

Deterritorialized technologies and trust: NFTs and blockchain as clues to tourism's mutation¹

Tecnologias desterritorializadas e confiança: NFT's e blockchain como sinalizadores para a mutação do turismo

Rudinei Picinini, Universidade de Caxias do Sul, Brasil
rudinei.rp@gmail.com



Maria Luiza Cardinale Baptista, Universidade de Caxias do Sul, Brasil
mlcbaptista@ucs.br

ABSTRACT

The present text brings a research report, which has as theme the interface of technology, trust and tourism, with the following study object: NFTs (Non-Fungible Token) and the outsourcing of trust, as clues to tourism's mutation. The study was carried out through observations of discussions held in the CriptoArteBr community's channel, available at Discord platform, and through the observation of the community members' participation in two live streams in Homeostasis Lab's channel in Youtube, as well as in an episode of Braincast podcast. The general objective of this study is understood as to observe how the outsourcing of trust, realized through NFT adoption by contemporary digital artists in Brazil, can point at reflections to the mutation of tourism. The specific objectives are: a) to discuss different concepts about trust; b) to present what NFTs are and how they are outsourcing trust; c) to identify clues to the mutation of tourism, present in the process of outsourcing of trust realized by contemporary digital artists in Brazil

¹ Article presented in the XVIII Annual Seminar of Research and Post-Graduation in Tourism in 2021, with abstract published in the event's proceedings.

in the aforementioned objects of study. The methodological strategy adopted for this research is the Cartography of Knowledge (Baptista, 2014), which explores simultaneously four different trails: Personal Knowledge, Theoretical Knowledge, Production Plant and Intuitive Research Dimension. As a result, we realized that the Non-Fungible Tokens (NFTs), through blockchain technology, can outsource the principle of trust to technology, although not in its entirety. It can also be perceived that the CriptoArteBr community discussed some significant topics related to current questions in tourism that need to be considered.

Keywords: deterritorialized technologies, blockchain, NFTs, trust, tourism's mutation.

RESUMO

O texto traz relato de pesquisa, que tem como temática a abordagem da interface Tecnologia, Confiança e Turismo, com objeto de estudo Non-fungible Token (NFT's) e a terceirização da confiança, como sinalizadores para a mutação do turismo. O estudo foi realizado através da observação das discussões realizadas no canal da comunidade CriptoArteBr, disponível na plataforma Discord, e com a observação da participação de membros da comunidade em duas lives no canal Homeostasis Lab, no Youtube, e em um episódio do podcast Braincast. O objetivo geral deste estudo é entender como a terceirização da confiança, realizada pela adoção dos NFT's, por artistas digitais contemporâneos brasileiros, pode sinalizar reflexões para a mutação do turismo. Assim, os objetivos específicos são: a) discutir diferentes conceitos de confiança; b) apresentar o que são os NFT's e como eles terceirizam a confiança; c) identificar sinalizadores para a mutação do turismo, presentes no processo de terceirização da confiança, realizado pelos artistas brasileiros digitais contemporâneos, através da observação das discussões realizadas na comunidade CriptoArteBr. A estratégia metodológica adotada para esta pesquisa é a Cartografia de Saberes de Baptista (2014), que explora simultaneamente quatro diferentes trilhas, sendo elas: a trilha dos saberes pessoais; a trilha dos saberes teóricos; a trilha da usina de produção, que conta



com aproximações investigativas; e por último, a trilha da dimensão intuitiva da pesquisa. Como resultados, constatou-se que os Non-fungible Tokens (NFT's), por meio da tecnologia blockchain, podem terceirizar, ainda que não em sua totalidade, o princípio de confiança para tecnologia. Também podemos perceber que alguns dos principais tópicos discutidos pela comunidade CriptoArteBr se relacionem com questões vigentes no turismo que precisam ser reverberadas, pois elas alicerçam um novo momento da sociedade, que visa mudanças significativas em todos os segmentos.

Palavras-chave: tecnologias desterritorializadas, *blockchain*, *NFT's*, confiança, mutação do turismo.

INTRODUCTION

This research, which has as object of study *Non-fungible Token (NFT's)*, and the outsourcing of trust as clues to tourism's mutation, was carried out through the observations of discussions held in the CriptoArteBr community channel, available in the Discord platform and through the observation of the participation of community members in two lives from the Homeostasis Lab Youtube channel and in one episode of the Braincast podcast. For this, the study directly involved extensions of the concepts related to trust and to digital technologies. It regards the broadening of the reflections linked to a dissertation research at *stricto sensu* level, which is currently in construction in a university in the South of Brazil.

Due to the incorporation of digital technologies in everyday life, as well as in other society's processes, it is common that many of the phenomenon are first born in cyberspace and bring inquires that extrapolate the theoretical concept of their origin. The NFT, abbreviation that means Non-Fungible Tokens, discussion has been a growing phenomenon since 2020. This occurs mainly due to the alignment with an emergent technology, the blockchain, and for the mass adoption of NFTs by artists and digital art collectors.



Despite the blockchain technology not being the central theme of the main research developed at *stricto sensu* level by the authors of this present study, it was from it that the interest in researching the binomial trust and digital technologies in tourism was born, through discussions performed in a research group. Therefore, the interest for such concepts gave birth to a series of studies such a dissertation project (Author1, 2021), a series of studies presented in academic events (Author1 & Author2, 2020a, 2020b), therefore as the production of two articles (Author1 & Author2, 2021a, 2021b), published in an organized book and an academic journal. Due to this, the collaborating master student of this research has been, since 2019, attending a series of extension courses on², in order to culminate more knowledge on the impact of such technology.

This way, it can be said that this research is being constructed for quite some time, but only now, with the upcoming of the NFTs applications, anchored by the blockchain technology, it starts to give signs of a future connection with tourism's mutations. It's what can be verified, mainly, regarding the adoption of complex processes, through digital technologies, fact which is being accelerated due to the scenery provoked by the Covid-19 pandemic.

Therefore, the concept of tourism adopted here is the one of tourism-communication-subjective ecosystems (Baptista, 2020), from what is understood that tourism's mutation is not performed separately but attached to economical, communication, social and technological phenomenons. Also, the idea of deterritorialization may not be comprehended only as an action of leaving the physical territory but as a complex process of transmutation due to displacement of existential territories. This way, in such process dynamics of abstract phenomenons are involved.

2 Among the courses performed are: "Blockchain: law and institutional aspects" by the Institute of Technology and Society of Rio de Janeiro; "Fundamentals of blockchain: the technology transforming markets" by Descola Innovating Courses, "Understanding Pound, Facebook's cryptocurrency" by the Institute of Technology and Society of Rio de Janeiro, and "Blockchain: what everyone should know" by ECOA PUC-Rio through Udemy platform.



