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Technological innovations of the digital age in the sports industry and the law

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**Master thesis submitted to the professorial body for the partial
fulfillment of obligations for the awarding of a Master's Degree in Sport
Management of the University of the Peloponnese in the specialization of
«Management of Sport Organizations And Businesses»**

Sparta
(2022)

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Date: 17/9/2022

ABSTRACT

Panagiotis Alexandros Rozakis: Technologies of the digital age in the sports industry
and the law

(With the supervision of Marios Daniil Papaloukas, Professor)

This thesis aims to examine a number of applications of innovative digital technologies in the sports industry and the subsequent legal issues that have arisen from their implementation. Technology has greatly affected the development and growth of sports in many areas both on and outside of the field. This influence has only increased with the emergence of new digital applications and their introduction into the sports industry. The applications of financial technology (FinTech) to a wide range of traditional sectors of the sports industry and the interaction they have with other emerging technologies, affect, shape, and change the way sports are played, viewed, experienced and regulated. Chapter I will be composed of the technical definitions of the relevant digital technologies including examples from their integration into various fields to give the reader a better understanding of the technical terms. In Chapter II will be reviewed the effect of FinTech in the sports industry and will be a presentation of a case study of smart contracts, tokenization of sports memorabilia, non-fungible tokens (NFTs), socios, fan tokens and cryptocurrencies and also the interaction of fintech tools with big data and data protection regulations. Finally, the Epilogue comprises concluding remarks about all the previously mentioned and provides thoughts for further investigation.

Keywords: *Fintech, Blockchain, Cryptography, NFTs, Data, Sports Law*

ΠΕΡΙΛΗΨΗ

Παναγιώτης Αλέξανδρος Ροζάκης: Τεχνολογίες της ψηφιακής εποχής στην αθλητική βιομηχανία και το δίκαιο.

(Με την επίβλεψη του Μάριου- Δανιήλ Παπαλουκά, Καθηγητής)

Η παρούσα διπλωματική εργασία στοχεύει να εξετάσει μια σειρά από εφαρμογές καινοτόμων ψηφιακών τεχνολογιών στον αθλητικό κλάδο και τα επακόλουθα νομικά ζητήματα που έχουν προκύψει από την εφαρμογή τους. Η τεχνολογία έχει επηρεάσει σε μεγάλο βαθμό την ανάπτυξη και την ανάπτυξη του αθλητισμού σε πολλούς τομείς τόσο εντός όσο και εκτός γηπέδου. Αυτή η επιρροή έχει αυξηθεί με την εμφάνιση νέων ψηφιακών εφαρμογών και την εισαγωγή τους στην αθλητική βιομηχανία. Οι εφαρμογές της χρηματοοικονομικής τεχνολογίας (FinTech) σε ένα ευρύ φάσμα παραδοσιακών τομέων του αθλητικού κλάδου και η αλληλεπίδραση που έχουν με άλλες αναδυόμενες τεχνολογίες, επηρεάζουν, διαμορφώνουν και αλλάζουν τον τρόπο που παίζονται, αντιμετωπίζονται, βιώνονται και ρυθμίζονται τα αθλήματα. Το κεφάλαιο I θα αποτελείται από τους τεχνικούς ορισμούς των σχετικών ψηφιακών τεχνολογιών, συμπεριλαμβανομένων παραδειγμάτων από την ενσωμάτωσή τους σε διάφορα πεδία, για να δώσει στον αναγνώστη μια καλύτερη κατανόηση των τεχνικών όρων. Στο Κεφάλαιο II θα εξεταστεί η επίδραση της FinTech στον αθλητικό κλάδο και θα γίνει μια παρουσίαση με εφαρμογές έξυπνων συμβολαίων, δημιουργία tokens σε αθλητικά αναμνηστικά, NFTs, socios, fan tokens και κρυπτονομισμάτων και επίσης την αλληλεπίδραση των εργαλείων FinTech με τη νομοθεσία γύρω από Big Data και την προστασία δεδομένων. Τέλος, ο Επίλογος περιλαμβάνει καταληκτικές παρατηρήσεις για όλα τα προαναφερθέντα και παρέχει σκέψεις για περαιτέρω διερεύνηση.

Λέξεις-κλειδιά: *Χρηματοοικονομική τεχνολογία, Αλυσίδα ατανεμημένης εγγραφής, Κρυπτογραφία, NFTs, Προστασία δεδομένων, Αθλητικό δίκαιο*

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INTRODUCTION

Technology has affected and shaped almost every aspect of human activity. Especially, since the 19th century, human life has changed to a degree that few elements of human presence remain unaffected by the use of technological achievements. Numerous dynamic technological innovations have been introduced to the world and have been a catalyst in the progress of many human activities. The rhythm that new technologies affect our everyday life is unprecedented and every sign leads to the conclusion that human resourcefulness is not going to slow down any time soon. These technological advancements have affected sports, on and off the pitch, even though the “sports world” has been sometimes reluctant to fully accept and integrate them. Examples can vary from the well-known in recent years changes in the officiating of sports such as football, basketball, and tennis and the introduction of new sportswear, gadgets, and tools for sports such as tennis and baseball to athletic performance enhancement methods and medical and rehabilitation innovations. Impacts of these innovations have been felt at all levels of sport, from grassroots and amateur sports to the Olympic and Paralympic Games and finally professional sports.

There are numerous next-generation technologies that are beyond the scope of the current thesis but already have a great impact on the sports industry and will definitely be the subject of debate in the following years. Performance-enhancing innovations such as bionic vision and hearing aid technologies, blood doping technologies, and robotics have already raised legal and ethical concerns. In addition, technology has created many sports as a way to challenge and express human creativity and competition, including various extreme sports or adaptations of traditional sports in the 21st century. As the boundaries of the human body expand by the use of immersing technologies, new challenges would be necessary to be addressed by every stakeholder.

These novel options have already imposed pressure on sports organizations and business officials, governing bodies, states, and non-governmental organizations to readress many policies and directives currently used to guide the development and conduct of the sport. The leaders of the sports industry must predict, have an open mind to new

ideas that may seem even controversial, and act faster than others to stay competitive. Challenges arise for every stakeholder in managing and integrating technologies in sports. In the 21st century's globalized market there is no way to stay unaffected by these developments and the sports industry needs to get a competitive advantage through applications of technology. Sports organizations and franchises have to become familiar with emerging technological innovations since the competition between industries that have the same or similar audiences such as the motion pictures industry and the streaming platforms will only become fiercer as they compete for new audiences and the engagement of younger generations. The digital age demands of everyone involved in the sports industry be vigilant and ready to adapt to the emerging needs.

Recently, the sports industry is going through intense digitalization and modernization and is constantly evolving despite having difficulties in keeping up with the rapid pace of technology. Meanwhile, skeptics say that these advances in technology cannot possibly live up to all the hype they are generating nowadays but if someone carefully examines the evolution of the sports industry (new rules, medical and injury prevention advances, new ways of broadcasting sporting events and introduction of a new line of digital products e.a) will conclude that technology has an ever-growing effect in the sports world. Since many passionate fans of several sports and events are younger and from various cultural and geographical backgrounds, accustomed to interacting online are seeking the same kind of fresh solutions from traditional sporting clubs, that they expect from other providers of content, such as social media, motion pictures distribution, or online gaming,¹ the sports industry must adapt to reach that dynamic audience. Many aspects of the industry that relate closely to the new technologies and the use of the world-wide will be affected by the integration of new digital technologies (such as e-sports which have an increasing market share of approximately £1bn in global revenue ² while it is estimated that the number will be \$1.6 billion by 2023).³ These specificities of the sports industry can be addressed with the application of technology and especially in the

¹ Lars Rensing, "Opinion, The future of sports is embracing digitisation" (9 January 2021), online: *Sports-promedia* <<https://www.sportspromedia.com/opinion/sports-blockchain-tokens-digital-collectibles-tech>>.

² "Esports' set for £1bn revenue and 600 million audiences by 2020", (21 March 2017), online: *BBC Sports* <<http://www.bbc.com/sport/39119995>>.

³ Christina Gough, "eSports market revenue worldwide from 2018 to 2023" (13 October 2020), online: *Statista* <<https://www.statista.com/statistics/490522/global-esports-market-revenue/>>.

fields of financing, capital raising, and investment, fan engagement, and fan service, new applications of technology can give solutions to many challenges of the industry. The new reality of the industry will have to handle numerous legal issues, regulations, and requirements, especially considering the transnational and globally linked sports industry. Since the world is changing at a rapid pace, every stakeholder will be required to keep up to date with emerging technologies as a way of obtaining a competitive advantage against not only their traditional but also new emerging factors in the global market.

The purpose of this thesis is to present various of the applications of the digital era in the sports industry and examine some of the legal issues that have already arisen and will eventually come up by their use. There will be a review of the various applications of the financial technology “Fintech”, as a dynamic factor in the finance world⁴ since there are many ways that these tools and practices are used and can be used in the concept of sports. In Chapter I, will be presented the technical definitions of the terms including inter alia, distributed ledger technologies (DLTs), and especially Blockchain, Cryptocurrencies, Tokens, ICOs, and Smart Contracts. Next, Chapter II there will be reviewed the effect of Fintech in the sports industry and will be a presentation of a case study of both practical applications and the emerging legal issues of smart contracts, tokenization of sports memorabilia, crowdfunding through fintech, non-fungible tokens (NFTs), socios, fan tokens, and cryptocurrencies and also the interaction of fintech tools with big data and data protection regulations. There will be an analysis of the legal issues that arise from each one of them and the impact that they have on the sports industry as they have shaped the 21st Century and the issues they have presented to various jurisdictions, especially in the E.U. in the concept of data protection regulation. Finally, the Epilogue is composed of concluding remarks about all the previously mentioned and analyzed.

⁴ Garrett Baldwin, “The top 10 trends in fintech” (15 April 2016), online: *Futures Mag* <<http://www.futuresmag.com/2016/04/15/top-10-trends-fintech>>.

Methodology

For the purpose of this thesis, there will be presented applications of fintech and the relevant digital technological advancements in the sports industry. The legal topics that will be discussed cannot be presented without a brief overview of the terminology around the technology and an analysis of the practical usage of these technologies in the modern sports ecosystem. The bibliography in recent years has been very broad and thus a variety of legal issues has emerged and been analyzed. The ones that have more accurate applications in the sports industry and examples from jurisdictions that have addressed these issues or are leading the legal discussion globally will also be presented. Since it is the author's belief that the applications of digital technology in the sports industry are not issues limited specifically to a single jurisdiction or state, but will be addressed and shaped by international, transnational, and domestic sports organizations, legislative bodies, academics, and business practitioners from a global audience, in this thesis will be presented examples from various sports, states, and legal systems.

In order to assist the reader in understanding more adequately the specifics and characteristics of each field and application, there will be a brief analysis of the relevant technology without going into technical details that are beyond the scope of this thesis and when appropriate, paradigms from various sports and jurisdictions. Then the analysis will be specified in the concept and usage in the sports industry and the legal issues that have arisen.

CHAPTER I

1. *Fintech*

Fintech consists by the terms “finance” and “technology”,⁵ and can be identified in the 1990s as an initiative to promote technological innovation in the financial industry⁶ or as “a new financial industry that applies technology to improve financial activities”.⁷ The 2008-2009 global financial crisis acted as a catalyst that transformed the whole financial services industry.⁸ Prior to crisis samples of FinTech can be traced as an auxiliary tool by financial institutions for their traditional operations, such as the internet banking or the introduction of credit cards. Since the financial crisis and mainly as a precaution there were three key developments that took place: a) The implementation of Stricter Regulations: as a safeguard to economic recovery a way to prevent crises in the future.⁹ b) By 2016 Financial institutions were more and more distrusted by consumers since Financial Services were the most distrusted industry, while on the other hand Technology Services were the most trusted¹⁰ and c) technological advancement, mostly with the birth of a new digital world since the advancement and wider use of mobile applications and the digitization of various consumer services. These Fintech companies are an alternative

⁵ Jelena Madir, *FINTECH, Law and Regulation*, (Cheltenham, UK: Edward Elgar Publishing Limited, 2019) at 1.

⁶ Douglas Arner, Janos Barberis & Ross Buckley, “The evolution of FinTech: A new post-crisis paradigm?” (October 1, 2015), University of Hong Kong Faculty of Law Research Paper No. 2015/047, UNSW Law Research Paper No. 2016-62, online: <<https://ssrn.com/abstract=2676553>>.

⁷ Patrick Schueffel, “Taming the beast: A scientific definition of FinTech” (2016) 4 No 4 Journal of Innovation Management 32, online: <https://journalsojs3.fe.up.pt/index.php/jim/article/view/2183-0606_004.004_0004>.

⁸ Alejandro Puertas et al, “The Next Wave of FinTech: Redefining financial services through technology” (2017) version 1.01 report for the Stockholm School of Economics, online (pdf): <https://www.academia.edu/35568255/Report_The_Next_Wave_of_FinTech_Report_Redefining_Financial_Services_Through_Technology> at 10.

⁹ *Ibid.*

¹⁰ Edelman, “2016 Edelman Trust Barometer” (16 January 2016), online (pdf): <<https://www.edelman.com/trust/2016-trust-barometer>>.

to traditional banks and are competing with them for customers more and more in recent years.¹¹

1.1. Finance and technology

In the past technology has affected the finance sector, with the introduction of credit and debit cards in transactions for example, but the recent technological advancements, the creation of larger databases, and the reduction of operating costs lead to the conclusion that the financial sector is experiencing a total transformation and every business industry cannot remain unaffected. The areas of finance, banking, public markets, and hedge funds are affected by the digital age among others, so Fintech is introducing technologies that are affecting traditional financial services, such as payments, account management, loans, transfer of funds, credit and asset management eg.

Of course, as an effect of the growing interest in the new technologies, investing in FinTech firms has risen substantially in recent years.¹² The number of total global investment in FinTech companies reportedly hit \$57.9 billion in June 2018.¹³ Venture capital investment has erupted, from \$800 million in 2010 to almost \$20 billion by June 2018.¹⁴ These Fintech companies can range from start-ups,¹⁵ financial institutions such as HSBC or Barclays, which are exploiting and partnering up with FinTech start-ups, big techs such as Apple, Meta, or Twitter, financial services companies, such as Revolute, MasterCard, Fiserv, to companies that are focused on a single technological advancement or process, including mobile payments, peer-to-peer lending, retail banking etc.

¹¹ *Supra* note 8.

¹² *Ibid* at 2.

¹³ KPMG, “The Pulse of FinTech 2018” online: <<https://assets.kpmg/content/dam/kpmg/xx/pdf/2018/07/h1-2018-pulse-of-fintech.pdf>> at 4

¹⁴ *Ibid* at 9.

¹⁵ *Supra* note 5 at 4.

1.2. Distributed Ledger Technology

Distributed ledger technology (DLT) can be characterized as a database that is shared across a network and is not stored in a single computer or drive at the same time.¹⁶ DLT have also been defined as “records, or ledgers of electronic transactions, similar to accounting ledgers.¹⁷ A significant difference can be identified in their operation in a common or ‘distributed’ network of participants and not by a central governing body, making the existence of a centralized validation system unnecessary. DLT use cryptography, and encryption techniques with the generation of keys and hash functions, to safely store the data in the blocks and validate the transactions executed in the system”.¹⁸ The overview of the database and the storage of data is not supervised and executed by a central authority instead the data are shared by all the participants of the network. DLT makes it possible to simultaneous view data in real time.

There are different categories of DLT systems, for example depending on who can access the ledger and become a member of the network, distributed ledger technologies can be characterized as restricted and unrestricted systems or permissionless and permissioned systems. The latter are the ones open to the public whereas the former are restricted to certain participants. Another distinction is the one between record and title ledgers where the former operates as a record of the transfers, providing the necessary validation while the latter ones operate on making possible the transfers on the DLT.¹⁹ Finally DLT can be divided into platform asset tokens, where the transaction may or may be not con-

¹⁶ Florence Guillame, *Aspects of private international law related to blockchain transactions*, in Daniel Kraus, Thierry Obrist & Oliver Hari, eds, *Blockchains, Smart Contracts, Decentralised Autonomous Organisations and the Law*, (Cheltenham, UK: Edward Elgar Publishing Limited, 2019) 49 at 50.

¹⁷ ESMA Report, “The Distributed Ledger Technology Applied to Securities Markets” (7 February 2017), online: https://www.esma.europa.eu/sites/default/files/library/dlt_report_-_esma50-1121423017-285 at 5,

¹⁸ *Ibid.*

¹⁹ Joseph Borg, “Blockchain and Land Registration” (17 December 2019), online: *WHPARTNERS* <<https://whpartners.eu/index.php?p=news/blockchain-and-land-registration-1>>.

nected to real world assets or can be associated only with virtual assets (e.g. cryptocurrencies).

1.3. Blockchain technology

Blockchain technology, by making the uniqueness of an asset possible in the digital world, is one of the technologies that have the biggest potential and the wider possible application in many aspects of the sports industry. Through the analysis of the following chapters, it will be evident to the reader that blockchain has the potential to acquire a crucial role in the future of the sports industry. Most of the applications of the technology are based on and are taking advantage of the unique characteristics of the blockchain.

Blockchain technology was first introduced in 2008 when a pseudo-anonymous person or entity named Satoshi Nakamoto published the white paper introducing Bitcoin.²⁰ Blockchain is a network where the transactions are executed, identified and recorded by various users simultaneously.²¹ Blockchain is type of ledger, which utilizes cryptography and ways for consensus for the entering, storage, and editing of data. The following are some of the main characteristics of blockchain: Users share the same ledger and can work simultaneously, without having control over it which operates on a decentralized peer-to-peer network of computers which are called nodes. The chain of entries which are called blocks works as a record of the entire history of the transactions thus making tampering with or rewriting the data very difficult. All these transitions are stored through cryptography ensuring the security and the difficulty to tamper with the history of the transactions. These transactions are pseudonymous since the identity of the parties is not disclosed. The process that guarantees that the identity of the parties is not revealed is achieved by “hashing” which encrypts the data by transforming them into shorter fixed-

²⁰ Sascha L. Schmidt, *21st Century Sports*, (Switzerland, Springer Nature AG, 2020) at 191.

²¹ *Supra* note 16 at 50.

length values. The use of key generators that generate public and private keys ensures pseudonymity which is essential for these transactions²².

