legal system you can sanction punitive behaviors, That is, omission actions that can generate harmful damages for individuals and thus generate a more harmonious coexistence between them, however, if the metaverse is mentioned, a physical or tangible place cannot be established, neither direct nor face-to-face relationships, a virtual place is established that simulates physical reality and social relationships are given through technological mobile devices.

The word metaverse, is a term that encloses all new technologies of augmented reality or virtual spaces, the impetus that the Law adapts to these new technologies is related that the Law itself is dynamic and is based on principles such as non-retroactivity and social reality, so that legal professionals in the midst of the technological revolution must adapt legal figures to current phenomena, For the metaverse offers a space for entertainment activities, exchange of intangible goods, educational and work activities, and the possible commodification of every aspect of our environment.

That is why many questions arise, from who will have full control of these servers or platforms? if user data will be sold to third parties? if the conversations carried out by the metaverse are public or private? is it safe to buy intangible land in the metaverse? how profitable are digital currencies or the block system? What regulations apply in the metaverse? Which authorities can I turn to if there is damage to the Are the actions or omissions committed in the metaverse imputable? What elements of the metaverse would count as evidence? Is there any procedure within the Ecuadorian legal system that regulates actions or omissions that are harmful in the metaverse?

The Metaverse, a virtual universe where individuals interact with each other through avatars, has gained significant attention in recent years. The objective imputability in the Metaverse is a complex issue that requires an analysis from the perspective of conventional law. According to Vázquez, Ricardo, and Hernández (2022), the use of neutrosophy in scientific research can provide a new perspective to tackle this issue. In addition, Ricardo, Fernández, and Vázquez (2022) propose the use of compensatory fuzzy logic with single valued neutrosophic numbers to analyze university strategic management, which could be applied to the analysis of objective imputability in the Metaverse. Moreover, leadership plays a crucial role in the transformation of higher education, as highlighted by Viteri, Álvarez, Viteri, and Leyva (2021), and could also have an impact on the implementation of regulations regarding the objective imputability in the Metaverse.

Like any innovative technological development, the metaverse will raise novel and complex legal questions. As the practical applications of the metaverse continue to expand and evolve with technological improvements, so will the legal and regulatory challenges. The metaverse, which adds to an already complex playing field, is designed to be deeply interconnected, seamless and without connection to physical space. Each of the legal issues discussed below will require practitioners to deal with issues of jurisdiction, territoriality, and conflicts of laws, none of which have been clearly resolved even in today's iteration of the Internet, let alone virtual worlds fully realized with an even greater degree of user interaction and immersion.

Based on the above, this research seeks through an exploratory analysis and bibliographic review of various sources of law in analysis of legal figures such as objective imputability on actions or omissions that may cause harmful damage in new technologies of augmented reality 3D or metaverse, and that from its analysis, it can be determined how courts or justice operators in Ecuador can apply them to the procedures established by current regulations.

That is why it is proposed as a general objective, to realign an analysis of the objective imputability of the metaverse and the new technologies of 3D augmented reality. As specific objectives, it has been proposed in the first place to examine the objective imputability in the new technologies of the augmented reality 3D, as a second specific objective, contrast the objective imputability of a physical reality to the virtual reality, in addition to determine value judgments

on factual elements that may be imputable in the new technologies of augmented reality, and finally establish mechanisms of legal valuation that must be considered by legislators regarding crimes carried out in 3D augmented reality spaces.

Methods

Regarding the methodology used to develop the present research, the design is mentioned, which is of a transversal type of explorative scope, since there was no manipulation of the variables taken for the study, nor can it be understood as a massive study on the metaverse and objective imputability, because it is a novel topic, still in development and, therefore, the elements that make it up are the genesis of the materialization of the concept of metaverse as such. For the study, a bibliographic review was carried out in relation to scientific material and sources of law that focus on the metaverse, new augmented reality technologies, legal imputability and the adaptation of Law in relation to intangible protected legal assets.

Modality and type of research

The inquiry had a qualitative approach that focuses on the argumentation and analysis of the study variables such as "objective imputability" and the "metaverse" or "3D augmented reality", for this, the research dynamics were directed in two directions: the facts and their interpretation. Therefore, the bibliographic review integrates regulations of the current legal system, doctrine endowed by authors specialized in new technologies and Law, which are fundamental to analyze how the Law with legal figures such as objective imputability must adapt to virtual spaces such as the metaverse.