This, in the following steps, first, with the theoretical reference, we will contextualize what NFTs are and the blockchain technology, which is used by digital Brazilian artists. In a second moment, still with the theoretical reference, we will discuss different concepts related to trust and how it is outsourced by technology, in the case of NFTs. In the third part of this project, we will make a brief explanation of the concept of tourism, adopted for the construction of such research. And at last, we will discuss starting from topics observed in the Discord room of the CriptoArteBr community, in two lives from the em Homeostasis Lab channel available on Youtube, and in one episode of the Braincast podcast.

To achieve such goal of this study, a qualitative bibliographic review was performed, to choose different theories and theorists. Therefore, we contextualized the issues on *NFT's* and blockchain, through the explanations of Chevet (2018), O'Dwyer (2020), Mofokeng (2018), Menotti & Velázquez (2021) and Souza & Medeiros (2020). We will approach the concepts of trust, through the theories of Luhmann (2000, 2017), Terres & Santos (2010, 2011, 2013, 2015), Maturana (1996), O'Neill (2002), Akerlof & Shiller (2009) and Mayer, Davis & Schoorman (1995). For the discussion on tourism, we will use as base the view of tourism-communication-subjective ecosystems by Batista (2020).

In this sense, to understand which clues for the mutation of tourism are boosted through NFTs and the outsourcing of trust, this study will have as general goal to understand how outsourcing of trust, performed by the adoption of *Non-fungible Token (NFT's)* by contemporary Brazilian digital artists may sign reflections on tourism mutation. Therefore, as specific goals, we have defined: a) to discuss on different concepts of trust; b) to discuss what NFTs are and how they outsource trust; c) to identify clues for the mutation of tourism, present in the process of outsourcing trust performed by contemporary Brazilian digital artists, through the observation of the discussions performed in the CriptoArteBr community room in the Discord platform, and in the participation of their members in two lives from the



Youtube's channel Homeostasis Lab and in one episode of the Braincast podcast.

The methodological strategy adopted in this research is the Cartography of Knowledge (Baptista, 2014), which is, by essence, of qualitative nature, and is divided into three different investigation paths, which are simultaneously explored by the researcher subject. The first path is the path of personal knowledge, in which the investigator aims at identifying one's interest in the researched object in one's path, as well as knowledge that are aligned with the object of study. The second path is the theoretical knowledge, composed by the consulted authors and by the sharing of experiences and references with other researchers. The third path is the production plant, where the researcher makes approximations and investigation actions together with the object. At last, the intuitive dimension path is crossed through the researcher's reflections that vibrates together with the research and expands the ideas on the concepts and absorbed data.

Blockchain, NFT's and the cryptoart phenomenon

The triggering of the object of this article occurred after one of the authors got in contact with news written by Alves (2021), who stated that the United States band Kings Of Leon, had sold *NFT's* at the launch of the music album. According to the journalist, the band offered a series of advantages for those who bought the asset, such as exclusive materials and advantages in shows of the group in the future. Through such facts, we acknowledged that a movement was emerging, in contemporary digital arts, giving signs of a possible future connection with the tourism spectrum, indicating that experiences in future events could be treated as value investment assets.

Therefore, to make clear how this could become possible, we need to before speaking about *Non-fungible tokens (NFT's)*, to explain what blockchain is, which means, a technology that makes the existence of NFTs in the digital context possible. Probably, this article will not handle all the



vastness of the complexity of impacts and applicability that the blockchain technology carries within, once, just as the work of art, "Drifter" present in Figure 1, from the Dutch duo Studio Drift, such technology seems to find itself suspended in cyberspace, also leading us to a re-interpretation of what we know as technology.

Figure 1 – "Drifter" a performing installation of a floating concrete block (2017).



Source: website of the Dutch artists duo Studio Drift.

The floating concrete block of the Dutch duo is not properly a solid block, but yes, a drone, with the appearance of a concrete block, which is empty inside and filled with Helium gas. This monolith also has micro-turbines in the existing holes in each of its surfaces, to keep itself sustained in the air. When we talk about blockchain technology, which, in its translation means "chain of blocks", it is always highlighted, as main characteristic, its decentralized existence. The fact is that such technology not only dwells in one hardware, but in several at the same time, which are described as us. ,

In its public essence, a blockchain is also not exclusively dependent on any of us to exist, being a protocol sustained by thousands of voluntarily net connected computers around the world, which validate the transactions and are rewarded for that, the so-called miners. In a nutshell, blockchain, just as the work of the Studio Drift duo and tourism itself, is a deterritorialized phenomenon.

The blockchain technology was born after the great recession of 2008, being the system that made the existence of the first cryptocurrency in History, the Bitcoin, viable. Such invention became public after the publication of the document entitled "*Bitcoin: A Peer-to-Peer Electronic Cash System*"³, in an internet forum in 2008, created by a still unknown subject, who called himself Satoshi Nakamoto. According to Chevet (2018), the document detailed the combination of asymmetric cryptography protocols and decentralized computing for the creation of a digital coin, which would be not linked to a central bank, which means, the Bitcoin itself.

After the first years of adoption by the global community, the Bitcoin and the blockchain technology began to draw the attention of technology experts, who aimed at understanding the attributes and potentials of the technology, since its creator, Satoshi Nakamoto, had also made the invention protocol available in open access. This way, technically speaking, with the data from the "Blockchain report for applications of public interest" (2018), developed by the Institute of Technology and Society from Rio de Janeiro (ITS-Rio), we are able to describe blockchain as a data base that organizes information through sequential and ordered data, in which the history of the information becomes available in a decentralized, transparent and unchangeable way.

O'Dwyer (2020) uses the term reason-book, which is also much used to describe the blockchain technology. The author highlights that the main

3 Document entitled "Bitcoin: A Peer-to-Peer Electronic Cash System" was published by Satoshi Nakamoto in a forum: <https://bitcoin.org/bitcoin.pdf>.



attributes of the technology are: the **transparency**, since it enables the data from the transactions to remain public, to be audit by any person; the **decentralization**, which means, all and any transaction or registry is verified by a consensus system, which uses advanced mathematics and structural, volunteer and collective mobilization in the web; and the **unchangeability**, once the information is recorded in the blockchain, it is impossible to be altered, since for this, it is necessary that over 50% of the computers on the web be invaded and had the registries of the block altered at the same time.

Such attributes were improved from 2015, with the emergence of another blockchain, the net Ethereum, protocol developed by the Russian-Canadian developer Vitalik Buterin, who took advantage of the already known technology skills to create a version that would enable the construction of intelligent contracts. The idea of intelligent contracts is not new, since it had already been thought by the cryptographer Nick Szabo, still in the years 1990, but it was Buterin and the combination with the blockchain that made de concept possible.