A brief description of the way the blockchain functions is the following; a user starts the process, which is represented as a “block” and communicated to a peer to peer (P2P) network of numerous computers (“nodes”). When a block is entered into the chain, tampering with or destroying the data is not possible since all the data has been shared with all the participants.²³ The records of the new block, must afterward be validated by all the users in the network as all members validate the network’s integrity according to a predetermined consensus mechanism which is done through algorithms. As such there is no central authority that provides the validation and credibility to the system²⁴ there is no need for third parties to act as middlemen. Each new input of data to the ledger, following the validation, is done by the “miners” who form blocks for a profit. Then there is in place a consensus protocol that clarifies the way of validation and creation of blocks by an algorithm. There are different ways to execute this mechanism. The two most common algorithms are the so-called proof of work (PoW) and the proof of stake (PoS). The former gives the right to users (miners) to add new transactions to the network by qualifying the work that was done by them and is most commonly done by solving complex cryptographic mathematical equations. In the latter, the maintenance of the network is done by putting up the number of virtual currencies they hold for the right to validate new block transactions. All these are executed anonymously by using code names (digital signatures).

After the verification of blocks, each one gets a hash and they become part of the specific blockchain of transactions and is added to the chain. Every new added block has a link to the others before it, thus every new block is interconnected with the previous one. These records of links remain immutable and timestamped.²⁵ Following, each user adds the newly created block to their ledgers and they keep a copy of the new chain thus

²² George Dimitropoulos, “The Law of Blockchain” (2020) 95 Wash L Rev 1117 at 1127 online: <https://www.researchgate.net/publication/339998624_THE_LAW_OF_BLOCKCHAIN>.

²³ Siraj Raval, *Decentralized Applications* (O'Reilly Media, Inc., 2016).

²⁴ Andreas Antonopoulos, *Mastering Bitcoin: Unlocking digital crypto- currencies* (USA: O'Reilly Media Inc, 2015) at 4.

²⁵ Matthias Lehmann, “Who owns Bitcoin? Private law facing blockchain,” 2019 EBI 42, at 4.

making it certain that every new change to the blockchain is depicted on every identical copy of the blockchain that every user keeps. This way, every node in the network has stored a complete copy of the ledger which cannot be altered.

Thus, the blockchain operates as a decentralized accounting ledger, accessible by every member of the network, and these members act as safeguards for the integrity of the ledger since they possess a copy of the system with the complete transaction history. The tampering with any data stored in the ledger cannot be done without the modification of the entire network. This is a factor that enhances the security and transparency of the transactions and also makes the existence of a central authority unnecessary since the parties that are involved in the network confirm the validity with the use of algorithms.

1.4. Crypto assets and Cryptocurrencies

A definition of Crypto assets can be set as digital assets stored on a distributed ledger.²⁶ EU has defined crypto-asset as “a digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology.”²⁷ Crypto assets are a secure digital representation of value or contractual rights that uses some type of distributed ledger technology (DLT) and can be transferred, stored, or traded electronically.²⁸ Most countries and regulatory authorities treat crypto assets as assets or commodities, rather than a traditional currency and the precise categorization of a crypto asset ultimately depends on whether it is backed by an underlying asset, whether it operates as a means of payment, and the rights and entitlements that attach to its ownership.²⁹ Payment currencies, privacy, utility, security coins, and non-fungible tokens (NFTs) are some of their categories. Payment currencies are digital currencies used in transactions, such as BITCOIN and other cryptocurrencies. Privacy coins are focused on privacy with the use of algorithmic encryption methods. Utility tokens are used in appli-

²⁶ *Supra* note 5 at 75.

²⁷ Proposal for a regulation of the European parliament and of the council on Markets in Crypto-Assets, and amending Directive (EU) 2019/1937 at art. 3.

²⁸ HM Treasury, FCA and Bank of England Cryptoassets Taskforce, Final Report (October 2018), online: <https://www.gov.uk/government/publications/cryptoassets-taskforce>, at 11.

²⁹ *Supra* note 16.

cations to give users several benefits such as selected services for example voting rights. Security tokens can be used for crowdfunding projects. Finally, stable coins are coins, that whose value is stable with the use of fiat or crypto-currencies. Non-fungible tokens are characterized in contrast to fungible tokens to represent a unique digital asset. Some of the abovementioned categories that have a growing application in the sports industry will be reviewed in chapter 2.³⁰

Cryptocurrencies are a category of crypto assets that aim to perform the roles of currency in economic transactions. Bitcoin, probably the most widely known example of cryptocurrency was introduced in January 2009 and it uses blockchain technology to solve the problem of decentralized control and double payment through the use of algorithms.³¹ The decentralized nature and absence of a central governing authority, as in the case of traditional currencies backed by banking institutions for example, the constant and rapid advancements in their cryptographic technology, and the absence of a harmonized definition are issues that prevent them from having a firm regulatory framework. According to the definitions set by the EU³² “virtual currencies are a digital representation of value that are not issued or guaranteed by a central bank or a public authority, and it is possible to be independent of a traditional established currency and are not characterized as currency or money, but are accepted by engaging parties as a means of exchange and which can be transferred, stored and traded electronically.”³³

Cryptocurrencies can either be saved in digital wallets, on exchanges that are digital platforms, and on offline hardware. In the case of centralized exchanges, the user does

³¹ PricewaterhouseCoopers France and Francophone Countries of Africa “How blockchain and its applications can help grow the sports industry?”, (2019) online (pdf): <<https://www.pwc.ch/en/publications/2019/Blockchain%20in%20the%20Sports%20Industry.pdf>> at 12.

³² Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU, Official Journal L 156/43 of 19 June 2018 at art 1 para 2(d)

³³ *Ibid.*

not own the keys so there isn't a total level of control over the account.³⁴ In decentralized wallets, the user does own his keys, meaning he has complete control of the funds in the wallet. The public key is used as an ID by the other users, while the private key is used to access his wallet and then proceed to various transactions.³⁵

Asset tokens that give their owners a specific right over an asset. The creator of the token decides the type of right. The digital tokens that are saved and stored on a ledger or blockchain, can either represent a digital or physical asset.

Utility tokens give their owners the right or ability to access a product, asset, or service.³⁶ This is usually an item or service that exists outside the ecosystem in which the utility token operates.³⁷ An example might be a utility token that entitles its holder to exchange it for a pay-per-view of a team sports game or an offer at a franchise's fan shop.

Security tokens are generally issued by entities for purposes of (i) capital raising, (ii) the tokenization of ownership rights; or (iii) profit sharing. Once issued, this form of tokens can be the subject of further trading, which could be either an organized platform or a more informal market.³⁸ Another important aspect is also the case that cryptocurrencies and utility tokens can be traded, based on their value, but this is more of a consequence of their characteristics, rather than their primary purpose as is the case with security tokens. Given that security tokens are a form of capital raising, there is a risk that these tokens can be legally characterized by existing regulatory laws as 'transferable securities' – for example, shares, contracts for differences, or units in a fund, depending on how they are structured.³⁹

1.5. Smart contracts

³⁴ *Supra* note 16 at 53.

³⁵ *Ibid.*

³⁶ *Ibid* at 76.

³⁷ *Ibid.*

³⁸ *Ibid* at 77.

³⁹ *Ibid.*

One of the applications that were made available due to blockchain and the DLTs is smart contracts. “Smart Contracts” have a crucial part in platforms and applications being developed by blockchain or DLT⁴⁰ and the term describes a line of code that automatically executes the whole or specific terms of an agreement and is stored on a blockchain-based platform.⁴¹ Smart contracts are stored on a blockchain and are automatically executed when specific conditions are met, depending on the contract that regulates the agreement.⁴² The term was introduced by Nick Szabo in 1994 who characterized smart contracts as a computerized transaction protocol that executes the terms of a contract aiming to facilitate common contractual conditions, minimize exceptions both malicious and accidental, and exclude for third parties. Additional goals include the saving of expenses by lowering transaction and other relevant with the agreement costs. Each smart contract processes certain orders and is executed when it is confirmed that the predetermined conditions have been met. Smart contracts can be used to govern two types of contractual transactions that also can be identified widely in the sports industry: Firstly, executing the allocation of funds when the conditions are met, and secondly, imposing financial penalties in the event of non-completion of certain terms.⁴³ With smart contracts the human factor is not required once the smart contract is been uploaded on the blockchain and the data around the agreement which includes the time, parties and specific terms are stored in the blockchain.⁴⁴ They utilize cryptocurrencies and tokens while some blockchains have characteristics that make them appealing in using smart contracts because they have been designed specifically to facilitate their use.⁴⁵

⁴⁰ Stuart Levi & Alex Lipton, “An Introduction to Smart Contracts and Their Potential and Inherent Limitations” (May 26, 2018) *Harvard Law School Forum on Corporate Governance*, online: <<https://corpgov.law.harvard.edu/2018/05/26/an-introduction-to-smart-contracts-and-their-potential-and-inherent-limitations/>>.

⁴¹ *Ibid.*

⁴² Nigel Gopie, “What are smart contracts on blockchain?” (July 2, 2018), online: IBM <<https://www.ibm.com/blogs/blockchain/2018/07/what-are-smart-contracts-on-blockchain/>>.

⁴³ *Supra* note 40.

⁴⁴ *Supra* note 16 at 54.

⁴⁵ PricewaterhouseCoopers France and Francophone Countries of Africa “How blockchain and its applications can help grow the sports industry?”, (2019) online (pdf): <<https://www.pwc.ch/en/publications/2019/Blockchain%20in%20the%20Sports%20Industry.pdf>> at 12,

1.6. Initial coin offerings (ICOs)

Initial coin offering (ICO) can be characterized as a means of fundraising from various stakeholders, by capitalizing on cryptocurrency.⁴⁶ Those seeking to raise capital so that they can launch a novel product or service can offer an ICO and investors can purchase the coins in order to acquire new tokens. This token may have some utility that is connected to the product or service the company is offering or even represent a stake in the company. An ICO can be modified to the specific needs and will be available for certain periods, while usually small amounts are made available for purchase. The coins may be minable, like Bitcoin, or there may be a fixed number of them created. The term ICO was inspired by IPO (Initial Public Offering), which refers to offering of shares by a public company to the public in a new stock issuance for the first time. An ICO refers to ‘a process in which companies, entrepreneurs, developers or other promoters raise capital for their projects in exchange for digital tokens that may represent payment for a good or service, or a security, commodity or derivative thereof, depending on the nature of the ICO’s structure and the participants’ activities’.⁴⁷ An ICO is a very light-touch form of an initial public offering (IPO), the difference being that, in an ICO, investors are offered the opportunity to purchase tokens. However, like the more traditional IPOs, ICOs may be deemed securities offerings if they meet certain regulatory criteria.

⁴⁶ Alison Lui & Nicholas Ryder, *FinTech, Artificial Intelligence and the Law, Regulation and Crime Prevention*, (New York, Rutledge, Tylor and Francis Group, 2021) at 110.

⁴⁷ Financial Stability Board, “Crypto-asset markets, Potential channels for future financial stability implications (10 October 2018) online (pdf): <<https://www.fsb.org/wp-content/uploads/P101018.pdf>> at 3.

1.7. Decentralized Autonomous Organizations (“DAOs”)

A definition for decentralized autonomous organization (DAOs) is “a limited liability company” with special provisions allowing the company to be algorithmically run or managed through smart contracts”.⁴⁸ The goal of these organizations is to codify the rules and decision-making systems of an organization by eliminating the need for documents or even individuals in governing the organization through the use of smart contracts.⁴⁹ DAO are quasi-corporate entities, where some actions of governance within the organization such as voting rights are fully automated. The blockchain platform, the smart contracts, and the algorithms would execute the decisions around corporate governance making the human factor unneeded. While in the traditional governing structure of organizations, where decision-making is concentrated at the top (i.e., at the board of directors), the governing process of a DAO can be programmed directly into algorithms.⁵⁰ These organizations theoretically have the potential to implement alternate ways of corporate governance, by retaining traditional structure of corporate organization while introducing the flexibility of the digital world.⁵¹

⁴⁸ David Siegel, ‘Understanding the DAO Attack’ (9 March 2022), online: *Coindesk* <www.coindesk.com/understanding-dao-hack-journalists/>.

⁴⁹ *Ibid.*

⁵⁰ Aaron Wright & Primavera De Filippi, “Decentralized Blockchain Technology and the Rise of Lex Cryptographia” (10 March 2015), online (pdf): https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2580664>.

⁵¹ *Ibid* at 16

CHAPTER II

2. *Fintech in the sports industry*

2.1. *Smart Contracts in the sports industry*

The sports industry is an area that is mainly organized, coordinated, managed, and evolved through contracts. Every legal practitioner either an associate at a sports law firm or an in-house legal counsel in a sports organization or business can verify that contracts are a huge amount of the day-to-day work in the industry. In most jurisdictions, in the sports industry for a contract to be characterized as legally binding and enforceable, there are six factors required to be identified: an agreement to be in place, between parties that are competent, the presence of genuine assent on behalf of them, supported by consideration, made for a lawful objective and that the agreement has the typicality required by law.⁵² The norm in the sports industry is using an explicit contract in contrast to an implied contract which can be met in other industries. Three categories of sports contracts are the most commonly addressed: professional service contracts; endorsement and marketing contracts; and appearance contracts.⁵³ The terms of the contracts can vary to a different degree depending on the sport, jurisdiction, or athlete.⁵⁴ Traditional contracts regulate almost every aspect of the sports industry and even though they still have a vital role, in order for the sports industry to further continue to grow, sports managers are looking for ways to utilize smart contracts.⁵⁵ By accepting and utilizing smart contracts in various parts of the sports industry, agents, organizations, and legal practitioners, can reduce legal disputes, and transaction costs and revolutionize the industry by becoming a paradigm that other industries would be eager to follow.⁵⁶

⁵² "Sports Contracts – Basic Principles", online (pdf): *UsLegal.com*, <<https://sportslaw.uslegal.com/sports-agents-and-contracts/sports-contracts-basic-principles/>>.

⁵³ *Ibid.*

⁵⁴ *Ibid.*

⁵⁵ Cody von Rueden, "Smart players need smart contacts: How blockchain and smart contracts can revolutionize the sports industry", (2020) 25 *II BLJ* at 138.

⁵⁶ *Ibid.*

A big part of the sports industry is handled through contracts whether it is a written agreement governing the relationship between the athlete and the team, the spectator and the company that holds the rights to broadcast the sporting event (whether it is TV Channel, Streaming platform etc.), or even gamblers and the bookkeeping agency.⁵⁷ A large number of sports disputes arise from contractual differences and all the parties are constantly looking for ways to minimize costs and be more time and cost-efficient. When someone keeps in mind that especially in the sports industry which has a low level of trust between contracting stakeholders that often have conflicting interests, technology can be one of the ways forward. Blockchain makes transactions between even conflicting parties to be executed in an automated way, with transparency, and without friction.⁵⁸ The self-executing nature of smart contracts allows for immediate enforceability and automatic execution only upon completion of predetermined conditions with the use of blockchain.⁵⁹ Smart contracts can consist of an agreement, where the specific terms have taken the shape of electronic code where the contracting parties can structure their relationships more efficiently, in a self-executing manner by also reducing costs around the enforceability of the contract.⁶⁰

Utilizing smart contracts in the context of sports has the potential to diminish the emergence of contractual disputes. Smart contracts based on predetermined conditions can be executed in an automated way. This automatic execution first of all prevents parties from not making agreed payments and also prevents them from demanding ones that were not agreed. Utilizing smart contracts will allow for a more secure and trustful way of wire transfers and can also revolutionize the way bonuses are paid.⁶¹ These bonus payments, where the bonuses are based on the reaching of on-field performances or achievements can be governed by smart contracts where the transaction will automatically take place when the predetermined conditions are met. In the industry, many athletes

⁵⁷ *Supra* note 20 at 194.

⁵⁸ *Ibid.*

⁵⁹ Reggie O'Shields, "Smart Contracts: Legal Agreements For The Blockchain" (2017) 21 1 NC Banking Inst 177, online: <<http://scholarship.law.unc.edu/ncbi/vol21/iss1/11/>> at 179

⁶⁰ *Supra* note 50 at 11

⁶¹ Jon Southurst, "Ex-Rugby Star: Smart Contracts Could Prevent Legal Disputes in Sport" (22 January 2015), online: *CoinDesk* <<https://www.coindesk.com/ex-rugby-star-smart-contracts-prevent-legal-disputes-sport/>>.

have performance bonuses when they meet certain numbers whether the number is goals scored or appearances made in a season, etc. Additionally, endorsement deals can be regulated through smart contracts with the same mindset. When the predetermined contract terms are fulfilled (eg. when the predetermined number of basketball shoes with the name of the athlete that needs to be sold is reached) the agreed amount of money is automatically released to the athlete. The potential opportunities for the use of smart contracts in sports vary from being an auxiliary tool for various industry workers in their everyday work to replacing effectively traditional contracts at all levels of the sports industry depending on the level of integration. Athletes and other stakeholders can govern with smart contracts sponsorships and endorsement deals, health insurance plans, agent and manager representation, they can also manage image, name and likeness rights, and other general contractual obligations whether the deal governed by the smart contract is between a club and an athlete or between sports clubs, or even between governments and international organizations. The integration of smart contracts in the professional sports industry, and the utilization of the special characteristics of blockchain technology, can lead to secure, verified, and executed credibly and fast transactions by also reducing third-party fees since third parties would be only auxiliary within the use of smart contracts.

There are some evident advantages from the utilization of smart contracts in the sports industry. First of all, the application of blockchain technology means that the contracts that involve cryptocurrencies will use a digitized, decentralized public ledger for all transactions resulting in an automated way of moving funds.⁶² This way the contracting parties save time since the transfers are instantaneous since they don't need the middle man and the associated fees moreover, they can reduce the manpower needed to execute these transactions.⁶³ The broader use of smart contracts would not reduce significantly the need for lawyers and courts since disputes are almost certainly going to continue to arise and the regulations around technology are only going to be expanding. Lawyers that deal with smart contract coding and blockchain technology law can help incorporate

⁶² Josh Stark, "Making Sense of Blockchain Smart Contracts" (4 June 2016), online: *CoinDesk* <<https://www.coindesk.com/markets/2016/06/04/making-sense-of-blockchain-smart-contracts/>>.

⁶³ *Ibid.*

existing laws and regulations into blockchain development by applying existing laws and regulations to a new exciting area.

On the other hand, there are also potential disadvantages that come with the integration of innovative technology in an industry that to a certain degree is driven and managed by traditional methods. First of all, smart contracts are using a form of cryptocurrency as the chosen currency to exchange funds. This comes with all the disadvantages of the cryptocurrency sector, such as the high market volatility and the uncertainty that comes with cryptocurrency exchanges. The solution can be to convert the cryptocurrency of choice into a fiat currency which means that the transactions would be instantaneous and would require an associated fee thus diminishing any gained advantages. Moreover, since smart contracts are essentially lines of code, they can produce complications and misconceptions, especially considering the limitations on coding knowledge and training of lawyers and law practitioners. Lawyers that are involved in the field of cryptography and fintech need to cooperate and interact with computer engineers in order to ensure that lines of code accurately depict the agreement between the parties and is in compliance with the general contractual rules and obligations. In addition, in order for the blockchain system to be incorporated in the sports industry, the relevant data around smart contracts need to be uploaded onto the relevant ledger. The processes of obtaining the necessary data around appearances and scoring performances in a league as needed to pay athletes their agreed bonuses automatically, from various databases including newspapers and news-feeds and official sports leagues statistic databases, is needed to exploit blockchain.⁶⁴ Finally one of the most important aspects that delays the acceptance of smart contracts as a reality in the sports industry is the lack of regulation around blockchain technology and the differences in regulatory laws and governmental overview in various jurisdictions.