The research is limited in an explanatory way to analyze the legal gaps that exist in these new spaces of augmented reality in relation to actions or omissions harmful to their users, however, it is positioned as a precedent for future research and development of legal precepts that can be implemented in the legal system from the interpretation of legal imputability in virtual spaces in Ecuadorian legislation.

Methods

Systemic-structural-functional method

The systemic method is responsible for studying because of the study of the study variables in the complex context of a structure, the different components and the dynamics of its functioning in society, is used to establish the relevance of phenomena and factors within the development of society, which is linked to the study of human and social sciences, That is why, the research focuses on real situations documented within Metaverse's virtual space, where elements, characteristics, causes, causal links and effects for individuals and platforms can

be established, the rights and guarantees that may be affected in it, and where it can be examined to be precise in the real and theoretical aspects of objective imputability in the metaverse.

Legal Hermeneutics

The research is developed from the interpretation of normative texts such as: The Constitution of the Republic of Ecuador; The Organic Integral Penal Code and the Organic Code of the Social Economy of Knowledge, Creativity and Innovation. In the same way, it uses sources of law such as legal doctrine and comparative law in relation to the objective imputability of actions or omissions that may be harmful within augmented realities such as the metaverse, this because this content of a legal nature will strengthen assessments made by the authors of this research and their inference within the Ecuadorian legal system.

Legal Dogmatics

Legal dogmatics will be used, since it focuses on the study of the legal content towards the praxis of the same, that is, it links the Academy with professional practice, that is why, this method was used to analyze the legal imputability in the actions or omissions that may be harmful within the metaverse, since it precedes the analysis and inference of the legal language in the regulations of Ecuador, the implementation of procedures that make possible the adaptation of the Law with new technologies and thus achieve the objective of the problem studied.

Results

In relation to what has been developed above on objective imputability in the metaverse or 3D augmented realities, results can be reached where they establish that:

It is probably very difficult to measure the number of crimes in virtual worlds. In the real world, crime statistics give us a rough idea of the extent and evolution of crime, despite all the reservations that exist against it. These statistics constitute an indispensable basis for numerous research projects and do not exist in the virtual world. Of course, it would be possible to interview users, which would correspond to interviews of so-called "dark field" research. These would have to be changed: the intensity of the use of the virtual world would have to be measured, for example, since Second Life users are only part-time users, while real-world citizens are always part-time users. Data on criminals or victims would have to be put into relation to the extent and use of the virtual world. This obstacle, however, could be overcome.

There would only be a small number of offences that could be sensibly examined. As already mentioned, theft in the virtual world – by far the most frequently committed crime in the real world – would be computer fraud in the real

world. Coupled with this, most deviant behaviour which, in the real world, constitutes an element of a basic criminal law offence - theft, robbery, damage to property, arson, rape, bodily injury or homicide - can only be reduced to a computer crime: computer fraud, data modification or computer sabotage.

It should be noted that you have to take a look at the people in question, or rather the avatars. It is questionable whether deviant behaviors in virtual worlds can actually cause as much social damage as in the real world. The chances of victimization are already significantly reduced: a crime of homicide or murder is hardly conceivable in Metaverses, since it is a feature of a virtual world that each participant has a number of lives or even an unlimited number. If an avatar loses his life – and this happens very often in many online games – he cannot really be considered as the victim; This is not, at least, remotely comparable to real-world victimization. Thus, possible crimes in virtual worlds lose much of their threatening effect

On the other hand, it is worth mentioning that objective imputation has as its fundamental principle the verification of an existing causal link, in order to determine the legal models to which it is sought to impute such a result to an individual. In this way, it appears by the ideology of the existence of the need to verify beyond natural causality, considering this insufficient to attribute a result to a person. Thus, the objective imputation demands that it exists and it is established if there is a direct link between the action and the result(Orellana & Enderica, 2021)

Due to the above described it is possible to verify that the objective imputation has its genesis in causalism, where this has to do with certain behavior and the result caused by it in the external world, and then give way to a neo-Kantian theory, in which such behavior is considered as an action carried out by the human being, Consequently, with respect to functionalism, this involves crimes that cause some consequence, such as those that consist of conduct as such, so that the objective imputation is considered as that analysis that is carried out by virtue of the facts so that the administrators of justice can adapt in a pertinent and accurate way a conduct and the consequences of it to a particular person.