According to Mofokeng (2018), the programming of intelligent contracts in a blockchain allows to construct any decentralized app that goes beyond the idea of financial or cryptoasset transactions. Such applications self execute themselves, without the need of interference of a public institute or private mediator, such as registry office, bank, among others. Despite being the pioneer and still leader regarding its proposal, mainly, due to the large community built around its solution, throughout time, other blockchain projects emerged, as Ethereum concurrent, improving the idea of intelligent contracts.

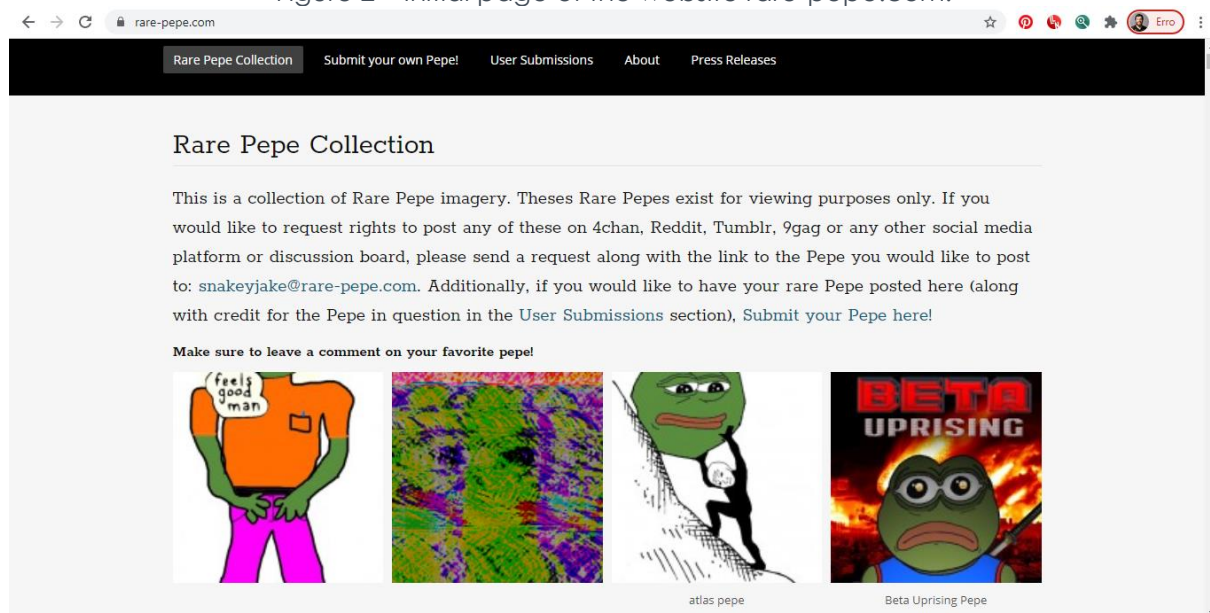
On the other hand, the Non-fungible tokens (NFTs), according to Mafokeng (2018), may be understood as assets of single value, which are not replicable. Different from a fiat money or cryptocurrency, *NFT's* do not have a similar value with any other element, due to the their individual characteristics. According to O'Dwyer (2020), the idea of the *NFT's*, in its



combination with blockchain technology, is currently seen as a way to promote artificial lack in cyberspace, working with the economy logic of offer and demand, even though regarding items that may be copied with identical fidelity.

NFT’s have gained highlight in the last five years, through the idea of collectible crypto. According to Chevet (2018), the first movement of the genre would have appeared regarding the meme of the character “Pepe”, a frog originated from comics, created by Matt Furie. The “Rare Pepes”, name given to the assemblies of the character that are uploaded in a guardian platform of the meme — according to figure 2 — since 2015, have their own cryptocurrency and were the first to use a blockchain as property registry.

Figure 2 – Initial page of the website rare-pepe.com.



Source: print performed by the author from the platform Rare Pepe Collection.

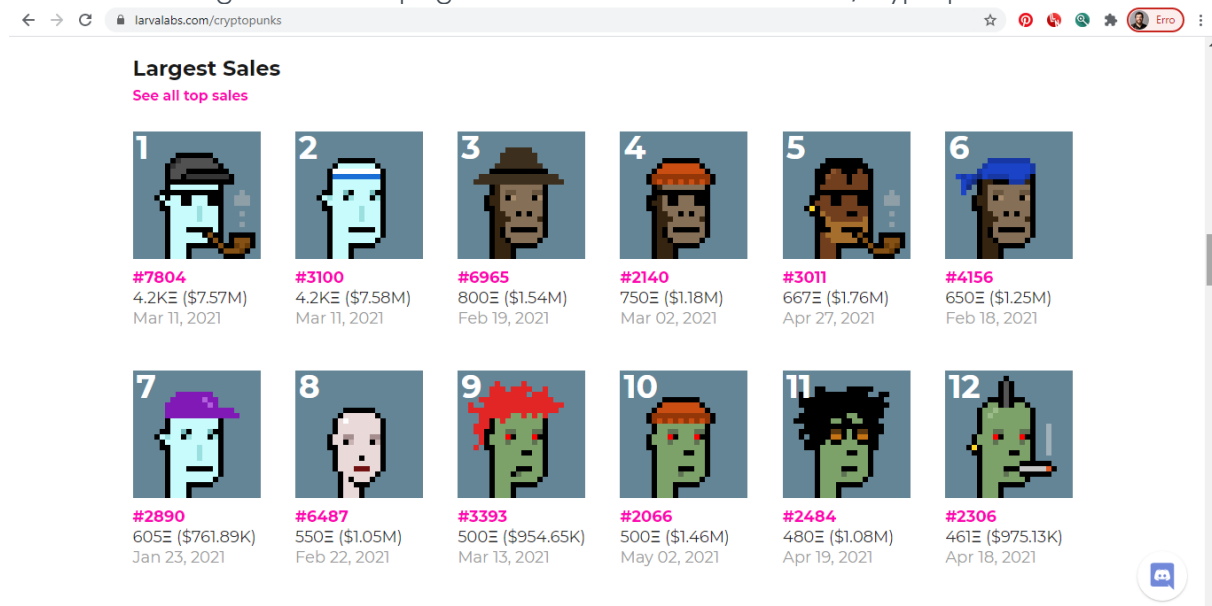
The big leap of collectible crypto started, on the other hand, with the adoption of the blockchain from Ethereum, for means of certification for digital assets starting in 2016. Indeed, this is something important to be highlighted: according to Chevet (2018) it is not the work which is registered in



the blockchain, but the registry of the purchase of it. The subject when enters a platform of NFTs commerce, registers a digital wallet that has an address called hash, which is unique and works as an identity of the artist/seller or of the collector. It is this address that is registered in the transaction in the blockchain, giving right, to the person, for commerce of the updated or bought within that platform in specific.