In order to govern and regulate transactions that involve smart contracts, academics, governing bodies, and lawyers have to examine whether smart contracts should be treated as “traditional” contracts. There are different definitions and characteristics of contracts among legal systems and states but there are some basic characteristics of contracts: two or more parties, which declare explicit their wishes to be bound by the con-

⁶⁴ Jon Southurst, “Ex-Rugby Star: Smart Contracts Could Prevent Legal Disputes in Sport,” (2015), online: <<https://www.coindesk.com/ex-rugby-star-smart-contracts-prevent-legal-disputes-sport>>.

tract, and the mutual consent to be bound by the agreed terms and conditions. In the USA, a common law state, the basic requirements for a contract to be considered legally binding are mutual consent, expressed by a valid offer and acceptance, followed by adequate consideration, capacity, and legality (minding the differences between states). In several states, the element of consideration can be satisfied by a valid substitute. Another example is the Greek civil code which views valid a contract that contains the will of two or more entities,⁶⁵ providing the parties with the right to freely negotiate, draft and execute a contract to their best interests and granting them freedom of choice on the ways of the contract set by their right of private autonomy.

Since many parts of fintech are not fully regulated, and much scrutiny evolves around the regulation of the industry, it is not certain what regulations and laws will be introduced in the future and in different jurisdictions. In order for a smart contract to be enforced, it may have to be in compliance with validity rules around traditional contracts. Smart contracts will have to abide by laws and rules for contracting in various legal systems set by lawmakers and courts in various jurisdictions. For regulation purposes, a smart contract is viewed by legal practitioners in the same way as traditional contracts which apply existing legal principles that are adjusted in a way to deal with the specificities of smart contracts. Smart contracts seem to meet all needed requirements by law (depending on different legal systems, states, and jurisdictions), to be considered as contracts and thus legally binding similar to traditional contracts. Specific regulations may be required to be implemented in order to address specific needs and arising issues given the novel character of the smart contracts and considering the specific characteristics of the developing technology. Legal practitioners and legislators in both common and civil law jurisdictions need to be technologically updated and familiar with the particularity of smart contracts to treat them in a harmonized way given the increased interaction of parties residing in different states and the global nature of these novel digital innovations.

By utilizing smart contracts within the various aspects of the sports industry, stakeholders will be presented with many possibilities and different uses. Because this technology is novel, the absence of firm regulatory system has been discouraging development and implementation in areas where traditional means such as traditional contracts

⁶⁵ Greek Civil Code (P.D. 456/1984 - Greek Government Gazette A 164/24.10.1984) at art. 185 – 196

have been successful. Since the sports industry is always looking for ways to improve and gain a strategic advantage over competing businesses. The use of smart contracts has created excitement among companies since they are promising in inserting new strategic benefits within the industry and promise to renew and even revolutionize the use of traditional contracts.

2.2. Payments in cryptocurrencies and partnerships with cryptocurrency brands

Transactions in cryptocurrencies have become more and more common in the modern world as cryptocurrencies can be viewed as an alternative payment method that us blockchain technology enabling parties to execute transactions digitally with specific advantages. While this may seem odd to many people unfamiliar with the way cryptocurrencies work, it is not so different from the way people have handled their businesses for thousands of years. Aristotle defined currency as a human invention dictated by the need to compare tradeable goods with others, in order to be traded where there is a demand for them. Currency is an instrument of satisfaction of the given demand on the basis of economic and social progress and it becomes a guarantee for trade transactions. If its value is subject to fluctuations this tendency is undoubtedly to become fixed.⁶⁶ While there are many challenges that cryptocurrency users need to overcome in order to normalize cryptocurrencies as a choice of payment in transactions, in this subchapter the focus will be on the specific challenges the sports sector faces during common transactions e.g. between sports clubs and athletes, and on legal issues concerning the partnership with cryptocurrency companies which are common in recent years.

Cryptocurrencies as an asset class have raised several issues of commercial law including matters relating to their characterization and categorization and their legal handling including cases around property, currency, and contract.⁶⁷ The globally distributed network where cryptocurrencies operate has faced many challenges in finding and setting

⁶⁶ Aristotle, *The Nicomachean Ethics*, (Oxford University Press, 2009), at chapter V.

⁶⁷ Iris H-Y Chiu & Gudula Deipenbrock, *Routledge Handbook of Financial Technology and Law*, (New York, Rutledge, Tylor and Francis Group, 2021) at 329.

a harmonized legal treatment. Since crypto assets are subject to financial regulations, they have been considered in the context of financial instruments in many jurisdictions including the EU, while in others new rules and laws were implemented. In contrast, some jurisdictions have set their face against crypto assets by seeking to ban activities relating to them.

The approaches taken in those countries which have taken the route of prohibition show a variety of targets and are illustrative of several approaches taken. However, potentially incompatible regulatory and legal approaches to crypto assets across key markets may have enormous implications for the development of the crypto asset market in the longer term since leading world economies take a reluctant approach.

In the sports industry, many athletes from various sports and levels have recently announced their agreement with their clubs to have a part of their salary paid in cryptocurrencies rather than traditional currency. While this choice of payment has many similarities with more conventional ways of reimbursement there are special characteristics that produce challenges for all involving stakeholders. Payments in bitcoin, which is one of the most popular cryptocurrencies can be encountered in various industries more and more often in recent years but they are not used commonly due to various technical and legal considerations and also increasing transaction cost issues. It is of the highest importance that there is a high level of trust when there are transactions involving cryptocurrencies⁶⁸ and since trust, understanding of the technical aspects, as well as the legal issues around cryptocurrencies, are essential for the success of the whole transaction system, the lack of understanding and experience can be the facilitator of obstacles in comprehending and capitalizing crypto currencies in the best possible way.⁶⁹

There are many examples from the sports world where organizations and athletes have used the new way of payment to gain the advantages that come with it. In January 2018 the Turkish football club *Harunustaspor* completed the transfer of an athlete using

⁶⁸ Fred Steinmetz et al “Ownership, uses and perceptions of cryptocurrency: Results from a population survey”, (2021) 173 *Technological Forecasting & Social Change* 121073, online: <<https://doi.org/10.1016/j.techfore.2021.121073>>.

⁶⁹ Ivan Tarkhanov , Denis Fomin-Nilov, & M. V. Fomin, “Crypto access: Is it possible to use cryptocurrencies in scholarly periodicals?” (2020) *Learned Publishing*, 34(2), 253–261. online: <<https://doi.org/10.1002/leap.1331>>.

bitcoin⁷⁰. A, *Perth Heat* a franchise of the ABL⁷¹, adopted Bitcoin as an acceptable currency and offered make payments with the cryptocurrency in November 2021.⁷² The *Sacramento Kings* of the National Basketball Association (NBA) followed their initiative and announced that shortly, any member of the franchise can be paid in bitcoin.⁷³ Odell Beckham Jr., an athlete who plays for the *Los Angeles Rams* NFL team, has announced that he will be paid his salary reaching \$4.25 million in Bitcoin.⁷⁴ NBA veteran Andre Iguodala announced that he will be paid in Bitcoin and that he'd be giving away Bitcoin of value of \$1 million to his followers.⁷⁵ Another high-profile athlete that is rumored to have agreed to receive a portion of his contract in some form of cryptocurrency is the basketball superstar and Iguodala's teammate Steph Curry who announced in September 2021 a partnership with FTX. This partnership marks his first investment in the crypto space with him acquiring an equity stake in exchange for being a brand ambassador for the company and American football superstar Tom Brady also signed his deal with FTX earlier this year.⁷⁶ Trevor Lawrence, who was picked first in the 2021 NFL⁷⁷ by the *Jacksonville Jaguars*, has placed his entire signing bonus with FTX in Bitcoin and Ethereum.⁷⁸ There are numerous examples from many sports and levels, ranging from amateur athletes and domestic clubs to the most prolific franchises and superstars of each sport.

⁷⁰ Alan Dawson, "This tiny football team just announced itself to the world by becoming the first to ever buy a player with bitcoin" (31 January 2018), online: *Business Insider* <<https://www.businessinsider.com/bitcoin-turkish-club-harunustaspor-first-to-pay-for-a-footballer-using-cryptocurrency-2018-1?r=US&IR=T>>.

⁷¹ Australian Baseball League

⁷² "Perth Heat to Operate On Bitcoin Standard" (17 November 2021), online: *Perth Heat* <<https://perthheat.com.au/news/perth-heat-to-operate-on-bitcoin-standard/>>.

⁷³ Drew MacMartin, "Why Are Athletes Demanding To Be Paid In Bitcoin?" (25 April 2021), online: *Nasdaq.com* <<https://www.nasdaq.com/articles/why-are-athletes-demanding-to-be-paid-in-bitcoin-2021-04-25>>.

⁷⁴ Turner Wright, "Rams player Odell Beckham Jr. will accept NFL salary in Bitcoin" (22 November 2021), online: *cointelegraph* <<https://cointelegraph.com/news/rams-player-odell-beckham-jr-will-accept-nfl-salary-in-bitcoin>>.

⁷⁵ Anupam Barshney, "What major sports are paying athletes in crypto?", (26 April 2022), online: *cointelegraph* <<https://cointelegraph.com/news/what-major-sports-are-paying-athletes-in-crypto>>.

⁷⁶ Vildana Hajric & Sebastian Tong, "Steph Curry secures deal with crypto platform FTX" (7 September 2021), online: *Forbes* <<https://fortune.com/2021/09/07/nba-steph-curry-ftx-deal-cryptocurrency-platform>>.

⁷⁷ National Football League.

⁷⁸ Chris Bumbaca, "Trevor Lawrence with Blockfolio, will have signing bonus placed into cryptocurrency account" (26 April 2021), online: *USA Today Sports* <<https://eu.usatoday.com/story/sports/nfl/draft/2021/04/26/trevor-lawrence-jaguars-signing-bonus-cryptocurrency/7383149002>>.

The legal challenges though may be presented to every stakeholder and they need to consider them before engaging in cryptocurrency transactions.

First of all, there is a requirement to examine the legal status of cryptocurrencies in the given states where the transactions take place. Some jurisdictions don't allow the use of cryptocurrencies while there are others that don't have a regulatory framework in place. Also, there is several tax and accounting issues, that also need to be taken into consideration by the parties and given the cryptocurrency industry volatility these issues can be crucial in the sustainability of the whole integration of the cryptocurrency in the sports industry.

Cryptocurrencies have raised challenges for tax authorities while companies and their customers may find difficulties in their relationship with them. The speed of innovation and the rapid growth of cryptocurrencies is requiring a harmonized tax treatment.⁷⁹ Furthermore, many jurisdictions don't have a clear and firm taxation policy over cryptocurrencies. Given the relatively new concept of cryptocurrencies the applicable accounting standards and the governing laws are still a work in progress in the industry and can have variations from jurisdiction to jurisdiction (even in the same country when the stakeholders are dealing and operating within a federal state).⁸⁰

Athletes that have their salary or a part of it paid in a form of cryptocurrency may still be obliged to pay income tax. In the UK if someone is paid in a form of cryptocurrency he will still need to pay income tax and will be required to submit national insurance contributions.⁸¹ In the event that the taxes aren't paid by the franchise, then the liability would burden the athlete. There might be an obligation to pay capital gains tax on the event cryptocurrency is resold but since cryptocurrencies can be characterized as assets (depending on the legal characterization of cryptocurrency in the relevant jurisdic-

⁷⁹ Ian Bradley, "How taxes on cryptocurrencies and digital assets will soon take shape" (23 March 2022), online (pdf): *EY* <https://www.ey.com/en_gl/tax/how-taxes-on-cryptocurrencies-and-digital-assets-will-soon-take-shape>.

⁸⁰ PWC "A look at current financial reporting issues" (December 2019), online (pdf): *PWC* <<https://www.pwc.com/gx/en/audit-services/ifrs/publications/ifrs-16/cryptographic-assets-related-transactions-accounting-considerations-ifrs-pwc-in-depth.pdf>>.

⁸¹ HM Revenue & Customs, 'Check if you need to pay tax when you receive cryptoassets', GovUK, (19 December 2018) online: <<https://www.gov.uk/guidance/check-if-you-need-to-pay-tax-when-you-receive-cryptoassets>>.

tion), the athletes could therefore be liable for either income tax (in the event where cryptocurrency is part of their payment-salary) and capital gains tax (when they resell the cryptocurrency which can be characterized as property).⁸²

Clubs and sports organizations, on the other hand, must calculate the value of the selected cryptocurrency that they have chosen in order to pay salaries or make other payments and need to calculate the relevant taxes based on the given value.⁸³ The legal counsel of a sports club or franchise needs to be alert to the tax regulations in relation to cryptocurrencies that may differ significantly regarding the contract, the jurisdiction, and the employment and taxation regulations that the club needs to oblige. In the case where clubs have income in a cryptocurrency from a sponsor, another club, or fans, the cryptocurrency will likely be exchanged for fiat money by a banking institution or company that offers banking services. In this way despite the fact that franchises may have income in cryptocurrency, they actually might possess no amount on their balance sheets due to accounting or investment reasons, depending on the circumstances and the advantages that the ownership of crypto assets may bring in the future.

Several issues need to be addressed by sports governing bodies and state authorities in cases where athletes and clubs are conducting transactions that involve cryptocurrencies. The use of cryptocurrencies has all the characteristics that were already mentioned in Chapter 1 of the current paper, so they are among others, pseudonymous. This way it is not possible to identify the individuals behind these transactions so they present a perfect opportunity for franchises to not comply with financial, tax, anti-money laundering, anti-bribery, and anti-terrorism regulations.⁸⁴ Illicit transactions are a commonality in sports, for example, in the process of transfers or signing of athletes or in the payment of agents or managers, or even for money laundering and match-fixing purposes.⁸⁵ The use of cryptocurrencies for such purposes would provide further obstacles to governing bodies in preventing, monitoring, or regulating them especially considering the much easier and frictionless way of paying through cryptocurrencies rather than using tradi-

⁸² Tiran Gunawardena, "Bitcoin Payments In Sport - The Opportunities And Risks For Clubs And Players", (3 December 2021), online: *Lawinsport* <https://www.lawinsport.com/topics/item/bitcoin-payments-in-sport-the-opportunities-and-risks-for-clubs-and-players#_ftn45>.

⁸³ *Ibid.*

⁸⁴ *Ibid.*

⁸⁵ *Ibid.*

tional banking institutes. Anti-money laundering, anti-terrorism, and anti-bribery legislations need to take into account the anonymity cryptocurrencies provide to users. The sports industry has been surrounded by a lot of scrutiny and doubt due to the many scandals in the past and the characteristics of cryptocurrencies make them ideal for exploitation for illegal causes. Governing bodies responsible for the integrity and promotion of their respective sports have to be vigilant about how payments in cryptocurrencies are made and with the cooperation of national governments build a regulatory framework with the cooperation of national and transnational governments to address emerging issues. In addition, accounting standards should be harmonized on a global scale in order to allow for fair value accounting with unified and harmonized standards respecting and complying with financial regulations. Especially considering that sponsorship deals and partnerships with cryptocurrency companies are a commonplace this may result in clubs wishing to hold cryptocurrency assets on their books thus making it a necessity to clarify their unified characterization from a tax and accounting perspective.

Furthermore, as mentioned above, there is an increased involvement of cryptocurrency brands through sponsorship agreements and partnerships with many sports organizations, companies, and individual athletes. This trend involves huge amounts of money and given the specificities of the nature of these deals and partnerships, there is also a need for careful examination from a legal and regulatory perspective to avoid complications. Not all jurisdictions allow cryptocurrency transactions thus making it necessary for due diligence around the legal and regulatory status of cryptocurrencies in the jurisdictions of domicile which has to be followed by careful examination of tax, regulatory, and accounting issues as was mentioned when there is transaction of payments involving a form of cryptocurrency. Rightsholders and directors of sports organizations and companies need to obtain specialized legal and financial advice before entering into a partnership with a company that is involved in the cryptocurrency sector.⁸⁶ While the due diligence is not significantly different from the usual one undertaken when partnering with a non-crypto currency company, the fact that the cryptocurrency sector is not regulated in

⁸⁶ Joshua Kay, "A Guide For Sports Organisations To Partnering With A Cryptocurrency Provider" (18 May 2022), online: *LawInSport* < https://www.lawinsport.com/topics/item/a-guide-for-sports-organisations-to-partnering-with-a-cryptocurrency-provider#_ftn12>.

many jurisdictions for a sufficient period or there is not an existing regulatory framework at all makes the partnerships and the agreements less predictable thus the risks of the partnership more difficult to assess and deal with.

Before the start of season 2021/2022 Watford F.C., a English football club announced that signed a sponsorship deal with Stake.com, a virtual platform used for sports betting to become the club's principal shirt sponsor.⁸⁷ A part of the sponsorship fee was paid in cryptocurrency without any further information about the exact percentage of cryptocurrency used to cover the payment for the deal. They also reached an agreement for a shirt sleeve sponsorship, with Stake.io agreeing to pay the club to display the cryptocurrency Dogecoin logo, which has featured on the club's shirt sleeve for the 2021/22 Premier League season.⁸⁸ When entering into deals with cryptocurrency brands about sponsorship agreements, rightsholders need to address some issues. The acceptance of cryptocurrency as part of payment is a matter that needs careful consideration given the increased market volatility of the cryptocurrency sector. Moreover, the choice of the right cryptocurrency may dictate the nature and the specific terms of the contract governing the agreement and of course, there are tax and auditing causes that affect the decision of whether the franchise will retain the cryptocurrency or exchange it immediately for a fiat currency at the current rate.⁸⁹ Where a significant proportion of the sponsorship fee is to be paid in cryptocurrency, rightsholders may require that a percentage (or even the entire amount) be paid upfront by the sponsor rather than the more standard season-by-season payment structure especially if there is an uncertainty if the sponsor will be able to comply with contractual terms. The sponsorship agreement will also need to include terms that are clear on the jurisdiction-specific regulatory restrictions or concerns. While the cryptocurrency regulatory landscape differs from jurisdiction to jurisdiction, with many jurisdictions not having a clear regulatory framework at the time, displaying a cryptocur-

⁸⁷ Watford FC, "Official: Watford FC & Stake.com Announce New Multi-Year Principal Partnership" (22 July 2021), online: *watfordfc.com* <<https://www.watfordfc.com/news/club/official-watford-fc-stakecom-announce-new-multi-year-principal-partnership>>.