Discussion

There could be effects in the realm of fraud or virtual theft. The economic activity promoted by Second Life could really be paralyzed if large-scale acts of fraud were to occur, because honest entrepreneurs would lose interest. Effective control would be necessary here, and it might be interesting for criminological research to see how order could be brought to a world with a lack of self-imposed rules.

However, this only affects a small part of crime; The types of crimes that are especially important to the real public hardly matter in virtual worlds. Problems also arise when criminals are considered. When an avatar is insulted, who is the criminal? Who should be punished, insofar as punishment is expected to have some

effect? And, if the avatar is punished – there could be the possibility of sending him to a virtual prison – who would the punishment really affect?

Ultimately, the user behind the avatar is responsible and only he can feel the punishment. This means that there is no punishment for the behavior of the avatar, but only for the behavior of the person sitting in front of the computer. Thus, the view of the virtual world as an autonomous society is, in most cases, inadequate. Only in cases where real social events are transferred directly to the virtual world – especially with regard to commerce in Second Life – can real social results be transferred to the virtual world.

Another problem that can arise for criminology refers to how the use of virtual worlds affects the behavior of users in the real world. Here I will only briefly refer to this topic, since in the following conferences it will be deepened. On the question of the effects of Internet use, a possible increase in the willingness to use violence - after numerous relevant cases - is in the crosshairs of criminology and also of criminal policy. A series of violent acts in American and European schools appear to have been inspired by computer games; however, it is doubtful whether they should be attributed to the Metaverses.

In many cases, they are a monopolistic social counterworld, which are able to create and care for values and attitudes among their users. There are reports of people who spend more time in virtual worlds and on the Internet than in real society and whose social contacts are concentrated on the Internet, in short, people who spend more time with avatars than with human beings.

These worlds of substitution could tend to create their own values and norms. If these values and norms are contrary to those of real society, subcultures arise. And if these social worlds influence their users, they may take the values and norms of the virtual world and apply them to the real world. This and the resulting conflict between the norms and values of the virtual society and those of the real society could influence the behavior of users and probably also increase crime. So far little research has been done in this field, although it could be interesting.

Conclusions

In relation to the objectives set out in the research project, it has been determined that the theory of objective imputability in relation to the assessment to be made by jurisdictional operators on crimes that can be committed in the metaverse must not only take into account elements of traditional criminality, but adapt to modern criminality where the subjects of the infractions to the active subject cannot be minimized, That is, who performs the criminally relevant action, and that of the taxpayer, who is the victim or receives the damage of the protected legal good, in this case, the courts of criminal guarantees must consider the theory of the domain of fact and authorship. At the same time, it is concluded that:

First, when examining objective imputability, the precepts do not change in a resounding way but expand to a more contemporary and modern field in the assessment of objective imputability and the theory of typicality, since the degrees

of participation of the active subject, the imputability of the de facto domain by the platform or computer system in charge of the metaverse quarters must be considered, and the proportionality of the penalty in relation to the damage to the protected legal right and the reparation of the victim.

Second, that it is impossible to equate physical reality to virtual reality within criminal assessments, since precepts such as the burden of proof can change and be oriented to the fact that it is in charge of the platforms or metaverse rooms in charge, not only to the procedural parties that would represent the active and passive subject, and that these evidentiary means no longer obey physical material elements but fully computer data that can be digital documents, videos and audios of metaverse rooms and data analysis and recognition of human identity.

Third, that the assessments made by the jurisdictional courts must take into account how these infractions violate the rights of individuals and the protected legal rights protected by the State, in terms of the proportionality of the damage and the measures that can be applied to guarantee the substantiation of criminal proceedings, in addition figures such as effective national and international cooperation will be vital in relation to problems such as jurisdiction of this type. of offenders who not only operate in the national territory but through organized and transnational crime.

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