According to O'Dwyer (2020), NFT's have become popular with the appearance of the game Cryptokitties and the platform CryptoPunks. The game Cryptokitties allows users to buy, sell, collect and create virtual cats. The art platform CryptoPunks, — present in figure 3 — generates authentic art by algorithm in pixel-art style and sell them to collectors. Both cases have already moved thousands of dollars.

Figure 3 – Initial page of the website larvalabs.com/cryptopunks.



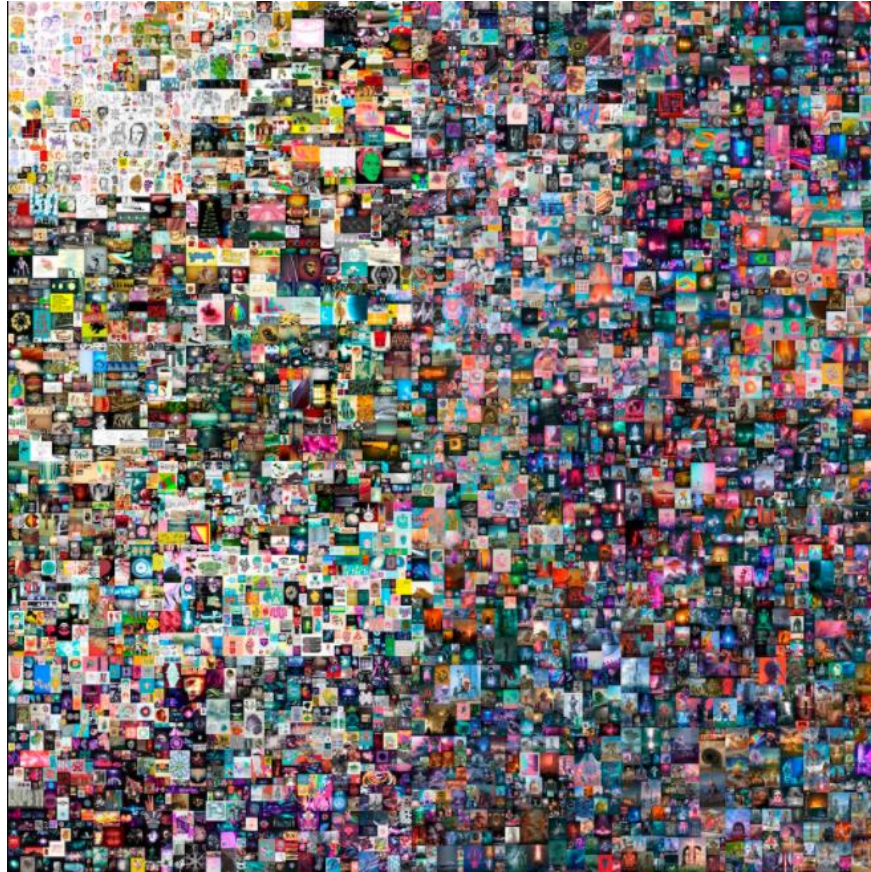
Source: print performed by the author from the platform Larva Labs.

From these two phenomenons, mainly, the one related to the CryptoPunks, a new movement has started for contemporary digital art, the so-called cryptoart. Such phenomenon has gained body through the emergence of open and cured virtual galleries, where also the blockchain of Ethereum was used for the commerce of digital art. The repercussion in world scale, however, came with the sell of the masterpiece presented in figure 4,



called "Everyday: the First 5000 Days" from the artist Beeple, for 69 million dollars on March 11, 2021.

Figure 4 – Digital masterpiece "Everydays: the First 5000 Days" from cryptoartist Beeple



Source: image disclosed by the portal Zum – Photography Magazine.

In the masterpiece, Beeple compiles all 3D illustrations developed daily, during 5000 thousand days of uninterrupted productions. According to Menotti & Velázquez (2021), this turned Beeple into the artist with the third most expensive masterpiece among living artists. Such fact lit up the discussions among enthusiasts and skeptics of the digital art environment almost immediately.

The contrary to the novel of *NFT's* point out to the bottleneck of the blockchains, such as the energy consumption and the carbon use promoted by the use of the Ethereum network. There are also opinions by art critics, in the sense that such movement may be considered a new type of bubble or financial pyramid. The enthusiasts point out to this new movement as an

alternative for the excluding and elitist art market. Therefore, with all such effervescence around the theme, the debates also stated within the cryptoartists community which had started forming in Brazil in the early 2021. This made that these and other issues, which will be observed during the discussion and results part of this article, were not left aside, but yes, inhabited the center of such new digital and economy arrangement.

Up to the moment, it is already discussed the opening of physical exhibitions that contemplates cryptoart, showing that such phenomenon is already breaking an important paradigm. This occurs, since, according to Anders (2003), by nature, in cyberspace, we try to emulate physical phenomena. In this specific case, we can perceive that the virtual phenomenon is dictating an adaptation in the physical environment, in a restrict market, the contemporary art one.

THE OUTSOURCING OF TRUST BY THE BLOCKCHAIN TECHNOLOGY

The term trust is fairly quoted by specialists in technology, when the subject is the blockchain. This happens due to the attributes, such as decentralization, transparency and immutability, quoted in the previous topic, which, potentially may make any transaction viable without an intermediate. In parts, the implementation of such technology may outsource the trust that up to today is assured by the State and private companies in some processes, however, it does not resolves the issue of trust as a whole.

To understand such relation, we need to revisit concepts that approach the issue of trust in a more profound way. Luhmann (2000, 2017) states that the trust is a resource used by subjects to decision making, in situations that involve risk, which means, some physical or money loss. The sociologist points out that the need of trust exists, since the subject never has control or enough information to deal with all social complexity.



Luhmann (2000) also promotes an important differentiation, in the text “Familiarity, confidence, trust: Problems and alternatives”, by using two terms of the Anglo-Saxon language to define different ideas on trust. According to the theoretical, the term “trust” would be related to the interpersonal trust, which would be linked to risk situations, as for example, to delegate an important task to someone or to invest in something. In this case, to assume or not the risk is a choice that falls only to the individual.

When we talk about “confidence”, however, we can identify a more institutional approach of trust, where Luhmann (2000) states that the term would fit situations that involve danger. In such case, it is not the subject's choice to either trust or not to trust, no option but to trust. An example quoted by the author would be the need to the trust that the subject has to deposit in the social living to walk on the street, waiting for the people to follow the traffic rules and not hit and run.

It is important to evaluate the blockchain by both concepts of Luhmann (2000, 2017), since such technology is also seen as a vector of transformation, not only on the way that ordinary subjects of internet make transactions among themselves, which would be considered, in this case, a situation of “trust”. Such technology is already also treated as an important resource for improvement for the provision of accounts. The report on the blockchain technology by ITS-Rio (2018) points out that such technology may be very well implemented in the public sector, to offer the citizens more transparency, security and responsibility, diminishing the incidence of frauds, corruption and promoting the traceability of public resources. Nowadays in Brazil, the National Bank of Development (BNDES), for example, already uses the technology to trace and control the expenses of the state money destined to the development of the companies, according to Gusson (2020).