⁸⁸ Adam Leventhal & Joey D'Urso, "Exclusive: Watford to wear Dogecoin on their sleeves in the Premier League" (14 August 2021), online: *theathletic.com* <<https://theathletic.com/2759960/2021/08/14/exclusive-dogecoin-watford-sleeve-sponsor-premier-league/>>.

⁸⁹ *Supra* note 86.

rency-related logo on a club's shirt may be permitted in the club's home jurisdiction but may be prohibited in a jurisdiction where the same club plays a pre-or post-season tour match⁹⁰ or has an international fixture, as was the issue with various betting companies that have partnerships with sports clubs. The legal counsel that will negotiate the specific terms and finally draft the contract should ensure these scenarios are predicted before the signing of the sponsorship agreement.

Rightsholders are possible to often request robust termination rights in non-payment scenarios which in the case of payment in cryptocurrency is a scenario where the sponsor brings the rightsholder into disrepute.⁹¹ Rightsholders will also expect final approval over all partnership-related advertising together with appropriate protections that allow the rightsholder to confidently use the sponsor's IP in its marketing, across social media, and in its communications with fans. The regulation of crypto assets is struggling to keep pace since the whole blockchain technology evolves at a very fast pace. When negotiating the terms of a long-term sponsorship deal rightsholders should give careful thought to the protections it requests from the sponsor since they would seek some safeguards that the sponsor will comply with all applicable regulation throughout the term of the partnership and will obtain any necessary permits or licenses that may be required as a result of such regulation.⁹² Rightsholders may also want to consider including specific termination rights that can only be triggered in the event of amendments to the cryptocurrency regulations in their jurisdiction. In order to predict a dispute both parties should consider the termination terms of the relationship in the event law or regulation change and restrict their rights under the agreement – for example, clubs should consider what they would do if new regulations meant that they could no longer display a cryptocurrency brand on the front of their shirt.⁹³

Concluding, sports clubs and cryptocurrency firms when operating as rightsholders and sponsors respectively, should ensure they stay up to date on the cryptocurrency regulatory landscape as there will likely be changes during the term of their agreement

⁹⁰ *Ibid.*

⁹¹ *Ibid.*

⁹² *Ibid.*

⁹³ *Ibid.*

that will affect the nature of their existing and future sponsorship deals. While the number of partnerships between cryptocurrency companies and rightsholders is only likely to continue to rise, both parties should not enter into these deals without having the proper due diligence and by having an understanding of the new digital world and the impact of the commercial terms that have been agreed.

2.3. Non-Fungible Tokens

The term “Non-fungible token” (NFT) is used to characterize a unique digital asset (an asset that is non-interchangeable. This is in contrast to the nature of cryptocurrencies or even traditional currencies), which are interchangeable since each coin is identical to all others and isn’t valued differently. Consequently, NFTs are unique (or offered for a limited edition) assets.⁹⁴ The unique digital records residing on a blockchain are used primarily to authenticate the ownership of underlying rights in digital content which includes images, texts, videos, songs or any other digital object or record.⁹⁵ The scarcity of NFTs refers to the rarity of a non-fungible token or asset. Rarity is one of the factors behind the increase of the value of NFTs. An example that is applicable to the sports industry is one of the tickets, where a ticket for a sporting event can be almost the same as any other ticket so an NFT can be part of a collection and similar to others and also unique and valuable due to this uniqueness.⁹⁶

The contrast of NFT with a fungible token or asset makes it easier to understand the nature of NFTs. Fungible tokens, which are more common, are tokens in which every token has the same characteristics and value, so they are all identical and can be replaced by one another in the same a 1 euro bill can be replaced by any other of the same value.⁹⁷ On the other hand, paradigms of non-fungible assets can be tickets to events, works of art, memorabilia, or collectibles.⁹⁸

NFTs, like cryptocurrencies, are disruptive technologies that at the time of writing remain in grey areas in matters of legal recognition. However, as they intend to emulate concepts that are familiar and legally recognized, such as collectibles/artworks or fiat cur-

⁹⁴ Mark Galli, “Cultivating Culture Through Commoditisation: Why NFTs Present An Unparalleled Opportunity For The Sports Sector” (7 November 2021), online: *Lawinsport* <https://www.lawinsport.com/topics/item/cultivating-culture-through-commoditisation-why-nfts-present-an-unparalleled-opportunity-for-the-sports-sector#_ftnref5>.

⁹⁵ Robyn Conti & John Schmidt, “What You Need To Know About Non-Fungible Tokens (NFTs)” (14 May 2021), online: *Forbes* <<https://www.forbes.com/advisor/investing/nft-non-fungible-token/>>.

⁹⁶ Diego Geroni, “Understanding The Attributes Of Non-Fungible Tokens (NFTs)” (1 September 2021), online: *101blockchains* <<https://101blockchains.com/nft-attributes/>>.

⁹⁷ The European Union Blockchain Observatory & Forum, *Demystifying Non-Fungible Tokens (NFTs)*, online (pdf): <https://www.eublockchainforum.eu/sites/default/files/reports/DemystifyingNFTs_November%202021_2.pdf> at 4.

⁹⁸ *Ibid.*

rency, sometimes they can have the same or similar legal recognition. NFTs fit within the legal framework that governs primary and secondary transactions in ‘goods’, particularly literary works and artworks. Such recognition serves to mitigate risks and provide actionable remedies to stakeholders engaging with the NFT ecosystem. Legal clarity and balance will be requisites in order for NFTs to be big part of industries such as the sports industry. NFTs have attracted interest and are involved in discussions in recent years as a new means of revenue in various industries and in the sports industry besides being a source of revenue they find a wide variety of uses from being an engagement tool for fans by enabling ‘ownership’ of digital iconic sport moments to providing tools for true fan ownership of sport clubs.

2.3.1. NFTs in the sports industry

The interest in owning digital art, content, and collectibles is rising over the past few years. Many sports leagues, organizations franchises, and sports athletes or ex-athletes are using NFTs as a means of increasing fan engagement and providing new sources of revenue. The process of achieving these goals can vary including minting iconic sports moments as NFTs, like digital trading cards, for fans to own, creating digital signed memorabilia and collectibles, and using NFTs to evidence membership of fan or loyalty programs through which real-life experiences are offered.⁹⁹ These initiatives provide new and additional revenue sources and have the characteristic that can address a global audience since the new “products” are made available to fans and customers worldwide.

NFTs in sports can be found in different forms addressing various issues and problems and providing a wide range of possibilities. NFTs allow rightsholders to engage with their communities in an unprecedented way: by giving fans – regardless of their lo-

⁹⁹ Abhinav Shrivastava & Parvati Bhat, “The Legal Recognition Of Non-Fungible Tokens (NFTs) In India”, (28 September 2021), online: *Lawinsport* < https://www.lawinsport.com/topics/item/the-legal-recognition-of-non-fungible-tokens-nfts-in-india#_Toc83758503>.

cation - the opportunity to connect with their chosen sports team or athlete, through means that transcend the traditional rules of engagement.¹⁰⁰ NFTs can create digital ownership, authenticity in the case of memorabilia and collectibles, traceability and security, and can provide better and faster ways of exploitation in various sectors while NFT platforms can provide an avenue for franchises and sports organizations to showcase memorabilia, directly to the public by cutting out third parties and reducing transaction costs. Smart contracts that can be used in the sale can make the enforcement of moral rights easier especially since they can dictate percentages that would go to original owners after further and subsequent sales.

In addition to the effect NFTs can have in the sports memorabilia sector, a big impact is possible by combining traditional merchandising strategies. For example, NFTs can be combined with ticket- merchandising. Tickets can be a valuable asset of memorabilia and an NFT can represent a tangible asset in the digital world. One paradigm is the initiative of the NBA franchise Dallas Mavericks. On 5.1.2022 during the half-time break took place the retirement ceremony of Dirk Nowitzki, one of the most prolific and decorated players in the franchise's history, jersey. Outside of the usual ceremonial proceedings, the club offered fans exclusive NFTs for everyone in attendance and 20,000 NFTs were minted on the Polygon blockchain to the owner of the event.¹⁰¹ By scanning a barcode on their printed ticket they were able to access and store in their digital wallets their NFT and have digital memorabilia of this special day. The NBA, La Liga, and Serie are among the many organizations that have entered the blockchain market and have developed partnerships with crypto organizations. On 29 September 2021 the NFL, along with The National Football League Players Association (NFLPA), and the company Dapper Labs partnered in creating highlight reels in the form of NFTs fans.¹⁰² In Formula 1, the team of Red Bull has partnered with the company named Sweet in offering digital col-

¹⁰⁰ *Supra* note 94.

¹⁰¹ Will Hendron, "The Dallas Mavs gave fans NFTs for Dirk Nowitzki's jersey retirement" (6 January 2022), online: *Input* <<https://www.inputmag.com/culture/the-dallas-mavs-gave-fans-nfts-for-dirk-nowitzkis-jersey-retirement>>.

¹⁰² Lawinsport "The National Football League, The NFL Players Association And Dapper Labs Announce New NFT Deal To Create Exclusive Digital Video Highlights" (4 October 2021), online: *Lawinsport* <<https://www.lawinsport.com/news/item/the-national-football-league-the-nfl-players-association-and-dapper-labs-announce-new-nft-deal-to-create-exclusive-digital-video-highlights>>.

lectibles while McLaren Mercedes has offered digital car parts in the form of NFTs where fans can combine in assembling the full racing car.¹⁰³

NFTs can be extremely valuable in the metaverse, where the virtual world can have representations of the tangible assets that a fan can purchase. The metaverse along with augmented reality and the innovations in video representation can promise a whole new experience for fans. The NBA franchise of Brooklyn Nets has introduced a novel video coverage of their games by using 100 high-resolution cameras that are installed in their homecourt and can provide a new way of viewing a basketball game.¹⁰⁴ Assets in this digital universe where sports can be experienced will be represented in the form of NFTs that their owners can use them for various reasons.

The NFT industry is evolving at a rapid pace and the sports industry is one of the most dynamic fields where the changes are evident. By taking into account sustainability concerns, the whole ecosystem, and the legal uncertainty and debate about the nature of NFTs there is a long way to say affirmatively that NFTs have a solid future in the industry and it is not a bubble that is ready to burst. On the other hand, if fans embrace the concept of digital collectibles the possibilities for increasing fan engagement are enormous and all the stakeholders must stay alert for the opportunities that the advancement in relevant technologies will offer. In the next subchapters, there will be presented more examples of the use of NFTs in the sports industry by examining their legal nature and the issues that have emerged from their use.

¹⁰³ Jonathan Noble, "Why F1 is embracing NFTs, despite the critics" (8 February 2022) online: *Motorsports* < <https://us-motorsport-com.cdn.ampproject.org/c/s/us.motorsport.com/f1/news/why-f1-is-embracing-nfts-despite-the-critics/7984848/amp/>>.

¹⁰⁴ Will Gendron, "The Brooklyn Nets' metaverse tech puts players on the virtual court" (18 January 2021), online: *Inputmag* < <https://www.inputmag.com/culture/the-brooklyn-nets-debut-metaverse-technology>>.

2.3.2. Characteristics of NFTs

There are several characteristics that define most types of NFTs:¹⁰⁵

Uniqueness: A limited number of tokens can be produced with each being individually identifiable.¹⁰⁶ The first tweet ever written or a digital video or photo or sound recording are examples of unique tokens.

Rarity: NFTs can have characteristics that make them rare and thus valuable. Some NFTs can have singularities in the line code, or the specifics of their issuance that make them artificial valuable. Other NFTs are valuable because of their numerical rarity. In the concept of sports, a club may release a certain and limited number of NFTs around for example digital photos of the team, which will be more scarce and thus rare. Other NFTs have a historical rarity that makes them special. An evident example is the first ever tweet which was sold as an NFT.

Ownership: NFTs can be characterized by the proof of ownership making possible a partial ownership, and tracking of the assets especially when they represent tangible physical assets.¹⁰⁷

Immutability: As analyzed in the first chapter since the token are based on the blockchain, it is very difficult to tamper, without erupting the whole network. Thus, trust and transparency is guaranteed in their usage.¹⁰⁸

Programmability: NFTs can add new value to even tangible assets. NFTs can be programmed as desired in order to ensure that original owners can continue to receive moral or intellectual property rights even from consequent sales.¹⁰⁹

Minting of NFTs: NFTs are ‘minted’ on a blockchain with each transaction of sale and transfer of the given NFT set to be recorded on the ledger through the NFT network’s validation protocol. In the case of Ethereum-based NFTs, this validation is

¹⁰⁵ The European Union Blockchain Observatory & Forum, Demystifying Non- Fungible Tokens (NFTs) online (pdf):
<https://www.eublockchainforum.eu/sites/default/files/reports/DemystifyingNFTs_November%202021_2.pdf> at 4.

¹⁰⁶ *Ibid.*

¹⁰⁷ *Ibid.*

¹⁰⁸ *Ibid.*

¹⁰⁹ *Ibid.*

through the ‘smart-contract’ program that is prepared by its publisher and describes the events that would complete the transaction.¹¹⁰ NFTs can be minted and traded over any blockchain network that supports the minting of NFTs and the building of distributed applications that facilitate the execution of minting and trading instructions and Ethereum is the most preferred platform since it through its smart-contract functionality has established a unified standard for NFTs.

2.3.3. Legal Characterization of NFTs

Despite the extensive coverage and interest in the NFT market, the legal recognition of NFT transactions is still untested in most jurisdictions globally and there is an absence of a firm and harmonized legal framework. The debate and the conversation focus on fundamental issues starting with the legal definition of NFTs. Additionally, there is a discussion of the legal profiles relating to the regulation of their legal nature, intellectual property, anti-money laundering legislation, consumer legislation, and tax law among others. On a global base, there have been attempts to class them by analogy, with one approach favoring classification as property (in the nature of a collectible) and the other suggesting classification as security (i.e. a tradeable financial asset).¹¹¹ The distinction is important as it is relevant to understand if the existing legal frameworks are sufficient to govern NFT transactions or whether they are entirely novel and deserving of sui generis legal treatment.

Various jurisdictions and legislative bodies have treated NFTs in different ways. In practice, the principle of functional equivalence is employed in regulating new technologies, where an analogous format exists, unless the new medium creates circumstances that enable subversion of a substantial element or established legal norm or lead to un-

¹¹⁰ Micah Zoltu “What is a Smart Contract”, (25 August 2022) online: *ethereum* <<https://ethereum.org/en/developers/docs/smart-contracts/>>.

¹¹¹ Andrea Tinianow, “No Slam Dunk For Plaintiffs In NBA Top Shot Moments Class Action Lawsuit” (17 May 2021), online: *Forbes* <<https://www.forbes.com/sites/andreatinianow/2021/05/17/no-slam-dunk-for-plaintiffs-in-nba-top-shot-moments-class-action-lawsuit/?sh=533f5142df3d>>.

reasonable consequences.¹¹² In the UK the UK Treasury department has stated that in regulating crypto-assets the UK government will remain technology agnostic, applying existing rules and laws, with subsequent adjustments or edits to address specific issues or emerging risks.¹¹³ While the document defines a “cryptoasset” as “a digital representation of value or contractual rights that can be transferred, stored or traded electronically, and which may (though does not necessarily) utilize cryptography, distributed ledger technology or similar technology”, using the term interchangeably with the term “token”. NFTs can comply with this definition given the use of cryptography in the depiction of value and contractual rights which is possible for further exploitation and trade. The EU doesn’t have a regulation at the time being, but there are intentions to establish regulations around digital assets¹¹⁴ and there are two ongoing initiatives. The first one is the Proposal for a Regulation on Markets in Crypto–Assets (MiCAR)¹¹⁵ that would set a harmonized framework for digital assets in the EU. On 30 June 2022 the European Parliament and the Council have announced that they aim to adopt the proposal within the next year. The second is the Proposal for a Regulation on a pilot regime for market infrastructures based on distributed ledger technology (DLT–Pilot Regime)¹¹⁶ which aims to apply on circumstances where there are exemptions from securities regulations in DLT operations. In the EU, crypto assets are defined as “a digital representation of value or rights that can be electronically transmitted and stored using distributed ledger technology or similar technology”.¹¹⁷ This current broad definition of crypto assets in MiCAR will be most proba-

¹¹² HM Treasury ‘UK regulatory approach to cryptoassets and stablecoins: Consultation and call for evidence’ (January 2021) online (pdf): <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/950206/HM_Treasury_Cryptoasset_and_Stablecoin_consultation.pdf>.

¹¹³ *Ibid.*

¹¹⁴ Sandali Handagama, “The View From Brussels: How the EU Plans to Regulate Crypto” (20 October 2021), online: *Coin Desk* <<https://www.coindesk.com/policy/2021/10/20/the-view-from-brussels-how-the-eu-plans-to-regulate-crypto/>>.

¹¹⁵ ‘Proposal for a Regulation of the European Parliament and the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937’, European Commission, published 24 September 2020, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0593>, (MiCAR)

¹¹⁶ The Proposal for a Regulation on a pilot regime for market infrastructures based on distributed ledger technology (DLT–Pilot Regime)

¹¹⁷ Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937) (Art. 3 para. 1 no. 2 MiCAR)

bly much narrower¹¹⁸ since it is beyond the scope of MiCAR to regulate unique digital assets such as digital artworks, memorabilia, and collectibles. Additionally, other EU legislation would be considered regarding NFTs including EU laws governing financial markets.¹¹⁹ In the case an NFT may qualify to fall under the definition of a financial instrument under the provisions of MiFID II a series of regulations would apply to NFTs (the same as for financial instruments).¹²⁰ Since NFT are unique assets they will probably not be categorized as transferable securities given their special characteristics, and there is going to be needed further regulation and analysis of NFTs in EU level.¹²¹

Various other states have classified NFTs as similar to crypto assets. In Germany NFTs are classify often as crypto assets¹²² of a value that has not been issued or guaranteed by a financial institution and does not have the legal status of a legal tender, but are used in transactions as means of payment based on an agreement or actual practice, or used for investment purposes and can be transmitted, stored and traded electronically likely as a unit of account and in certain rather specific cases as electronic securities or investment assets.¹²³ In other cases it can be classified as a unit of account as Bitcoins, which are characterized as units of account under the same Act¹²⁴. Units of account can be viewed analogously to foreign currencies but are not denominated in legal tender.¹²⁵ In Italy which doesn't have an explicit regulatory framework applicable to NFTs, they could be viewed as investment products and thus applicable to investment legislation¹²⁶, if they follow the requirements of a capital disbursement, an expectation of profit, and the assumption of a risk directly linked and correlated to the capital disbursement.¹²⁷

¹¹⁸ *Supra* note 105 at 4.

¹¹⁹ DIRECTIVE 2014/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 May 2014, on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU, Official Journal L 173/349 of 12 June 2014. (MiFID II)

¹²⁰ *Supra* note 105 at 5.