In this logic, we may consider that the public funds, when poorly spent, may also be seen as a danger situation, in the moment that, consequently affects the accessibility to basic services in the society, by being deviated or



poorly employed. Consequently, the blockchain may also be seen as “confidence”, according to the theoretical lens of Luhmann (2000).

In addition, the blockchain technology may be considered as an interesting path for diminishing the bureaucracy, that aims at providing control and trust for the society's processes, but that end up making any movement stressful and complex. The philosopher O'Neill (2002) points out to this paradigm, where the search for control of important functions in society, with the purpose of diminishing any trust, may end up stiffing processes, up to the point that the subjects do their jobs and become stuck to control reports.

What we may perceive is that, yes, in these cases there are clues that the technology, most specifically, the blockchain, may outsource the trust in the process, which means, to validate an action as reliable. In this case, it would not be a human subject, but yes, the subject code, which would replace an intermediate, annulling any opportunism.

Indeed, the choice of not taking advantage from a certain situation is also an important aspect to be discussed regarding trust. For this, it is important to meet the theories of Terres & Santos (2010, 2011, 2013, 2015) and Mayer, Davis & Schoorman (1995), to understand such vision. Terres & Santos (2010, 2011, 2013, 2015) point out that trust is divided into dimension, being the main ones the cognitive and the affective. According to the researchers, the subjects, even unconsciously, judge their decisions, upon such dimensions, taking into account three attributes: competence, which is linked to the cognitive part; benevolence, which is tied to the affective dimension; and integrity, linked to both dimensions. Mayer, Davis & Schoorman (1995) do not work with the idea of dimensions, but state that subjects use these same attributes for decision making.

In this sense, when we return the idea of the absence of opportunism in the action, Terres & Santos (2010, 2011, 2013, 2015) remind us that, in a relation between subjects this is only possible with the presence of benevolence. Therefore, we may perceive that the blockchain shows us what is capable



emulating an effect that it would be only possible with benevolence in the process. In addition, the efficiency of technology in recording the information, in addition of providing transparency, also is related to the attributes of competence and integrity.

The practical application of technology in tourism, as a way of financial transactions, is highlighted by Souza & Medeiros (2020), who state that the advantages for the use of the blockchain for commercial transactions within the tourism specter are clear. According to the authors, technology has the potential to be a safe alternative, which excludes rates and the need of third parties, such as credit card operators and financial institutions for the tourism trade, and the tax exemption such as the Tax of Financial Operations for the tourist subject.

When we return to the situation of the NFTs, however, we start to seem some trust limitations outsourced through blockchain. In this specific case, the blockchain is seen as an evolution of a decentralized register office, which certifies the works through a digital register; however, since technology does not have any legal support yet, the acknowledgment of such register is still anchored in a symbolic agreement between the subject artist and the subject buyer, which means, in the old vision of trust. Despite de O'Dwyer (2020) already identifies companies that use the *NFT's* and the blockchain, combined to other technologies to supervise the undue use of creative masterpieces on the internet, this case is still a major exception.

Perhaps the idea of trust, from the economy point of view, may give us clues on what it is anchored, in this moment the movement of *NFT's* within the contemporary digital art. Akerlof & Shiller (2009) state that trust is established through the narratives of progress, that, when taken by the media and by the community boost the economy to a never seen before new path. No doubts about it, the narrative created from the *NFT's* is an important part for the mass adoption of the format, as well as an important factor for the birth of action in the CriptoArteBr community. In addition, the vision of trust as a base social



pact, existing so that the society's processes occur, according to Maturana (1996), may also be adopted in such case, as a way to observe such movement, which shows interest by issues that go beyond technology.

It is clear that, when we think about the application of the *NFT's* to make experiences or advantages exclusive possible assets of value, which may be speculated by those who buy, as the band Kings Of Leon has done, we may foresee potential applications of such format in tourism, which generate dearth in digital environment. In this case, the legal support of such service already exists what changes is the way that it is wrapped within the new economy of cyberspace. We may conclude that, in this specific legal issue, the existing trust degree in the company or tourism institution that proposes itself to commerce and validate such asset is also crucial, since in a given moment in the future, it will be concreted in an action.

A COMPLEX ECO-SYSTEMIC VISION OF TOURISM

To give the due attention to all current phenomenons in cyberspace is a crescent and important function of scientists, mainly those who work with a holistic vision. This is because many of those phenomenons, which are born virtually, show a power that overcome the digital universe, generating movement that directly influence the contemporary life, provoking deep changes in society and also in tourism.

Therefore, it is highlighted the vision studied in this article it is the one from Baptista (2020), constructed through the vision of tourism-communication-subjective ecosystems, being thought through phenomenons that surround the subject. According to Baptista (2020), such concept is important since it contemplates the vision of complex processes of deterritorialization, which involves the entanglement of different ecosystems involved from the subject's displacement.

The notion of ecosystem here is related to the view of profound ecology. According to the Biology, the notion of ecosystem includes



both biotic factors (living: animals, plants, bacteria, among others) as abiotic (physical environment) dynamically inter-related. In this sense, it implicates to acknowledge the group of mutual relationships among the living being and the environment, continuous dynamism, the fact that the ecosystem is not determined by its size, but its structure and its patters of organization. I would say, by its constituting "web-trap", in the place of "structure", its inflections, directions and the multiple passing points and of confluence. (Baptista, 2020, p. 48).

Such theoretical view is also in synchrony with the concepts of Moesch & Beni (2016), who defend a vision of interdisciplinary, transdisciplinary and subjective of tourism, as a social, cultural, communication, economy phenomenon factor, holder of a social practice (Moesch e Beni, 2016).

Such theories are essential for research proposals that transit by other themes and specialties, with the purpose of identifying new clues and connections that unravel new relations with the tourism phenomenon. In the case of the present research, where two researchers are founded with formations on communication, culture, technology and on squizoanalitical perspective, which develop their researches in the tourism specter, the field of subjectivity – each day more explored by the contemporary research - ends up being a fertile ground to identify signs of mutation of tourism and also clues to face the crises faced by the tourism agents.

To look at digital technologies and to current phenomenon in cyberspace is also a way to directly connect with the subjectivity and with the constant entanglements of different ecosystems. Lévy (2010) reminds us that, in the philosophical sense, the idea of "virtual" is understood as power and not the act, which makes any phenomenon in such format to be real, going beyond the common assumption that "reality" would be linked only to what's tangible.