¹²¹ *Ibid.*

¹²² sec. 1 (11) sentence 4 German Banking Act (Kreditwesengesetz, KWG)

¹²³ *Ibid.*

¹²⁴ *Ibid* at Section 1 (11) sentence 1 no. 7.

¹²⁵ *Supra* note 105 at 8.

¹²⁶ Legislative Decree 58/1998 the *Italian Consolidated Financial Act*.

¹²⁷ *Ibid.*

Many other jurisdictions have reviewed relevant topics of crypto assets and NFTs. What is clear even with a superficial review is the need of harmonized initiatives and suggestions regardless of the differences between the legal systems. Since many proposals for legislation are currently under discussion in the respective legislative bodies, it is crucial that legal academics and civil society organizations and legislators have a common direction and by interpreting the existing legal framework to dictate whether securities regulations or private law should govern the existence and operation of NFTs.¹²⁸

Another element of NFTs is their interaction with existing trademark and copyright laws and the way they can be used to protect brands, intellectual property assets, and NFTs,. More applications for trademarks have terms containing terms relating to digital technologies such as NFTs so there is a need to clarify their classification in the concept of applications for the protection of trademarks containing terms that include NFTs and other virtual assets. The European Union Intellectual Property Office (EUIPO) is increasingly receiving such applications and the EUIPO has published guidelines in order to clarify the approach of the Office for clarification purposes. In the newsletter by the EUIPO¹²⁹ the virtual goods are assigned to Class 9 of the Nice Classification¹³⁰ because given their treatment as digital content or images. In the 12th edition of the Nice Classification, the term “*downloadable digital files authenticated by non-fungible tokens*” will be incorporated. The newsletter defines NFTs as “unique digital certificates registered in a blockchain, which authenticate digital items but as distinct from those digital items” and does not accept the term “non fungible tokens” exclusively and it states explicitly that the “type of digital item authenticated by the NFT must be specified”.¹³¹ Additionally it is stated that the same edition will accept the term “downloadable digital files authenticated by non-fungible tokens: as a product assigned to Class 9. In the U.S.A. The United States Patent and Trademark Office (USPTO), has also 45 classes of goods and services, and the

¹²⁸ *Ibid* at 14.

¹²⁹ EUIPO, “Virtual goods, non-fungible tokens and the metaverse” online: https://euipo.europa.eu/ohimportal/en/news-newsflash/-/asset_publisher/JLOyNNwVxGDF/content/pt-virtual-goods-non-fungible-tokens-and-the-metaverse

¹³⁰ International Classification of Goods and Services also known as the Nice Classification.

¹³¹ *Supra* note 129.

ones that apply to NFT related companies or individuals are classes 9 (computers and scientific devices), 35 (advertising and business services), 41 (education and entertainment services) and 42 (science and technology services).¹³² Both offices have taken a similar approach towards NFTs since the USPTO states that “non-fungible tokens (NFTs) are maintained on a blockchain and typically represent digital items and authenticate their ownership”.

Since it is stated in the EUIPO’s newsletter that the virtual goods services and NFTs will have a classification according to the established principles of classification for services and that the Office’s view is expressed in the 2023 Guidelines document where there are some arguments that will definitely be taken into consideration in moving forward. The presented definition of NFTs by the Office includes only the term “certificate” which narrows the definition of written declaration in blockchain only to NFTs.¹³³ The approach by EUIPO does not fully explain, define or even mention the complexity of the token economy which leaves open the possibility of misinterpretation and confusion for consumers, trademark owners, and legal practitioners. Also, NFTs have recently been the subject of court verdicts which have viewed them as “property” or “asset” as presented in the previous paragraphs of this subchapter. The term “property” or “asset” refers to the token that is produced and not the digital file linked the smart contract used in the generation process which makes the definition of NFTs by the EUIPO somehow inaccurate since it views the NFT as subsidiary to the file it authenticates.¹³⁴ Additionally, sometimes NFTs include digital rights that give certain privileges (it is common that NFTs are collectibles or memorabilia as much as utilities in the digital world) in which the digital file is worthless since the actual values is in the amenities that come with the NFT, like membership rights of an association or a franchise as seen in the case of fan tokens.¹³⁵ Concluding, it is almost certain that stakeholders would comment and provide productive thought in the discussion with the EUIPO and the classification of NFTs would be broader than the term “downloadable digital files authenticated by NFTs” in

¹³² *Supra* note 130.

¹³³ James Kwong, “[Guest post] What is an NFT? A comment to the EUIPO Guidance on NFTs” (14 July 2022), online: *TheIPKat* <<https://ipkitten.blogspot.com/2022/07/guest-post-what-is-nft-comment-to-euipo.html>>.

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*

Class 9. The many other possibilities and actual features of NFTs should be represented in the classification of products and services of trademarks applications in order to protect more sufficiently rightsholders and also the consumers of the EU.

Finally, a recent judgment from UK courts dealt with a case of NFT fraud in a way that set a precedent that can be followed by courts in various jurisdictions. In *Lavinia Deborah Osbourne v Persons Unknown Ozone Networks Inc Trading as Opensea*¹³⁶ the High Court of England and Wales granted a freezing order over two NFTs that were apparently stolen from the digital wallet of their owner Ms Osbourne, thereby extending this developing jurisdiction to cover NFTs.¹³⁷ The following investigation revealed two accounts opened on OpenSea, a peer-to-peer marketplace run by Ozone Networks Incorporated (Opensea), a USA company. Ms Osbourne filed a suit to the English courts for an urgent proprietary freezing order against persons unknown and a Bankers Trust order against Opensea which required Opensea to assist in the tracking and identification of the unknown entities who owned the digital wallets where her NFTs were located.¹³⁸ Following the precedent set in *AA v Persons Unknown*¹³⁹ the judge agreed that NFTs can be viewed, similarly to other crypto assets, as property and also followed the precedent set in *Ion Science Limited v Persons Unknown and others*¹⁴⁰ which ruled that the NFTs should be treated as located at the place where the owner is domiciled, so in the case at hand within the jurisdiction of the English courts.¹⁴¹ Since Ms Osbourne didn't know the location of the people behind the fraud the court considered the matter of alternative service against the persons unknown while seeing it possible that they could be located in states that are members of the Hague Service Convention.¹⁴² Since it would be against the purpose of the freezing order the court decided to depart from the Convention scheme.¹⁴³ In the matter of jurisdiction, the court besides that the defendant had no presence in UK, granted the order "on the assumption that Ozone would wish to cooperate with the Eng-

¹³⁶ [2022] EWHC 1021 (Comm)

¹³⁷ Hugo Plowman & Olivia Woodhead, "Non-Fungible Tokens: A Landmark Judgment" (1 July 2022), online: *Mishcon De Reya* <<https://www.mishcon.com/news/non-fungible-tokens-a-landmark-judgment>>.

¹³⁸ *Ibid.*

¹³⁹ [2019] EWHC 3556 (Comm).

¹⁴⁰ (21 December 2020).

¹⁴¹ *Supra* note 137.

¹⁴² Hague Conference on Private International Law.

¹⁴³ *Supra* note 136.

lish Courts for the purposes of supplying information which enables the proceeds of fraud to be traced".¹⁴⁴ Given the difficulties in tracing and recovering digital crypto assets as NFTs, the courts as in the case at hand, are demonstrating a clear willingness to adapt existing legal principles to provide effective remedies.¹⁴⁵ By dealing with novel features of crypto assets the court applied established legal principles and remedies that were developed for more conventional forms of property.¹⁴⁶ The *Lavinia Deborah Osbourne v Persons Unknown Ozone Networks Inc Trading as Opensea*¹⁴⁷ sets a precedent on recognizing the proprietary rights of NFT holders since NFTs are recognized as property that would be able to be frozen by injunction and makes it clear that NFTs would be treated as every other crypto asset (as cryptocurrencies) on the matter of granting proprietary freezing injunctions.¹⁴⁸ Especially in the sports industry, where NFTs have been incorporated to a significant degree, this judgment and the ones that will follow who will clarify and develop the regulation around NFTs, will provide the necessary stability in order to make the industry more predictable and sustainable.

2.3.4. Intellectual Property Rights and NFT ownership

One of the basic issues that NFT regulation has to take into account is the governance and protection of ownership rights. Copyright is used to protect works of authorship that have originality, and have been made in a tangible form of expression, granting the owner several rights over the work for a specific amount of time depending on the jurisdiction.¹⁴⁹ The originality of the work must be in the concept of independent creation, and is required to have a minimal level of creativity to be able to be registered as

¹⁴⁴ *Supra* note 137.

¹⁴⁵ *Ibid.*

¹⁴⁶ *Ibid.*

¹⁴⁷ *Supra* note 136.

¹⁴⁸ *Supra* note 137.

¹⁴⁹ Mary Kate Brennan, Soniya Shah & Anna Naydonov, "Demystifying NFTs and intellectual property: trademark and copyright concerns" (17 June 2022), online: *Reuters* <<https://www.reuters.com/legal/legalindustry/demystifying-nfts-intellectual-property-trademark-copyright-concerns-2022-06-17/>>.

copyright.¹⁵⁰ In this way, many NFTs qualify for copyright protection similar to the way works of art do.

In cases of intellectual property infringement, it would be a valuable tool in the hands of NFT owners to apply copyright protection legislation and by dictating whether the owner of an NFT owns the item or asset that is connected with it or owns only specific rights associated with it. These rights can include reproduction of the original work, selling or exploiting the copyright, etc. An important element in NFT transaction is to clarify whether a transfer of NFT means a subsequent transfer of intellectual property rights over the work connected. The digital content that underlies an NFT is mainly governed by local domestic laws, and so the intellectual property rights in such digital content remain with the creator or commissioner of the content. When the digital content is minted into an NFT, then the rights that pass to the NFT holder are defined by the terms of the NFT project which can be an assignment and transfer of the intellectual property rights in the digital content, such as in the case of Bored Ape Yacht Club.¹⁵¹ In other cases, however, the NFT provides a narrower license for access and display of the digital content, which is more common, especially in the case of sports-related NFTs like NBA Topshots. In this case, the ownership of the rights is left to the NBA. In the event that someone who has bought an NFT wants to reproduce it, the owner of the rights (the NBA) has to agree to it. Just by depicting a work of art or a sports image, it doesn't mean that every intellectual property or image right is available. Owners of NFTs need to acquire the rights from everybody who were involved in the creation of an artwork or an image and video in the case of sports digital highlights if he wants to exploit the original item. In such cases where the parties agree to transfer intellectual property rights, a smart contract can codify the agreement and include in the code the given rights of the buyer.

Another element in NFT ownership is the infringement of existing intellectual property rights by the creators of digital assets. One recent case that may affect the sports industry is involving one of the most prestigious fashion houses. Hermès has commenced legal actions against the launch of 100 MetaBirkins NFTs which included images of the

¹⁵⁰ *Ibid.*

¹⁵¹ *Supra* note 99.

Birkin bag.¹⁵² The claimant supported that the creator of the NFT is tried to exploit the BIRKIN trademark owned by Hermes by adding the generic term ‘meta,’” that associates with “virtual worlds and economies” where the NFTs are traded.¹⁵³ This is one of the first cases that center on fashion-related NFTs from a trademark infringement and dilution perspective while the defendant claims “fair use” as an artistic expression which is a term with different meaning and substance in various legal systems and jurisdictions. The outcome of the case can be a roadmap for other big-name brands that are actively taking the temperature of the space, including litigation¹⁵⁴ in this space, when examining trademark and copyright infringement. In the sports industry, the most recent example is John Terry, the former England international footballer who was forced to remove the Premier League Trophy in NFTs promoted by him. The Premier League trophy has been protected as a trademark and subsequently, any commercial exploitation requires an agreement with the owner of the trademark.¹⁵⁵ Every involving party has to keep in mind that even if the conversation is around “new territories” there are existing domestic and transnational intellectual property laws that need to be taken into consideration since they are applicable in this digital reality.

It is possible to pay royalties to the creator of an NFT similar to royalties paid in the entertainment sector such as in the motions picture and music industries. By utilizing a smart contract, owners can get paid when they sale their NFTs but can also predict further reimbursements for future resales. Of course it is problematic in the case when the person who wants to resale it does so in a digital wallet or platform that doesn’t recognize the previous marketplace. But this seems more of a technicality rather than a problem that will need lawmakers and courts to resolve. In the case of national or international organizations or federations, it is important to keep in mind individual image rights. Past

¹⁵² TFL, “Hermès Names MetaBirkins NFT Creator in Trademark Infringement, Dilution Lawsuit” (16 January 2022), online: *thefashionlaw* <<https://www.thefashionlaw.com/hermes-names-metabirkins-creator-in-trademark-lawsuit/>>.

¹⁵³ *Ibid.*

¹⁵⁴ *Ibid.*

¹⁵⁵ Jacob Steinberg, “John Terry removes Premier League trophy on NFTs after legal intervention” (28 February 2022), online: *The Guardian* <<https://www.theguardian.com/football/2022/jan/28/john-terry-removes-premier-league-trophy-on-nfts-after-legal-intervention>>.

agreements such as the one many football federations have with the Italian company Pannini which produces the collectible cards of football players for every World Cup can be used as a template and guideline for contracts and agreements in the digital world.

Concluding, rightsholders and creators of NFTs, sports clubs, athletes and organizations can follow traditional ways to protect their intellectual property by filing for trademarks and copyrights, that can protect and enforce their rights and protect their property from exploitation and misuse by others. These rightsholders can view the digital world as the new marketplace to launch new digital products, goods, and services, engaging with their fans and supporters and expanding their brand name in the digital or meta universe. By this way franchises may expand to new audiences but may also prevent the illegal and unauthorized exploitation of their intellectual property rights by third parties.

2.3.5. Viability of NFTs in the sports industry

All relevant parties and especially legal practitioners, consultants, and sports managers dealing with transactions and contractual agreements involving NFTs need to consider a number of points, involving the selection of the right IP in order to create the NFT, agreements about the image rights and of course the demand and the right marketing strategy for the products by the fans. Besides the broad volatility of the crypto industry that NFTs are vitally connected, stakeholders need to examine various elements that may have an impact on whether NFTs will be a substantial factor in the sports industry or it will be another bubble that when burst may have negative effects on the whole industry.

The selection of the right asset is vital, so that the NFT market can capitalize on the demand for unique digital content. One interesting characteristic of the NFTs is that almost anything in the digital world can be offered to the public (whether it is investors or fans) and being the object of a transaction may have the opposite effect than expected (besides being a commercial failure). NFTs work at the same time as a fan engagement tool and a groundbreaking means of commercialization and capital raising so there is a

need to be selected carefully and while considering the unique characteristics and needs of a fan base that is different than the usual commercial audience. The example of the failed attempt of Liverpool F.C. to launch a collection of NFTs was accepted with a lot of negative criticism from the supporters who accused the club of cynically attempting at exploiting fans.¹⁵⁶ The club released 171,072 “*Hero*” tokens that were generated randomly and 24 “*Legendary*” that were auctioned through collaboration with Sotheby’s.¹⁵⁷ The price of each of the ‘Hero’ tokens is at \$75, and the total sales were \$643,050 meaning only 5% of the 171,072 offered tokens were sold. At the same time only 24 ‘Legendary’ images were sold with total earnings barely reaching the number of \$125,000 at the time of the writing.¹⁵⁸ Taking into consideration production, promotion, and merchandising costs, and additionally the cost of maintaining the blockchain technology and of course the fact that Liverpool were expecting an income of around £8,5 million the project is a long way from been viewed as a success. The audience in the sports industry may be enthusiastic and eager to invest time and money in products that clubs and associations have to offer but on the other hand, they seem reluctant and even revengeful when they feel disrespected and that their love for their club is exploited.

In addition, there is the possibility that an NFT ceases to exist or certain circumstances make the offering of it no longer available, thus making it vital to predict the procedure after such an event. On March 15 2022 Animoca Brands the company behind the Ethereum-based game F1 Delta Time announced the shutdown of the game and the plan to reimburse the NFT holders with replacement NFTs for another racing game, alongside tokens and other benefits.¹⁵⁹ Animoca Brands had not been able to renew the licensing agreement with the F1 racing league thus raising questions about the procedure when a licensed crypto game or decentralized application which has offered NFTs as part of the gaming experience is shuttered, because of an IP holder’s decision. Furthermore, examining the matter outside the gaming context, when the owner or creator of the NFTs for any

¹⁵⁶ Jack Lusby, “Liverpool’s NFT launch flops with only 5% sold in a week” (4 April 2022), online: *This is Anfield* <<https://www.thisisanfield.com/2022/04/liverpools-nft-launch-flops-with-only-5-sold-in-a-week/>>.

¹⁵⁷ *Ibid.*

¹⁵⁸ *Ibid.*

¹⁵⁹ Andrew Hayward, “Licensed Formula 1 Ethereum NFT Game is Shutting Down” (15 March 2022), online: *Decrypt* <<https://decrypt.co/95176/licensed-formula-1-ethereum-nft-game-is-shutting-down>>.

reason is unable or unwilling to contribute to the NFT promotion can be undermining the trust of fans in the whole concept. The case of NBA athlete De'Aaron Fox who offered his own NFT, where about 3.000 users raised \$1.2m. is one example of controversy between investors and big stars. The project was canceled in February 2022 and investors accused Fox of acquiring all the funds, and stopped communicating with the fanbase.¹⁶⁰ The high degree of risk surrounding NFT investments is evident that can have a negative effect on both organizations and athletes that can start with the best intentions only to find themselves in a negative public reaction that can give a significant reputation backlash. Given the loose regulation of the market around NFTs, and other blockchain assets and the increased government scrutiny, there is an increased need for firm regulations to protect the rights of IP holders, prevent violation of IP rights infringements, and of course, protect the rights of investors and eventually help create a sustainable and safe business environment.

Since it seems that the main reason for launching NFT projects and partnerships is to also increase fan engagement rather than purely an income generator, there is a need to consider if connectivity and engagement alone are enough to justify the launch of an NFT product by a club or organization. Regulatory bodies need to examine the long-term product viability, regulate and predict long-term maintenance, transfer, and eventual termination of an NFT in a stable and predictable business environment. Understanding and getting ahead of the potential reputational and business risks associated with NFTs including hosting, security, secondary markets, price volatility, environmental impact especially in the increasing environment of promoting sustainable development in every industry and apparent endorsement of other crypto assets and dealing with fans with respect and transparency can make all the difference in the 21st century.

¹⁶⁰ Stephen Noh, "Why are investors in De'Aaron Fox's NFT project alleging that he scammed \$1.6M from them?" (2 February 2022), online: *Sportingnews* < <https://www.sportingnews.com/us/nba/news/de-aaron-fox-nft-project-investors/qq4wlbclbfz6p0ey0qobud0e>>.

2.4 Blockchain and Broadcasting of sporting events

One evident effect of the 2019 -ongoing to the date of the publication of this thesis- global COVID-19 pandemic is the explosion of cable, satellite, and web tv along with streaming providers. Many countries took measures for the prevention of the spread and the containing of the COVID-19 virus and one of the first was at first the postponement of sports events and at a later stage the implementation of strict COVID-19 protocols. Many events which were scheduled to take place in the summer of 2020 were postponed (with the most notable example being the Olympic Games of TOKYO 2020 and the UEFA European Championship of 2020) and even when they finally were able to start were subjected to various restrictions, ranging from a percentage of the stadium capacity to total banning of fans presence. This unfortunate event made more evident the dependency of the sports industry on the digital ways of serving the fans the sports product (television, internet, social media, etc). Blockchain technology can be a great asset in the consumption of digital product in the 21st century.

New digital content is created and generated every day in the sports industry as pay-per-view is not new to sports fans across the globe and sporting events appeal to a global audience. Many major sports leagues and organizations both in North America and in Europe have led the way in the broadcasting of events across the globe today, as any can enjoy content which includes live broadcasting of events from any major professional sports league (NBA, NFL, the Barkley's Premier League ea.). Currently, many leagues and providers along with professional sports organizations offer subscription packages to be able to attract broader audiences. Payments for the subscription packages or even for single events are able to be done with a cryptocurrency, a smart contract can be used in order to dictate what content is received and blockchain makes it possible to determine paying based on sports teams, franchises, sports leagues. While technology can affect all forms of media, from traditional newspapers to broadcasting networks, it has great value on the less popular -on a global level- sports. Some sports may not attract big

crowds but on the other hand, they have a passionate and loyal audience that would gladly pay for the digital content; easing the friction of this payment will increase consumption and potentially grow the sport. Also, the expansion of social media has altered the way of experiencing sports, through the globalization of fandom where people no longer need to live in a specific region to follow and support teams, players and events, and with social media platforms that have made it possible for athletes, ex-athletes and every individual involved in sports to build one-to-one relationships with fans and supporters.¹⁶¹

Cryptography can help protect the intellectual property involved in sporting events. One of the biggest problems in many areas of the world is unauthorized providers that illegally broadcast sporting events through streaming platforms. The technology involved in blockchain can also help authenticate users online bypassing the providers who act as middlemen thus letting the sports clubs and leagues increase their profits. Technology platforms such as video streaming applications are implementing blockchain into web browsers for instant transactions of any size to be adopted by providers such as NBA League Pass or Euro League Pass. By utilizing novel technologies companies that have a sufficient number of subscribers and existing distribution channels can be benefited but also sports organizations or clubs that don't have an existing network can reach new and existing fans and attract new potential customers.

¹⁶¹Alan Seymour and Paul Blakey, "Digital sport marketing Concepts, Cases and Conversations (New York, Rutledge, Tylor and Francis Group, 2021) at 222.

2.5 Blockchain and Sports Betting

One of the topics in the sports industry that has been surrounded by much controversy and debate is betting. Legal restrictions on gambling have been implemented in various jurisdictions and even within the same country. The example of the U.S.A. where different states treat gambling differently made evident the different opinions and views on expanding and growing of the business.

Startup companies as *Draft Kings* and *FanDuel* created a mechanism for sports betting through fantasy sports. They argued that they wouldn't need to comply with betting regulations since it was a game with an entry fee and prizes. The emergence of blockchain technology has created a unique opening for innovative brands in the sports betting industry in order to exploit all kinds of ideas and suggestions around sports betting. Blockchain has the possibility to help sports betting by taking the place of the central authority that safeguards the integrity of bets. Smart contracts act as deterministic arbiters of a legal contract. A smart contract can be written in order to regulate the interactions between parties that participate in the betting. The earnings can be paid when the predetermined conditions are met according to how smart contracts operate as described in the first chapter.¹⁶²

The gaming industry itself has not evolved and can't find a way to integrate emerging technologies. The sports betting industry has 18 companies that are operating in some type of blockchain. The permanent, secure, transparent and not easy to tamper with record of the transaction ledger is perfect for every stakeholder in the betting industry. With blockchain technology, third parties and their associated fees are no longer required, so many companies focus on providing incentives to customers by lowering the associated fees. By utilizing and exploiting the abovementioned traits and characteristics of blockchain betting companies can enhance the transparency, security and ultimately the trust of fans and clients in a section of the sports industry that has suffered by illegitimate and even illegal practices.

¹⁶² *Supra* note 20 at 205.

2.6 Crowdfunding and team ownership through fintech

The “traditional” form of crowdfunding in the entertainment business has been closely associated with independent film production. The “hardcore” fans of a director or a producer would choose to contribute financially to a project, not mainly as an investment opportunity but they do it to see in theaters (or on streaming platforms) a movie that they love. In the sports world forms of crowdfunding can be seen especially in dire times for a club when the “hardcore” fans raise funds to save their childhood team from financial devastation. Many times, funding is sought for a club that is significant within a community, as in the paradigm of many UK football clubs that faced bankruptcy in the past 50 years.

Crowdfunding can be found in four categories: donation, reward, investment, and debt. Each of these follows the same basic model of many individuals (the crowd) providing small payments (the funding) to a cause, or a business-in other words, the platform where individuals submit their desired amounts is a marketplace bringing together those with capital to deploy and those seeking investment.

Many jurisdictions are allowing exemptions from strict compliance with securities law for offerings in the fintech sector. Regulatory initiatives to date often include:

- crowdfunding capability on a relaxed compliance basis;
- regulatory sandbox providing loose regulation for start-up initiatives;
- launchpad and Hackathorn programs;
- Fintech cooperation agreements with foreign jurisdictions;
- clarification of the definition of securities as it relates to digital assets; and
- simplifying derivatives law requirements in the cryptocurrency sector.

There are many examples of crowdfunding campaigns in sports over the years. Especially after the global economic crisis of 2009 when public sector budgets were

strained as a result of austerity policies, traditional investors and sponsors suddenly found themselves unable to continue their involvement in sports and banking endorsement was not an option, crowdfunding offered an attractive option for franchises, organizations and individual athletes. *Pursu.it* was founded by the athlete of kayak Julia Rivard and former gymnast Leah Skerry in 2013 and it after raising significant funds archived to fund the appearance of 8 athletes to the Olympic Games of Sochi, including Canadian skier Larisa Yurkiw whose funding was reduced significantly after an injury.¹⁶³ More than 5.000 Portsmouth F.C. fans have raised more than £270,000 in a ground-breaking fan-funding project in 2014 to fund the construction of new academy pitches.¹⁶⁴ There are many examples from various countries and sports but the most interesting one, utilizing and exploiting the new opportunities technology has to offer is without a doubt the 3on3 professional basketball league BIG3.

BIG3 is a professional basketball league, with 3 on 3 matches that were founded in 2017 by the musician and actor Ice Cube. On 4 April 2022 the league announced that will offer parts of the ownership of the competing teams through NFT collectibles. The league offers ownership stakes in the 12 teams by 1.000 NFTs for every team divided in two categories: 25 "Fire" NFTs offered at a price of \$25,000 each and 975 "Gold" NFTs at \$5,000 per¹⁶⁵ with various benefits accompanying each tier. The benefits include free entrance to all games, reserved suites, player and coach meet-and-greets, and exclusive amenities in the venues.¹⁶⁶ Additionally the Fire tier NFT owners have the right to use their team's name and logo to create and sell their own art and designs.¹⁶⁷ By offering these ownership shares as NFTs, BIG3 aims to bring in investors and develop further among professional basketball leagues and even expand outside of the USA.

¹⁶³ Kath Hudson, "Crowdfunding for sport", *Sports Management* 19:2 2015 (2015) 58, online: <<https://www.sportsmanagement.co.uk/Sports-features/sports-management-magazine/Crowdfunding-for-sport/29892>>.

¹⁶⁴ Portsmouth FC, News Release, "Pompey To Unveil Fan-Funded Pitches" (2 August 2017), online: <<https://www.portsmouthfc.co.uk/news/2017/august/pompey-to-unveil-fan-funded-pitches/>>.

¹⁶⁵ Andrew Hayward, "Ice Cube's BIG3 Basketball League to Offer Team Ownership Stakes as NFTs" (4 April 2022), online: *Decrypt* <<https://decrypt.co/96794/ice-cubes-big3-basketball-league-to-offer-team-ownership-stakes-as-nfts>>.

¹⁶⁶ BIG3, News Release "BIG3 Ownership" (4 April 2022), online: <<https://big3.com/news/big3-ownership/>>.

¹⁶⁷ *Ibid.*

Even though the BIG3 advertised this initiative as a co-ownership it seems more like a marketing and fundraising initiative at the moment rather than a genuine crowd-funding and multi-ownership mechanism. The NFT owners will have voting rights and their voices will be heard in matters of strategy, changes and ideas for the league.¹⁶⁸ The teams will elect 3 owners that will serve as team CEO, President, and Vice President and will be tasked with the day-to-day operation of the teams while BIG3 NFT owners will have voting rights to various awards in the leagues (not really different than the fan tokens issued by many clubs as will be reviewed in the next chapter).

The opportunity presented by the BIG3 is unique in recent years since the investors will be given the opportunity to actually run the sports operations of the team. But this initiative raises questions when examined from an investment perspective. As an investment sports clubs can be profitable so it is possible to attract investors that do not want to participate in the management of the team or leagues but participate in the league as an investment opportunity. Most leagues and organizations have set restrictions on the ownership of more than one franchises, and there are other limitations and standards that a possible investor must meet in order to own or invest on a club or franchise. Northern American leagues have modified regulations for minority investors, with the example of the modification of the MLB regulations in order to allow investment funds to acquire minority stakes in multiple franchises.¹⁶⁹ In the European leagues the modified rules that will be implemented to replace the UEFA Financial Fair-Play and the increase in broadcasting rights and other income sources have made clubs in football profitable and appealing investment targets.¹⁷⁰ If the model of BIG3 can be seen as an example for other leagues and organizations to follow in order to attract new investment portfolios and investment approaches there is a need for the regulatory authorities to take into consideration the specifics of the tokenized ownership and the technical characteristics of blockchain technology.

¹⁶⁸ *Ibid.*

¹⁶⁹ Hisham Shehabi, "Private Equity: Why smart money continues coming into sports" (22 September 2020), online: *International Academy of Sport Science & Technology* <<https://aists.org/news-events/why-smart-money-continues-coming-into-sports/>>.

¹⁷⁰ *Ibid.*

The modernization and professionalization of sports investment, where private equity, investment funds and individual fans that have the desire to invest as a way of both bringing into reality the dream of owning a sports team and on the same time making a sound investment, has the potential of bringing a positive effect in the industry. These franchises can be detached by the management of past years where many times the owner had a personal agenda to serve by the team as a vehicle, and have the opportunity to apply the use of all the innovations technology has to offer in modern sports management.

2.7 Fan tokens - Fan engagement in the digital age

The fans and followers of many high-level clubs and franchises could not have missed the numerous deals between their beloved sports club or franchises and sponsors that are operating in the fintech industry. Many of these clubs are using blockchain-based solutions to increase the much-needed fan engagement and find new streams of profits. Sports clubs and franchises strive to achieve emotional, lasting bonds with their fans base, using multiple methods.¹⁷¹ Since clubs aim to reduce costs since third parties are not going to be essentially needed, connect fans with various other stakeholders,¹⁷² a way to achieve these goals is through the introduction and exploitation of fan tokens.

Fan Tokens are digital assets that differ in many ways from traditional memberships, and are accompanied with voting rights on official club decisions, access to many unseen team operations and many other amenities.¹⁷³ This can be enormously profitable to the club as well as Socios.com one of the leading companies in fan Tokens provided information that fan tokens have raised over \$150 million for their partnering clubs in

¹⁷¹ Sam Taylor, "In Focus: Jonas Sports. What Is Fan Engagement?", online: *FCbusiness* <<https://fcbusiness.co.uk/news/in-focus-jonas-sports-what-is-fan-engagement/>>.

¹⁷² PricewaterhouseCoopers France and Francophone Countries Supra note at 12,

¹⁷³ <https://www.socios.com/fan-tokens/>

2021.¹⁷⁴ Socios.com has over 80 partners from various sports ranging from football, basketball and baseball to e-sports.¹⁷⁵ Fan Tokens are a brilliant tool and paradigm of a tool of relationship marketing which is used in the consumer-dominated perspective of marketing, and has grown into a helpful marketing tool. Fan tokens use primarily a blockchain called ‘Chiliz’ that has a consensus mechanism based on ‘proof-of-authority’.¹⁷⁶ Proof-of-authority is mostly used by private organizations that have semi-closed or permissioned blockchains to better facilitate (mainly in terms of cost and speed) a specific ecosystem and in the case at hand instead of any third member being able to validate transactions and mine new blocks, the member clubs, like AC Milan and Paris Saint-Germain, perform this role.¹⁷⁷ In the environment of Chiliz a cryptocurrency (‘\$CHZ’) is used to facilitate all transactions. Any purchase and sale of \$CHZ (and/or fan tokens) will be stored on the Chiliz blockchain listing the purchaser, seller, value and time of the transaction in verifiable and pseudonymized form.¹⁷⁸ So a fan has to first purchase \$CHZ via the Socios website or via a third-party cryptocurrency exchange and then they can purchase a Fan Token either by participating in a “Fan Token Offering” (i.e. the launch of a new Fan Token) or via the trading functionality within the Socios app. The number of Fan Tokens issued (i.e. the supply) will vary depending on the club or tournament’s fan base.¹⁷⁹ The value of cryptocurrency used to purchase Fan Tokens can fluctuate given the volatility of the cryptocurrency market and also the value of the token can fluctuate according to the demand and attractiveness for the club. This can be viewed as an index of a club’s rise in recognition as in the case of PSG tokens which after the signing of Lionel Messi in the summer of 2021 got an additional value in just a few weeks.¹⁸⁰

¹⁷⁴ *Ibid.*

¹⁷⁵ Daniel Dos Santos, “NFTs and their importance for the sports industry”, (15 November 2021), online: *AISTS* <<https://aists.org/news-events/nfts-and-their-importance-for-the-sports-industry/>>.

¹⁷⁶ Joshua Kay, “Fan Tokens And The Sport Industry: Key Legal And Commercial Risks”, (15 November 2021), online: *LawinSport* <https://www.lawinsport.com/topics/sports/item/fan-tokens-and-the-sport-industry-key-legal-and-commercial-risks#_ftn5>.

¹⁷⁷ *Ibid.*

¹⁷⁸ *Ibid.*

¹⁷⁹ Socios.com

¹⁸⁰ Daniel Dos Santos, “NFTs and their importance for the sports industry”, *AISTS* (15 November 2021), online” <<https://aists.org/news-events/nfts-and-their-importance-for-the-sports-industry/>>.

There are many examples of clubs that have invested in Fan Tokens and have made dynamic partnerships with fintech industries including the ones that provide fan Tokens. Some of these initiatives and partnerships include the soccer club AS ROMA in Italy which has announced a three-year jersey sponsorship deal for €36 million shirt sponsorship deal with Zytara Labs.¹⁸¹ FC Barcelona announced on August 1st 2022 that blockchain-powered fan engagement and rewards platform Socios.com will become a strategic technology partner involving blockchain NFT and digital assets. Socios.com owner and technology provider Chiliz invest \$100M in Barça Studios to acquire a 24.5% stake in the Club's digital content creation and distribution hub.¹⁸² Internazionale Milan has ended their partnership with Pirelli which was the main jersey sponsor for since the 1995-1996 season and replaced it with Socios.com, for an annual deal of 25 million USD.¹⁸³ According to Socios.com platform, branded fan tokens will be offered to fans in a way to give them several amenities.¹⁸⁴ Even national teams that don't have the conventional legal corporate structure and governance have exploited the opportunity and maybe the most successful national team in the history of football, Brasil has partnered with the Turkish company Bitci to offer NFTs and fan tokens on their platform.¹⁸⁵ In other sports, the McLaren Racing Formula 1 team also is working with Bitci.com to offer fan tokens being a pioneer in Formula 1.¹⁸⁶

Sports clubs and associations are striving to find new streams of communicating their content and reaching current and new fans-customers while of course, on the same

¹⁸¹ Ledger Insights, "DigitalBits blockchain, Zytara to sponsor AS Roma in \$42 million deal" (28 July 2021), online: *Ledger Insights* <<https://www.ledgerinsights.com/digitalbits-blockchain-zytara-to-sponsor-as-roma-in-42-million-deal/>>.

¹⁸² Christian Nwobodo, "Socios.com invests \$100M to accelerate Web3 innovations for FC Barcelona" (2 August 2022), online: *Cryptoslate* <<https://cryptoslate.com/socios-com-invests-100m-to-accelerate-web3-innovations-for-fc-barcelona/>>.

¹⁸³ Daniele Proch, "Socios.com Replaces Pirelli As Front-Jersey Sponsor Of Serie A Champions Inter Milan", (21 July 2021), online: *Forbes* <<https://www.forbes.com/sites/danieleproch/2021/07/21/socioscom-replaces-pirelli-as-front-jersey-sponsor-of-serie-a-champions-inter-milan/?sh=33ff01f132cc>>.

¹⁸⁴ *Ibid.*

¹⁸⁵ Ledger Insights, "Brazilian National Football to launch NFTs, fan tokens with Bitci" (29 June 2021), online: *Ledger Insights* <<https://www.ledgerinsights.com/brazilian-national-football-to-launch-nfts-fan-tokens-with-bitci/>>.

¹⁸⁶ Ledger Insights, "McLaren F1 team signs with Bitci.com for blockchain fan tokens" (25 March 2021), online: *Ledger Insights* <<https://www.ledgerinsights.com/mclaren-f1-team-signs-with-bitci-com-for-blockchain-fan-tokens/>>

time they aim to raise funds in the competitive environment of the industry. Member and fan engagement has become a priority and as proved in this chapter innovation, and the applications of blockchain, are already a big asset towards these goals. Clubs, federations, fans and members can all benefit from the tokenization of sports clubs and enhance the relationship between clubs and their supporters. Many clubs emphasize the opportunity for fans from all over the world to engage with the club in new ways that aren't reliant on attending matches. Everton FC's statement announcing its partnership with Socios refers to "an exciting commercial opportunity, while also giving supporters the chance to get closer to the Club". Crucially, "this includes supporters from around the world who may not have the opportunity of engaging with the football club regularly."¹⁸⁷

As in many emerging opportunities that have presented in recent years there are many emerging legal considerations that all stakeholders have to be aware of. Given the various rules and directives in different sports or industries there are many different issues that need to be examined ad hoc. For example F.I.F.A. has specific rules for the regulation of players transfers and it is stated explicit that "no club shall enter into a contract which enables the counter club/counter clubs, and vice versa, or any third party to acquire the ability to influence in employment and transfer-related matters its independence, its policies or the performance of its team."¹⁸⁸ A fan that decides to purchase a fan token that gives him the right to vote on a club's decisions like the ones that have already been mentioned can be characterized as a third party that influences the internal policies of the club and various similar rules and regulations in other sports to need to be amended or modified in order fan tokens be integrated into a broader level.