METHODOLOGICAL STRATEGY



Goldemberg (1997) highlights that Social and Human Sciences need to contemplate the peculiarities and the complexities of the studied objects, leaving aside the preoccupation with the general formation of laws, commons within the Natural Sciences. In addition, Minayo (2001) also reminds us that, in any study, there is the presence of an identity between the researcher and the studied object. This way, to understand all the issue of the study of qualitative stamp, we shall use the methodological strategy of the Cartography of Knowledge (Baptista, 2014, 2020), which is used over ten years in research and national and international publications.

The Cartography of Knowledge is divided into four major paths, being them, the Path of Personal Knowledge, the Path of Theoretical Knowledge, the Path of Production Plant and the Path of Intuitive Dimension of Research, which will be explored simultaneously by the research throughout the development of the research. The first path is of the Personal Knowledge, where the research aims at understanding one's interest by the studied theme, just as well as one's own existing knowledge on the theme. In the case of this study, this first path was developed during the introduction, where it was highlighted the history of researches and the discussions on the concepts regarding trust and digital technologies, performed over nearly two years by the authors of this study, in a study group and in a post-graduation program.

The Theoretical Knowledge Path is where the researcher consults the bibliographic referential for the construction of the theoretical basis to the study that is being performed. It is in such step that the researcher also aims, in the relationship with other authors, at increasing one's vision on how to construct a research, reading the suggestions and experiences of other investigators. In this research, such path was explored through a qualitative selection of the bibliographic referential that is already being used in other researches, just as in the reading of new texts that would specifically contemplate such study. Such new texts were found through searches in the Capes Journal Portal, Google Scholar and in the platform Scopus Elsevier. All texts were selected by being recent and relevant texts, according to the



filters in each platform. In addition, it is worth mentioning that such path was also contemplated during the discussions in the group of research, which the authors from this study are part of.

The Path Production Plant is characterized through approximations and investigation actions that the researcher performs by meeting the object, during the development of the research. To execute such path, observations of the discussion in the CriptoArteBr community, in the open channel of the community in the Discord platform and in the observation of the discussion in two lives and in a podcast were made, where the artists from the community have participated. The two chosen lives are available in the channel Homeostasis Lab in Youtube, being them: "Reflection on blockchain, NFT and digital art" with the journalist and curator Guilherme Kujawski and with the computer social scientist and creator of the platform of Brazilian NFT's Hit Et Nunc, Rafael Lima; and "Dismystifying NFT" with the artists Alexandre Rangel, Shima and Taís Koshino, and with the professor and curator Gabriel Menotti.

At last, we also used, as base, the discussions from an episode of the Braincast podcast, which had as theme "NFT's: how the blockchain put the memes for selling" and had the journalist Carlos Merigo, the producer Biatriz Fiorotto, the journalist Samir Salim Jr and the artist Uno de Oliveira.

Not less important, the last path of the Cartography of Knowledge, which is needed to highlight is the Intuitive Dimension of the Research, which is characterized by the moments in which the research vibrates for occurrences and spontaneous manifestations which are deeply connected with the researched object, increasing the reflections and creating new connections. As states Baptista (2020), to open up to the intuition in research implies in recognizing a path of abstract intensities that constitute the investigated phenomenon. It is possible to understand such path of information in this dense and spontaneous flow, which is intuition. In this research, such path enabled relation from the studied phenomenon, in the entanglements of the knowledge fields: Technology, Trust and Tourism.



DISCUSSION AND RESULTS

During the observations of the debates, which occurred in the open channel of the CriptoArteBr community in the Discord platforms, in two lives from the Youtube channel of the organization Homeostasis Lab and in one episode of the Braincast podcast, the following topics were highlighted: the need of decentralization of major corporations with web 3.0, artificial scarcity in cyberspace and collectible appeal for the appreciation of the digital work, environmental impact and carbon use and gender, racial and sexual equity. It is from those items that we shall discuss clues for the mutation of tourism.

Decentralization of major corporations with web 3.0

The discussion on decentralization of major corporations with web 3.0 has highlighted the need to distribute the power,, currently concentrated on the main companies of the segment (Google, Apple, Facebook and Amazon), to make the environment more democratic, stimulating the popular participation and monetizing the artists by the intellectual capital produced, through the blockchain and through the decentralized apps (dapps). This was one of the main topics of the conversation between the journalist and curator Guilherme Kujawski with the computer social scientist and creator of the platform Brazilian *NFT's* Hit Et Nunc, Rafael Lima, during the live "Reflections on blockchain, NFT and digital art".

The appeal for a greater popular participation in the construction of new spaces on the internet may be considered a clue, when compared to the idea of community-based tourism, which involves the locals, in the definition of sustainable tourism projects, both environmentally and economically. The discussion both in art and in tourism, has shown to be an alternative to the excessive influence of capital, highlighting the need to give voice to the public interest of the communities and local or online



movements. In the community channel at Discord, there are several discussions that aim at alerting new members to the fact that philosophy is decentralized, guiding the members to strengthen platforms that use blockchains with such characteristic, since there are also blockchains that are managed in a centralized way.

Artificial scarcity and the collectible appeal for the appreciation of digital work

As we seen throughout the path of this study, what has been justifying the adopting of *NFT's*, according to O'Dwyer (2020), is the idea of artificial scarcity in cyberspace, that technology increases among its enthusiasts. Such issue becomes even more important, since for quite some time such artists search for a way to be appreciated and to give visibility to what is produced in the digital arts, when any media has great capacity of replication. Therefore, by being a central point in the discussions of *NFT's*, the creation of value, through a digital certification registered in the blockchain, still generates doubts.

The artist Uno de Oliveira, in his participation in the podcast "*NFT's*: how the blockchain has put memes for selling", argued a similar situation, through the traditional logic. According to the artist, anyone today may print the "Mona Lisa", masterpiece of the artist Leonardo Da Vinci, and hang it up on the wall, but only the one that is in the Museum of Louvre, in Paris, has its value. Therefore, as an initial certification is generated during the artist and the collector, the principle of value generation would be the same, according to Uno. This means that anyone may replicate the masterpiece, but only the possession of the certification firstly emitted by the artist will give possession.

Of course that tourism may explore the format in the future, as did the band Kings Of Leon, offering advantages or passports for events or tourism attractions. Even the idea of crypto-collectible may be applied, according to



the example highlighted by Mofokeng (2018), which points out that tourism reservations destined to the preservation of rare and threatened of extinction animal species would be creating *NFT's*, to generate a new source of financing for their amusement parks.

Even though, it is necessary to be careful, in case of cultural and tourism events. The practice may start the use of a new form of "digital money scalping", a pretty common practice of reselling tickets up to today. This also has its negative points in art, where O'Dwyer (2020) and Menotti & Velázquez (2021) point out that the financial asset attached to the art may become more valuable than the art itself, losing its initial sense and becoming only speculation.