¹⁸⁷ Everton F.C., News Release, "\$EFC Fan Token", online: <<https://www.evertonfc.com/fantoken>>.

¹⁸⁸ Fédération Internationale de Football Association, REGULATIONS on the Status and Transfer of Players at art 18.

2.8 Tokenization of athlete contracts

Even though sports teams cannot be compared to any of the biggest companies globally regarding revenue there is an imbalance between wealth generated and the salary of athletes. Some of the highest-paid individuals across any industry are many athletes from a wide range of sports. Even without taking into account endorsement, sponsorship deals, appearance fees and licensing income, the annual revenue of athletes based only on their contract with their club can surpass the salary of many top 500 companies' C.E.O.s. These guaranteed contracts can be around hundreds of millions of dollars. The annual earnings of some of the most prolific athletes including Lionel Messi and Cristiano Ronaldo and NFL quarterback Dak Prescott exceeded \$100 million each in 2021.¹⁸⁹

What happens when an athlete sees his contract as an investment opportunity is the case of NBA athlete Spencer Dinwiddie and his attempt to tokenize his contract with his then employer the NBA franchise Brooklyn Nets. His case is a great example of some aspects that will definitely be discussed by regulatory bodies, leagues, athletes and organizations. Dinwiddie signed a contract extension with the Brooklyn Nets, beginning October 2019, for three years and \$34 million, with the last year being a player option.¹⁹⁰ In September 2019, Dinwiddie, revealed his plans to tokenize his NBA contract, which runs from 2019-2022. Tokenizing is the act of using digital tokens to prove ownership of real assets, such as shares.¹⁹¹ A tokenized contract is a contract that is broken down into tokens, and those tokens are sold just the way shares would be, with each token represent-

¹⁸⁹Brett Knight, "A record four athletes—including one quarterback and two soccer legends—each earned \$100 million or more in the past year." (12 May 2021), online: *Forbes* <<https://www.forbes.com/sites/brettknight/2021/05/12/the-worlds-10-highest-paid-athletes-conor-mcgregor-leads-a-group-of-sports-stars-unfazed-by-the-pandemic/?sh=1089dd6726f4>>.

¹⁹⁰ AP news, "Nets, Spencer Dinwiddie agree to contract extension", (14 December 2018), online: *AP news* <<https://apnews.com/14d69aa4ea00437497a30cc4ba416911>>.

¹⁹¹ Reza Jafery, "Tokenizing Assets for Dummies", (14 December 2019), online: <<https://hacker-noon.com/tokenizing-assets-for-dummies-20cb7ccccbb>>.

ing a share of the contract.¹⁹² Tokens can be either utility or security tokens with the most common form being utility tokens¹⁹³ as seen in chapter 1. Typically, users that invest in utility tokens aim to receive a profit for their investment. Security tokens, however, instead of offering a profound profit to the investor, represent shares in the company, on the same way the acquiring of public company shares works and this fact essentially means that security tokens are, by definition, more regulated by the government than utility tokens.¹⁹⁴

Spencer Dinwiddie made public in 2019 his intention use his contract as a means of digital investment by offering portions of his contract as an investment opportunity.¹⁹⁵ He planned to offer “a minimum of 33 tokens worth \$4.95 million to a maximum of 90 tokens worth \$13.5 million”¹⁹⁶ to “qualified investors.”¹⁹⁷ The issued tokens, backed by Dinwiddie’s contract, are considered debt instruments that require fixed scheduled payments to investors in the form of payback of the principal and payback of the interest.¹⁹⁸ As in many investments, the interest paid back may be the main attraction for investors, but it might be just one of the benefits of investing in Dinwiddie or any other athlete. Investors “might also be entitled to special premiums based on whether the athlete earns bonuses, negotiates a new contract and other factors,”¹⁹⁹ conditions that would need to be specified in the investor agreements. In January 2020, Dinwiddie settled with the NBA and announced that he would issue a flat bond to investors without any interest. The NBA

¹⁹² Gilberto Oliveros, "The NBA's Blockchain Problem: Spencer Dinwiddie" (2020) 36:3 Ent & Sports Law 68 at 68, online (PDF): <https://www.americanbar.org/content/dam/aba/publications/entertainment_sports_lawyer/summer-2020/esl-36-3.pdf>.

¹⁹³ *Ibid.*

¹⁹⁴ *Ibid.*

¹⁹⁵ Bryan Hood “This NBA Player Has Something to Sell You: His Contract” (21 January 2020), online: <<https://robbreport.com/lifestyle/news/spencer-dinwiddie-nba-contract-bond-shares-2893057/>>

¹⁹⁶ Pat Evans, “The Pro Athletes Buying Into Cryptocurrency” (14 December 2019), online: <<https://frntoficesport.com/pro-athletes-cryptocurrency/>>.

¹⁹⁷ Michael McCann, “Spencer Dinwiddie And Reimagining the NBA With Tokenized Contracts” (14 December 2019), online: <<https://www.si.com/nba/2019/11/05/spencer-dinwiddie-nets-tokenized-contracts>>.

¹⁹⁸ *Ibid.*

¹⁹⁹ *Ibid.*

also announced that it has brought the modified agreement under review and refused to comment on whether the league has agreed on the sale.²⁰⁰

In the United States where the N.B.A. sought outside legal counsel in order to determine if Dinwiddie's action was permissible and viable, the Securities and Exchange Commission (SEC) has adjudicated on whether crypto tokens are securities and therefore are obliged to comply with securities regulations.²⁰¹ One of the key components of the securities laws the SEC has focused on is the term "investment contracts," as defined by the Howey Test. Under this test a transaction is an investment contract, and thus a security, if: a) it is a currency investment; 2) it involves a common enterprise; 3) there is a reasonable expectation of profits from the investment; and 4) the profits are to be derived from the entrepreneurial or managerial efforts of others.²⁰² Tokenizing a contract into security tokens, therefore, means the act of dividing a contract into tokens that will be sold to investors in an SEC-regulated transaction, where investors will expect a return on investment.²⁰³

The NBA has been declined Dinwiddie's plan since it violated article II of the Collective Bargaining Agreement (CBA) and section 13(d) of Article II that says that "no player shall assign or otherwise transfer to any third party his right to receive compensation from the Team under his Uniform Player Contract."²⁰⁴

There was a comparison of the decision of the NBA to the FIFA's Article 18 addressing a third-party ownership ban.²⁰⁵ FIFA defined a 'third-party' as: "a party other than the player being transferred, the two clubs transferring the player from to the other, or any previous, with which the player has been registered."²⁰⁶ TPO is used mostly in South America football clubs, where an agent, or company or investment fund buys the

²⁰⁰ Paddy Baker, "NBA Player Spencer Dinwiddie Taps Broker-Dealer in Push to Tokenize Sports Contracts" (14 September 2021), online: <<https://www.coindesk.com/business/2020/03/03/nba-player-spencer-dinwiddie-taps-broker-dealer-in-push-to-tokenize-sports-contracts/>>.

²⁰¹ *Supra* note 192.

²⁰² SEC v W. J. Howey Co., 328 US 293 (1946).

²⁰³ *Supra* note 192.

²⁰⁴ NBA NBPA Collective Bargaining Agreement (2017), online (PDF): <<https://cosmic-s3.imgix.net/3c7a0a50-8e11-11e9-875d-3d44e94ae33f-2017-NBA-NBPA-Collective-Bargaining-Agreement.pdf>>.

²⁰⁵ FIFA "Regulations on the Status and Transfer of Players June 2019 Edition" online (PDF): <<https://resources.ifa.com/image/upload/regulations-on-the-status-and-transfer-of-players-june-2019.pdf?cloudid=ao68trzk4bbaezlipx9u>>.

²⁰⁶ *Ibid* at definition 14.

economic rights of a professional football player either in a whole either just a part of them from a franchise.²⁰⁷ The first time the European public became familiar with the concept was in the summer of 2006 when the Argentinian internationals Carlos Tevez and Javier Mascherano who have acquired European wide attention after their appearances in the 2006 World Cup, were transferred to West Ham which participates in the English Premier League. A lot of discussion was around the exact amount of the transfers and it was later revealed that the players' economic rights have been sold to a company MSI, which had withheld a percentage for any future transfers. The then president of the Union of European Football Associations Michel Platini characterized TPO as a type of modern slavery. The difference is evident in the case of Dinwiddie and technology is the safeguard in the transaction. The smart contract can include the specific provisions of the agreement and blockchain technology can guarantee the transparency and privacy of the transactions. "Ownership" over the athlete will then be viewed only as ownership over the investment opportunities of the contract that is under tokenization.

Going back to Dinwiddie's case, the NBA decided that his contract acts as a security interest for the investment, and the other party should be characterized as a third party under the provisions of the CBA.²⁰⁸ Many critics agree with Dinwiddie's view since "It will be very hard for the league to stop him, legally, because the arrangement is not tied to his contract but to the amounts promised over the three years. Once received, Dinwiddie will use his salary to pay early investors with interest. The league and teams cannot tell players what house or car to buy. And they cannot control what investments or business arrangements."²⁰⁹

Dinwiddie's case could be a good example for the future integration of fintech applications in sports. This investment strategy will be taken into account in the new CBA rules that take into regard blockchain technology. Spencer Dinwiddie's attempt and possible success will have ripple effects throughout most major sports, not only basket-

²⁰⁷ Nick De Marco, "TPO IN FOOTBALL: WHAT IS "THIRD PARTY OWNERSHIP"?" (10 March 2020), online: <<http://www.keepcalmtalklaw.co.uk/tpo-in-football-what-is-third-party-owner-ship/#:~:text=FIFA%20subsequently%20changed%20Definition%2014,the%20player%20has%20been%20registered.%E2%80%9D>>.

²⁰⁸ *Supra* note 192.

²⁰⁹ *Supra* note 191.

ball.²¹⁰ Contract tokenization brings fans closer to the athletes increasing their engagement with them. Sports contracts may not be easy to tokenize and there are of course a lot of obstacles in the way of athletes. Dinwiddie's attempt to take one year of his earnings and making an investment vehicle that gives back to investors a percentage of future earnings can make sense but there is no certainty in the field especially considering the uncertainty around the career of professional athletes.²¹¹ Of course, history has shown that when investors see opportunities for greater growth of revenues it is not long before the specific structure and regulation is created and applied.

In addition, there is another opportunity for investors that want to invest on professional athletes that participate in individual sports like professional tennis or are prospects that are in need of funding in the early stages of their careers. By funding athletes via a digital platform, a contract is established between investors and the selected athletes.²¹² Startup companies like SportyCO, started investing in this field. SportyCO has a setup that allows investors to invest in professional athletes through the use of the smart contract by tokenizing the professional athlete for future profit for the investors.²¹³ Globatalent, a startup company, gives the opportunity to investors to fund athletes and clubs, while athletes can find required funding, while the investors get back for their investment a predetermined amount of their future income depending on the investment agreement.²¹⁴ Clubs and sports institutions can raise funds in exchange for a percentage of tickets, sponsorship, television rights and more, in a transparent and public way.²¹⁵ This provides the investors part of the endorsement deals at an agreed upon percentage to be paid over some time.²¹⁶ Not just for the tokenization and investment opportunity for interested investors alone, the blockchain technology is poised to breach the need gap be-

²¹⁰ *Ibid.*

²¹¹ *Supra* note 21 at 202.

²¹² PricewaterhouseCoopers France and Francophone Countries of Africa "How blockchain and its applications can help grow the sports industry?", (2019) at 12, online (pdf): <<https://www.pwc.ch/en/publications/2019/Blockchain%20in%20the%20Sports%20Industry.pdf>>.

²¹³ Joao Francisco, "Sports Industry Turning Towards Blockchain" (2 July 2019), online: *Business Blockchain HQ* <<https://businessblockchainhq.com/business-blockchain-news/blockchain-sports-industry/>>.

²¹⁴ *Ibid.*

²¹⁵ *Supra* note 212.

²¹⁶ *Ibid.*

tween professional athletes and enthusiastic fans of the sporting industry.²¹⁷ These applications can be extremely helpful in the sports industry since the engagement of fans/customers is one of the fundamental goals of sports marketing. Franchises, leagues and organization bodies of sporting events aim to maximize the engagement of fans through various initiatives so technology can be a valuable tool in order to achieve that.

It is possible that franchises can be characterized as an equivalent of publicly traded commodities since blockchain technology can help transform a traditional way of investment in the sports industry. As opposed to tokenization of player contracts, individuals were able to purchase shares of their sports franchises. Shares at a publicly owned nonprofit organization such as the N.F.L.'s Green Bay Packers are most accurately held as a novelty rather than an investment.²¹⁸ The owners of the shares do not gain any equity, there are no dividends, and the team does not fall under the protections of the SEC.²¹⁹ There are other advantages and incentives to the shareholders- investors. They can be granted voting rights, access to meetings, and of course the publicity and high-profile networking that comes with the ownership of the club.²²⁰

2.9 Tokenization of sports memorabilia and Non-Fungible Tokens

Sports memorabilia has evolved to a huge business and the value only of the U.S sports memorabilia industry was estimated at \$5.4 billion only in 2018.²²¹ In a same way as art collectors operate some individuals might purchase memorabilia solely for their own enjoyment, for others it can be a status symbol or an investment. Although sports memorabilia can be acquired as an investment opportunity it is common that collectors

²¹⁷ *Ibid.*

²¹⁸ *Supra* note 21 at 202.

²¹⁹ *Ibid.*

²²⁰ *Ibid.*

²²¹ David Seideman, "Tech Entrepreneur Determines First Estimate Of U.S. Sports Memorabilia Market: \$5.4 Billion" (4 February 2021) online: *Forbes* <<https://www.forbes.com/sites/davidseideman/2018/09/19/tech-entrepreneur-determines-first-true-estimate-of-sports-memorabilia-market-5-4-billion/?sh=77a0431f52e8>>.

collect associated memorabilia due to sentimental reasons.²²² *The Olympic Manifesto*, an autographed manuscript by *Pierre de Coubertin* dating to 1892, sold for an astounding \$8.806.500,00 besting the high estimate by nearly 8 million and setting the world auction record for sports memorabilia.²²³ From autographed pictures, cards or coins to equipment that is used in various sports (such as football boots or baseball bats) and even a trademark piece of chewing gum from the final game Sir Alex Ferguson's has ever coached which was sold for £390.000,00²²⁴ and a 1928-1930 Babe Ruth jersey which reached a price of \$5.64 million in 2019, the prices of some memorabilia can reach unprecedented amounts.²²⁵ Whether the memorabilia have a sentimental value to the buyer as well as a speculative investment that predicts the rise of the value of the item there is definitely a huge market with great potential for both fans or investors and sports clubs and organizations. This collectible market for sports memorabilia is an ideal use case for NFTs and they can be used to prove the authenticity of the item which helps to avoid counterfeiting.

The Covid-19 pandemic affected the growth of the sport memorabilia market and especially the effect of digital ways of doing business. Digital purchases overall in the U.S. reached a number of \$200 billion in 2020, while the sales in EBay raised by 142% in the first year of the pandemic and Goldin Auctions, which has grown into the go to site for sports memorabilia, has seen substantial growth while the measures for the restriction of the Covid-19 pandemic are still in force.²²⁶ These increased digital and online growth can come with some disadvantages as many users are not still not trusting electronic

²²² Robert F Mulligan & A J.Grube," MODELING MARKETS FOR SPORTS MEMORABILIA", *Journal of Economics and Economic Education Research*; 2006; 7, 2; ABI/INFORM Global at 75.

²²³ Halina Loft, "The Original Olympic Manifesto Brings Home the Gold" (18 December 2019), online: *Sotheby's* <<https://www.sothebys.com/en/articles/coming-to-auction-this-december-the-original-olympics-manifesto>>.

²²⁴ Josh Lawless, "Sir Alex Ferguson's Final Chewing Gum As Manchester United Manager Sold For £390,000" (2006), online: *Sport Bible* <<https://www.sportbible.com/football/news-fergies-final-chewing-gum-as-man-united-manager-sold-for-390000-20190319>>.

²²⁵ Harmeet Kaur, "Babe Ruth's jersey sold at auction for a record-breaking \$5.6 million" online: *CNN* (15 June 2019) online: <<https://edition.cnn.com/2019/06/15/sport/babe-ruth-jersey-breaks-record-trnd/index.html>>.

²²⁶ "Sports memorabilia continues to boom. What the NFT happened?!", *ESPN* (27 July 2021) online: <https://www.espn.com/mlb/story/_/id/31870297/the-sports-memorabilia-industry-continues-boom-nft-happened>.

transactions. Blockchain technology can be a catalyst in the sport memorabilia business in three ways.

Firstly, one major problem that technology can assist in its confrontation is the authentication of sport memorabilia. Since the authenticity of these items is often dubious, collectors, auction houses and sellers would benefit of the possibilities the blockchain can offer. Secondly, another important possibility that blockchain has made available is the true and undisputed ownership of digital assets. Finally, the possibility of tokenizing the physical assets can provide a significant investment opportunity.

The authentication of memorabilia is a huge problem in the industry and technology can provide a solid solution. Many items have been proven to be counterfeits or fakes and the verification of their authenticity is only getting harder. Given the transparency and the special characteristics of immutability and the difficulty in tampering with, blockchain can offer solutions to companies and buyers. Pro Exp Media has formed a partnership with the franchise of LA Kings which competes in the NFL and ensures the authenticity of all related products offered by their web store. By using Augmented Reality blockchain platform they have also created a certification mechanism, attempting to affix an identifying marker to the item which then could even use a QR code to send the authenticity token directly to a digital wallet.²²⁷ Blockchain technology can be used in order to manage ownership and authorize a transaction as done in other industries, by providing the transactional history of the item in hand which often have various previous owners.²²⁸ Thus digital proof that the seller is the owner can be guaranteed and a smart contract can ensure that the resell of a fake copy will not be possible.²²⁹

The potential of DLT and NFT's can be a game changer in the sports memorabilia industry since the specific characteristics make it possible to guarantee indisputable proof

²²⁷ Lisa Sun, "Non-Fungible Tokens: An Opportunity for Movie Memorabilia" (9 November 2020) online: *Mogul Productions* <<https://medium.com/mogulproductions/non-fungible-tokens-and-crypto-a-major-opportunity-for-movie-memorabilia-cc82958aa09c>>.

²²⁸ *Ibid.*

²²⁹ *Ibid.*

of ownership and authenticity of the items.²³⁰ It can also be a cost and time-efficient factor in the transfer of ownership of an item, by utilizing a smart contract that makes possible automated execution of payments and other terms.²³¹ By preserving the value of the items and providing a safeguard mechanism against fraud schemes blockchain can enhance the credibility of the sports memorabilia industry.