During the live "Desmythifying NFT", the artists Alexandre Rangel, Shima and Taís Koshino, agreed with the statement of such risk, but affirmed that the environment has already been divided into two clusters. They would be: the cluster of astronomic and speculation transactions and the other cluster, inhabited by artists and collectors who value the new movements that are connected with digital contemporary art. The artists also affirm that this was the only way to be included in the restricted and excluded art market.

In a certain way, with the configuration of the NFT's intelligent contract, which may not be altered after it was being created, in a logic of commerce of a specific event, for example, a percentage of sales of this action, could be passed for the creator organization of it automatically. Such part of the speculation capital, which would still give profit to the NFT creator, could be employed in tourism actions or in social marketing, for financing of the access of other people in the event.

Environmental impact and carbon use

One of the issues very highlighted by NFT's critics is the spend of the necessary energy to validate the blockchain operations. The mechanism of



validation of the technology used by the blockchain of Ethereum, the most used for the emission of NFTs, is similar to the one used by the Bitcoin, called Proof of Work (PoW). Within, miners spread around the world have assembled major structures with computers to process the mathematical calculations that valid the transactions and then, received the reward, which is the emission of new coins.

Mattei (2021), in an article for the ARTnews portal, states that Ethereum, since its birth, was responsible for nearly 96,200.000 tons of CO², which exposes this point of attention. Another signed aspect, however, by Mattei (2021) is that there is no way how to measure whether such spending is caused by *NFT's*, since they are still a small part of the transactions in the net Ethereum. In addition, there are no peer-reviewed studies up to the moment, which point data with precision.

In any way, such issue has not been ignored, even by the NFT's enthusiasts. In the channel of Discord from the CriptoArteBr community, there is an exclusive top that aim at promoting low impact platforms, called movement "*clean NFT*". In this topic, information of more sustainable platforms are available, such as the Brazilian Hic Et Nunc, which uses the blockchain from Tezos, protocol that has an impact of 1 million and a half smaller regarding carbon production when compared to Ethereum, according to the members of the community.

The preoccupation with sustainability in Tourism is not something new, but there is a clue in such issue, which shows a tendency of increasing such appeal. Tourism that will be built post-Covid-19, necessarily, needs to be established on sustainable platforms. Such mass consciousness movement is already giving several signs. In 2020, even before the pandemic, the report of the tendencies "Pinterest 100", which analyzes the searches performed by users in the visual search platform Pinterest (2020), already highlighted that some of the terms searched for were related to responsible and sustainable tourism.



Gender, racial and sexual equity

According to the report “How can Brazil foment an ecosystem of digital professionals?”, disclosed by BrazilLAB and by the Brava Foundation, in partnership with the Center for Public Impact (CPI), only 37% of the opening in the technology sector are occupied by women. The artist Tais Koshino has manifested such preoccupation, during the live “Desmythifying NFT”, when highlighted that the technological environment is dominated by white, straight and heterosexual men, just as the tradition art market. In the CriptoArteBr community channel, available at the Discord platform, there is an exclusive discussion topic so that the minorities may present their works and may speak about the inclusion in the art market issue.

It is worth mentioning that, according to data from the report “Profile of the tourism labor in Brazil in the tourism characteristic activities and in Ipea occupations”, performed by Coelho & Sakowski (2014), tourism labor is majoritarian feminine, representing 54% of the operational openings in the part of housing, travel agencies and airline transportation (ACTs). The report shows to be limited since it does not address data regarding race and sexuality.

This clue is important, not only for segments of technology, tourism and art, but for any other, since, in addition to guaranteeing diversity in numbers, it is necessary that minorities occupy important leadership positions in the economy structure, so that positive changes can be influenced through representativeness.

CONCLUSION

The present research, which has the goal of studying NFTs and the outsourcing of trust as clues for the mutation of tourism, was performed through the observation of the discussions performed in the CriptoArteBr



community channel available in the Discord platform, and through the observation of the participation of members from the community in two lives in the Youtube's Homeostasis Lab channel and in one episode of the Braincast podcast.

According to the specific goals, we discussed throughout this study, different concepts on trust, the vision of authors that represent distinct areas of knowledge, such as Sociology, Marketing, Business Administration, Biology and Economy. We also discussed what *Non-fungible Tokens (NFT's)* are and how the format of such technology aims at outsourcing – even if not in its totality – the principle of trust to technology.

Regarding the last specific goal, we may perceive that some of the main topics discussed by the CriptoArteBr community – such as decentralization of the major corporations with the web 3.0, artificial scarcity in cyberspace and the collectible appeal for the appreciation of the digital work, environmental impact and carbon use and the gender, racial and sexual equity – are related to current tourism issues, which need to be addressed since they are based on such new movement of society, that searches for significant changes in all the segments.

At last, in addition to the practical application of the *NFT's*, with the blockchain, which may arrive in the universe of tourism, perhaps this is part of the present research and other future studies, to sign the idea of movement, which characterizes tourism itself, should not only be interpreted in its physical state. To search for the tourism destination, to absorb the culture of the wanted location, to have contact with locals, even when mediated by digital technologies, may also be considered a form of movement towards the tourism destination. Therefore, whether by the immersion in virtual reality or only through the screen, it is necessary to understand that, since 2020, life has not used cyberspace only as a way of passage, but as an environment where life happens. IN a certain way, where traveling is possible and Tourism also happens.



REFERENCES

Akerlof, G. A., & Shiller, R. J. (2009). *O espírito animal: como a psicologia humana impulsiona a economia e a sua importância para o capitalismo global*. Campus.

Alves, S. (5 mar. 2021). Kings of Leon lança álbum com tokens NFT. B9. Recuperado de <https://www.b9.com.br/140052/kings-of-leon-lanca-album-com-tokens-nft/>.

Anders, P. (2003). Ciberespaço antrópico: definição do espaço eletrônico a partir das leis fundamentais. *Arte e vida no século XXI: tecnologia, ciência e criatividade*. São Paulo: UNESP.

Baptista, M. L. C. (2020). "Amar la trama más que el desenlace!": Reflexões sobre as proposições Trama Ecosistêmica da Ciência, Cartografia dos Saberes e Matrizes Rizomáticas, na pesquisa em Turismo. *Revista de Turismo Contemporâneo*, 8(1), 41-64. DOI: <https://doi.org/10.21680/2357-8211.2020v8n1ID18989>.

Baptista, M. L. C. (2014). Cartografia de saberes na pesquisa em Turismo: proposições metodológicas para uma Ciência em Mutação. *Rosa dos Ventos*, 6(3), 342-355. Recuperado de <https://www.redalyc.org/pdf/4735/473547041003.pdf>.

Braincast. (25 maio 2021). *NFT's: como o blockchain colocou os memes à venda* [Podcast]. Spotify. <https://open.spotify.com/episode/76CHm82v3Ur6i4VFNoJjnx?si=rUAN40SzQRqrIQVmDAzo7g>

BrazilLAB & Fundação Brava (2019). Como o Brasil pode fomentar um ecossistema de profissionais digitais?. Recuperado de <https://profissionaisdigitais.brazillab.org.br/>.

Chevet, S. (2018). *Blockchain Technology and Non-Fungible Tokens: Reshaping value chains in creative industries*. Dissertação, Escola de Altos



Estudos Comerciais de Paris, Paris, França. Recuperado de https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3212662.

Coelho, M. H. P., & Sakowski, P. A. S. (2014). Perfil da mão de obra do turismo no Brasil nas atividades características do turismo e em ocupações. Ipea. Recuperado de https://www.ipea.gov.br/extrator/arquivos/td_1938.pdf.

Gusson, C. (12 out. 2020). *Blockchain* pode ajudar a resgatar a confiança do cidadão, diz BNDES. Cointelegraph Brasil. Recuperado de <https://cointelegraph.com.br/news/blockchain-can-help-rescue-citizens-trust-says-bndes>.

Instituto de Tecnologia e Sociedade do Rio de Janeiro (2018) Relatório *blockchain* para aplicações de interesse público. Recuperado de <https://somos.itsrio.org/relatorio-blockchain-para-interesse-publico>.

Homeostasis Lab. (26 abr. 2021). Reflexões sobre *blockchain*, NFT e arte digital [Video]. Youtube. https://www.youtube.com/watch?v=Ua0UL_q7YhU&t=860s

Homeostasis Lab. (29 abr. 2021). Desmistificando NFT [Video]. Youtube. <https://www.youtube.com/watch?v=EDoaRwIXbDA&t=4916s>

Luhmann, N. (2000). Familiarity, confidence, trust: Problems and alternatives. *Trust: Making and breaking cooperative relations*, 6(1), 94-107. Recuperado de <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.23.8075&rep=rep1&type=pdf>.

Luhmann, N. (2017). *Trust and power*. Cambridge, Polity Press.

Mattei, S. E. (14 abr. 2021). Should You Worry About the Environmental Impact of Your NFTs?. ARTNews. Recuperado de <https://www.artnews.com/art-news/news/nft-carbon-environmental-impact-1234589742/>.

McAllister, D. J. (1995). Affect-and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of management journal*, 38(1), 24-59. DOI: <https://doi.org/10.5465/256727>.



Menotti, G., & Velázquez, F. (26 mar. 2021) Shangri-lá ou Serra Pelada? A estética política dos NFTs. *Revista Zum*. Recuperado de <https://revistazum.com.br/radar/estetica-politica-dos-nfts/>.

Minayo, M. C. S. (2001). *Pesquisa Social. Teoria, método e criatividade*. Petrópolis, Vozes.

Moesch, M., & Beni, M. C. (2016). Do discurso sobre a ciência do turismo para a ciência do turismo. *Seminário da Anptur*, 11. Recuperado de <http://www3.eca.usp.br/sites/default/files/form/biblioteca/acervo/producao-academica/002740362.pdf>.

Mofokeng, N., & Fatima, T. (2018). Future tourism trends: Utilizing non-fungible tokens to aid wildlife conservation. *African Journal of Hospitality, Tourism and Leisure*, 7(4), 1-20. Recuperado de https://www.ajhtl.com/uploads/7/1/6/3/7163688/article_21_vol_7_4_2018.pdf.

O'Dwyer, R. (2020). Limited edition: Producing artificial scarcity for digital art on the *blockchain* and its implications for the cultural industries. *Convergence*, 26(4), 874-894. DOI: <https://doi.org/10.1177/1354856518795097>.

O'Neill, O. (2002). *A question of trust: The BBC Reith Lectures 2002*. Cambridge University Press.

Picinini, R. (2021). *Confiança e tecnologias digitais: uma discussão sobre as ações do Ministério do Turismo brasileiro na pandemia de COVID-19*. Dissertação, Universidade de Caxias do Sul, Caxias do Sul, Brasil.

Picinini, R.; & Baptista, M. L. C. (2020a). Confiança como dispositivo para a retomada do turismo pós-COVID-19. In: *XVII Seminário da ANPTUR - Impacto da pesquisa e da pós-graduação em turismo e hospitalidade na sociedade*, Brasil.

Picinini, R.; & Baptista, M. L. C. (2020b). Smart destinations e tecnologias comunicacionais digitais: informação como princípio básico para a retomada do turismo no Brasil em meio à crise do novo coronavírus. In: *XI*



Postgraduate Conference ESGHT-ISCAL 2020 | Management, Hospitality and Tourism (p. 52-52), Algarve, Portugal.

Picinini, R.; & Baptista, M. L. C. (2021a). Confiança como dispositivo para a retomada do turismo pós-COVID-19. *Cenário: Revista Interdisciplinar Em Turismo E Território*, 9(1), 120–134. DOI: <https://doi.org/10.26512/revistacenario.v9i1.35263>

Autor1; & Autor2 (2021b). Uberización y confianza en las relaciones como retos y potencialidades del turismo. In V. P. C. Borges & J. R. R. Soares (Eds.), *Turismo y desarrollo: Contextos diversos*. Editora Thomson Reuters Aranzadi.

Pierre, L. (2010). *Cibercultura*. São Paulo, Editora 34.

Pinterest (2020). Pinterest 100 | The Top Pinterest Trends for 2020. Recuperado de <https://www.pinterest100.com/en-us/>

Souza, E., & Medeiros, M. L. (2020). Criptomoedas e suas aplicações no mercado turístico. *Marketing & Tourism Review*, 5(1). DOI: <https://doi.org/10.29149/mtr.v5i1.5877>.

Terres, M. S., & Santos, C. P. (2010). Confianças cognitiva, afetiva e comportamental em trocas business-to-consumer. *Revista de Administração FACES Journal*, 9(3). DOI: <https://doi.org/10.21714/1984-6975FACES2010V9N3ART199>.

Terres, M. S., & dos Santos, C. P. (2011). Exame da confiança interpessoal baseada no afeto. *REGE-Revista de Gestão*, 18(3), 427-449. DOI: <https://doi.org/10.5700/rege434>.

Terres, M. S., & Santos, C. P. (2013). Desenvolvimento de uma escala para mensuração das confianças cognitiva, afetiva e comportamental e verificação de seus impactos na lealdade. *Revista Brasileira de Marketing*, 12(1), 122-148. DOI: <https://www.redalyc.org/pdf/4717/471747475006.pdf>.

Terres, M. S., & Santos, C. P. (2015). O papel moderador das consequências na relação entre confiança e seus antecedentes e consequentes. *REGE-Revista de Gestão*, 22(2), 257-273. DOI: <https://doi.org/10.5700/rege562>.