In addition to the physical items that the blockchain technology can be used in order to prove their authenticity, the technology is applicable for games (blockchain games) and token-based digital collectibles and another important issue that blockchain can solve, is the ownership of digital assets. While the only problem for physical assets is forgery, digital assets can be copied an unlimited number of times, thus, there was not possible for a digital creation to be unique. Blockchain made that possible. Alex Atallah, co-founder and CTO of OpenSea, the largest NFT marketplace, claims that there will an increase in the importance of NFTs in the future since they will be the “keys” to many digital experiences.²³²

As noted above there are many concerns and legal issues around NFTs. In the sports industry nonfungible sports tokens could additionally attract gaming regulators.²³³ Tokens as digital collectibles in the concept of e-gaming and fantasy sports given that they are characterized as securities, if not structured properly, could run afoul of securities laws. In such cases the abovementioned Howey Test²³⁴ can be critical in order to characterize the token as securities. If users pay money for digital items based on an expectation of profit and the expectation of profits is arguably derived from the managerial efforts of others (e.g., the token platform operator), the token could be found to be a secu-

²³⁰ *Ibid.*

²³¹ Levy, Joshua. “The Digital Sports Experience; How Blockchain Can Transform the Sports Industry” (4 September 2018), online: <<https://medium.com/bcw-group/the-digital-sports-experience-how-blockchain-can-transform-the-sports-industry-2ed0db8914d0>>.

²³² *Ibid.*

²³³ Ledger Insights , “Analysis: Dapper Lab’s NBA Top Shot tops \$100 million blockchain collectible sales”, online: *Ledger Insights* <<https://www.ledgerinsights.com/analysis-dapper-labs-nba-top-shot-tops-100-million-blockchain-collectible-sales-nft/>>.

²³⁴ *Supra* note 192.

ity.²³⁵ If token marketplaces permit sale of tokens that meet the test for a security, they might be deemed a security exchange. The SEC recently issued guidance on platforms that permit users to buy and sell digital assets, including digital coins and tokens.²³⁶ According to the SEC, a number of these platforms provide a mechanism for trading assets that meet the definition of a “security” under the U.S. federal securities laws and if a platform offers trading of digital assets that are securities and operates as an “exchange,” as defined by the federal securities laws, then the platform must register with the SEC as a national securities exchange or be exempt from registration.²³⁷ New and consistent with the advances of technology, regulations and laws have to be implemented at jurisdictions that operate as centers of e-sports, betting and fantasy sports since the industry is highly globalized and there are no barriers to investors that want to operate and invest in this digital world.

Furthermore, the sport memorabilia industry can be affected by tokenizing the physical assets as an investment opportunity. Since tokenization and fractional ownership is a possibility through blockchain technology it is possible for items to be offered in partial ownership.²³⁸ In sports memorabilia it is ideal since there is no possibility of physical consumption of the object as opposed to the fine wines and spirits industry and the value of the items can only increase.²³⁹ Tokenization of sports memorabilia would make it possible for a much wider base of collector investor that are interested in fractional ownership in fungible assets but cannot obtain a whole object, mainly due to the huge amounts required to obtain the item as seen in the previous paragraphs. A recent example that the sports memorabilia industry can follow is that of the wine industry. Fine wines became

²³⁵ *Ibid.*

²³⁶ “Statement on Potentially Unlawful Online Platforms for Trading Digital Assets” online: *The SEC* <<https://www.sec.gov/news/public-statement/enforcement-tm-statement-potentially-unlawful-online-platforms-trading>>.

²³⁷ *Ibid.*

²³⁸ Samantha Radocchia, “How Non-Fungible Tokens From Physical Collectibles Are Strengthening Asset-Backed Securities” (5 July 2018), online: *Forbes* <<https://www.forbes.com/sites/samantharadocchia/2018/07/05/how-non-fungible-tokens-from-physical-collectibles-are-strengthening-asset-backed-securities/?sh=69fa92841b2e>>.

²³⁹ *Ibid.*

recently the first tokenized security by the law of Switzerland.²⁴⁰ The newly implemented legal framework allows companies to build platforms that conform to those regulations and gives them a competitive advantage over other jurisdictions where such activities are not allowed or simply don't have a clear regulatory scheme.²⁴¹ This could easily be a guidance for the sports memorabilia industry since the items are often hard to access for investors and the tokenization may enable issuers to make unique investment opportunities more accessible as done in the fine wine sector.²⁴²

2.10 Data in sports

One of the most known paradigms of the use of data in professional sports as a way to compete with much wealthier franchises is the story of the then Oakland Athletics baseball team general manager Billy Beane. As depicted in the book “Moneyball: The Art of Winning an Unfair Game” and the 2011 motion picture “Moneyball” with Brad Pitt in the role of Billy Beane, the Oakland A’s mediocre team with a much smaller budget than the other franchises in the M.L.B. exploited data in order to be competitive. The analysis, the focus of metrics the statistics of the sport that measure in-game activity helped the franchise assemble a competitive baseball team in 2002, despite the limitation on budget and the small market of the city of Oakland. Going from the long-established strategy of depending on the skills of their scouts to find, evaluate, judge, and recruit players, Billy Beane took a decision to base the evaluation of players on numbers in order to compete against much richer franchises in the professional league of baseball in the U.S.A.

²⁴⁰ Kyt Dotson, “Fine wines become first tokenized security issued under new Swiss blockchain law” (1 February 2021), online: *Silicon Angle* < <https://siliconangle.com/2021/02/01/fine-wines-issued-first-tokenized-security-new-swiss-blockchain-law/>>.

²⁴¹ *Ibid.*

²⁴² *Ibid.*

Even though many were reluctant and criticized the extensive use of data in sports, Billy Bean's paradigm found many followers in a wide range of sports and started a revolution in the decision-making of front offices. Examples of extensive use of data come from a variety of sports and countries. From the N.B.A. franchise of Houston Rockets with the controversial era of Darryl Morey acting as general manager of the franchise to the professional sports gambler Matthew Benham who has led his football teams FC Midtjylland and F.C. Bradford to success in England and Denmark respectively, the paradigms of the use of data in sports seem to have no end. It is almost impossible now to imagine a top tier club at any sport operating without a data analytics department. There is a trend that the officials and the executives of sports clubs are closer to the profile of individuals for example Ian Graham, the former director of research of Liverpool F.C. who has completed a Ph.D. at the University of Cambridge in the field of theoretical physics. Nowadays, sports analytics is a fast-growing aspect with an ever-growing influence in many parts of the sports industry. A thorough analysis of the implications of the effect data collection has on decision-making on and off the field would be beyond the scope of this thesis and there is an extensive bibliography on the matter. In the next few pages, the focus will be on issues raised by the interaction of data protection legislation and blockchain technology. The new technologies' capacity for higher volume and accuracy in the collection, analysis, and editing of data can assist stakeholders in their decision-making progress while giving to organizations a competitive advantage on and off the pitch. Data management is a huge issue not only in the sports industry but in most industries and data protection laws and regulations have been implemented in the past years in many jurisdictions worldwide.

2.11 Big Data

It is evident in recent years the tendency in professional sports to search for ways and means of increasing revenue and maximizing profits, so big data gives an opportunity to collect information that can enhance fan engagement, provide advantages in decision

making, and generate new sources of income.²⁴³ These data can be collected from various sources such as computer analysis of games, of fan reactions in social media or inside sporting facilities, etc. New technologies that assist the data collection and analysis and can assist decision-making in various fields and also increase organizational performance have been introduced in the sports industry.²⁴⁴ On-and-out-of-pitch decisions in professional sports are made with the assistance of tools that use the endless possibilities technologies have to offer.

“Big data” is used to describe datasets whose size is beyond the ability of typical database software tools to capture, store, manage and analyze.²⁴⁵ This is not a definition that defines big data in terms of being larger than a given number of terabytes.²⁴⁶ It is safe to assume that the minimum size of collections of data that can be characterized as big data will increase given the rapid pace of technology advancement.²⁴⁷ Depending on the sector and the software tools that are used in the gathering of data the definition of big data can vary in any particular industry.²⁴⁸ The concept of big data, includes four characteristics: volume, variety, velocity, and value.²⁴⁹ Sports big data can be characterized as a huge collection of data relating to sports including acquire, store, manage, and analyze far beyond the capabilities of traditional database software tools, including five features: volume, variety, velocity, veracity, and value.²⁵⁰ There are many advantages that the use of big data can provide to sports stakeholders.²⁵¹ For example, data analysts and scouts in

²⁴³ Patterson Belknap Webb & Tyler, LLP, Wearable Technology Fits into Professional Sports, LexoLo-gy.com (2018), online: <<https://www.lexology.com/library/detail.aspx?g=2b1b620e-18b6-474e-8de4-cd0dd7556db8>>.

²⁴⁴ Erik Brynjolfsson, Lorin M. Hitt, & Heekyung Hellen Kim, “Strength in numbers: How does data-driven decision making affects firm performance” (22 April 2011) online: <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1819486>.

²⁴⁵ James Manyika et al., “Big data: The next frontier for innovation, competition, and productivity” (1 May 2011), online: <<https://www.mckinsey.com/business-functions/mckinsey-digital/our-insights/big-data-the-next-frontier-for-innovation>>.

²⁴⁶ *Ibid.*

²⁴⁷ *Ibid.*

²⁴⁸ *Ibid.*

²⁴⁹ Zhongbo Bai & Xiaomei Bai, “Sports Big Data: Management, Analysis, Applications, and Challenges” (2021) online: <<https://www.hindawi.com/journals/complexity/2021/6676297/>>..

²⁵⁰ *Ibid.*

²⁵¹ Enqing Tian “A prospect for the geographical research of sport in the age of big data,” (2018) *Sport in Society*, vol. 23, no. 1, at 159–169, online:

professional teams gather data around the levels of physicality, performance, and fitness so they can predict their full potential. The results and the reports data analysts can present to the decision makers of each franchise (whether is the general manager, coach or a committee that decides on the matter) can provide a tool for decision-makers that also can be used in everyday work within the club (training sessions, rehabilitation schedules etc.). Performance reports, season long performance statistics, health data and injury history, training performance, and analysis, and other metrics and stats can assist also coaches in game related decisions. These data that a sports club or organization has collected from its customers and fans are a form of intellectual property with an importance not less significant than the other IP assets including logos, patents image and media rights.

These is an increased number of sources that data are collected from in many sports. These sources may have additional legal restrictions since they may include medical and biometrical information among others. Future collective agreements between leagues and players' associations (as the next agreement between players and the N.B.A.) will definitely include provisions about the data in compliance with data protection laws and directives in order to protect the interests of athletes and also face the new reality of data being used as a tradeable asset. One evident example that would certainly cause a lot of discussion between all stakeholders is biometric data. These data can be collected from wearable technology (wearables) in sports such as football or basketball, which include various biometric statistics, including heart rate, skin temperature, and sleeping patterns, These data can be exploited by the teams or can be an valuable asset and object of trade to various interested companies.²⁵² Athlete biometric data (“ABD”) are an example of data that create legal and ethical issues involving around ownership, access, privacy, and security of them. Biometric data is defined as “measurements or records that can be used to identify people as individuals; identifiers may be physiological (such as heartrate, tem-

<https://www.researchgate.net/publication/330006759_A_prospect_for_the_geographical_research_of_sport_in_the_age_of_Big_Data>.

²⁵² Kristy Gale, *Data Generated by Wearable Technology Presents many Challenges in Sport*, Sport techie (May 13, 2016), <https://www.sporttechie.com/data-generated-by-wearable-tech-presents-many-challenges-in-sports/>.

perature, and blood sample analysis) or behavioral”²⁵³ and some wearable devices have the capability to gather up to 1,000 data points p.s.²⁵⁴ By gathering a large number of data, there are various risks around the rights of individuals and emerging issues: the athletes who are the subjects of the data collection, the entity that collects and uses the data, and of course the company that has developed and trades the wearable technology.²⁵⁵ Taking into regard the abovementioned, data subject’s rights need to be taken into consideration, the obligations by the data collector set by data protection regulations, and also the provider of the wearable device's obligations about the collecting, storage and accessing of data.²⁵⁶

The quality of the data collected by various sources, either video analysis using AI components to data collected by wearable sensors, and the accuracy of these data will dictate the rate other technologies advance in the sports industry as well. Athlete performance, decision-making in the front offices and on the coaching staff, experiencing a sporting event on the field and on television, and even betting on the sporting event will all be “smarter” and the available data will definitely change the way sports are perceived moving forward in the 21st Century.²⁵⁷

2.12 Data of athletes and blockchain.

The characteristics of blockchain technology as presented in detail in the first chapter of the present thesis can have a big impact in data collection, management and exploitation. Especially in the context of the sport industry, the application of technology

²⁵³ Barbara Osborne, “Legal and Ethical Implications of Athletes’ Biometric Data Collection in Professional Sport” (2017) 28 *marq. Sport L. rev.* 37 at 38

²⁵⁴ *Ibid.*

²⁵⁵ Brian Lam, *Athletes and Their Biometric Data—Who Owns It and How It Can Be Used*, JD- SUPRA.COM (Dec. 20, 2017), <https://www.jdsupra.com/legalnews/athletes-and-their-biometric-data-who-96340/>.

²⁵⁶ Sarah M. Brown & Natasha T. Brison, “Big Data, Big Problems: Analysis of Professional Sports Leagues’ CBAs and Their Handling of Athlete Biometric Data”, 2020 Vol 30 *Journal of Legal Aspects of Sport* 1 at 64.

²⁵⁷ *Supra* note 21 at 294

could mean the development of records that would be stored in the blockchain and any changes would be recorded thus preventing tampering. Blockchain technology as an immutable publicly distributed ledger can be used as a data bank for the storage and secured sharing of personal information and data between interested parties whether they are sport clubs, governing bodies, anti-doping agencies or athletes etc. The information of teams, sports brands, and professional athletes can be stored on this immutable distributed ledger. This will eliminate any form of incorrect data. Blockchain technology offers an alternative in the storage of data and statistics about professional athletes. These days, it all boils down to the numbers that are being produced by these athletes. These statistics and biometrics from the athletes are essential to the sporting industry. There will be no need for a central governing authority but the data would be safe on a global network of users. The security provided by technology makes it possible to safeguard the integrity of esports for example, where the competitors do not compete in the same physical location. It could possibly mean that in the 21st Century competitions could be established without requiring athletes to be physically at the same site as track and field competitions for example could be held with the coordination of competition time, competitors, equipment, and officials that determine the order of competitors – all watched and scored via an online site and the data been uploaded to the blockchain. This is far from being a viable option at the time but blockchain technology guarantees the integrity of data which is essential in the process of making the concept of sport as a true global entity and opening many possibilities that would revolutionize sports.²⁵⁸

Blockchain technology can assist data collection professionals in collecting, sharing, and distributing athlete-related data. Especially sensitive personal data as health and injury records and doping testing results can be processed on a secure, immutable and transparent database. The information can be distributed through blockchain, enabling for example teams doctors and physiotherapists to process information about injuries, rehabilitation methods, effects of medicines and physiotherapy techniques, rehabilitation timelines and development of relevant equipment etc. Possible infringement of the per-

²⁵⁸ Cheryl Mallen, *Emerging Technologies in Sport Implications for Sport Management*, ed (New York, Routledge, Taylor and Francis Group, 2019) at 168.

sonal data's protection, (depending on the jurisdiction's data privacy laws) can be minimized since such information will be anonymous and pseudonymity will be guaranteed by cryptography.²⁵⁹ Especially on doping relating data since the use of doping has been on the rise, and the sporting industry has been trying to put professional athletes under constant monitoring, blockchain can help store and access relevant data. Using blockchain in sports, the doping control results and records of athletes can be recorded and stored on the blockchain network. This secured network management on the blockchain can be the answer to the prescription and test result problem. Of course, there will be several regulations that will guide this process; the data being uploaded will have to be tested reliably. The security of the information is left to the incorruptible strong cryptography of blockchain technology. This is all aimed to protect the integrity of the sport and its professional athletes.

The rights of athletes around their personal data don't have many differences as those of any other's subject but the value of the accumulated databases to clubs, franchises, organizations, and other companies that operate in the sports industry, gives many examples of the issues that may arise by implementing blockchain technology in data collection. Athletes have various other rights regarding their personal data including the right to be informed about the data, the right to access them and the right to have their data deleted among others. A number of the accumulated data, stored, and analyzed is about the player's health, genetic and biometric data which require explicit consent is required in order to process them and data protection legislation must be taken into account, and blockchain companies along with data collectors must comply with these regulations.

2.13 Blockchain, data and the General Data Protection Regulation (GDPR):

²⁵⁹ Asma Khatoun, "Use of Blockchain Technology to Curb Novel Coronavirus Disease (COVID – 19) Transmission" (7 May 2020), online: *Preprints* <<https://www.preprints.org/manuscript/202005.0117/v1>>.

In the EU the legal framework that protects personal data is the General Data Protection Regulation (GDPR)²⁶⁰ which replaced the 1995 Directive 95/46/EC, which was the previous European legal framework that regulated the process of personal data. The new GDPR on the protection of data subject rights regarding the processing and utilization of personal data and also on the utilization and movement of data as freedom of expression, enhances and implements the rules and guidelines in order to protect fundamental rights and freedoms inside the EU territory and outside if certain requirements for appliance are met.²⁶¹

The focus of the regulation is personal data privacy and protection and it requires compliance from individuals and companies as requesting permissions from the data subject (the owner of the data) before gathering, storing and utilizing the relevant information. Personal information that is common in the sports industry such as medical history, injury reports, biometric data, and of course other data besides the ones relevant to the medical data of athletes, such as banking details or salary info, etc, can cause social, political, technological and financial damages if the information falls to the hands of unauthorized entities or personnel.²⁶² People that are the data subjects are the owners of their personal data. The GDPR emphasizes 'personal data', including any information relating to an identifiable person who can be directly or indirectly identified in particular by reference to an identifier which can include name, social security, tax or ID numbers, geographical data or unique online identifier.²⁶³

Blockchain as a distributed ledger has the potential to revolutionize data collection, storage and utilization Especially in the matter of security of data storages, of secure

²⁶⁰ REGULATION (EU) 2016/679 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL "Lex - 32022R0720 - en - EUR-Lex of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)" online: EUR <<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022R0720>>

²⁶¹ Olof Nyrén, Magnus Stenbeck, & Henrik Grönberg. (2014). "The european parliament proposal for the new EU general data protection regulation may severely restrict European epidemiological research" European journal of epidemiology, 29(4):227–230 online:

<<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4033829/>>.

²⁶² *Ibid.*

²⁶³ *Ibid.*

transactions blockchain can provide an industry changing tool. Since in the blockchain users are able to store data across multiple systems and protect against tampering of data. The decentralized transaction processing in the DLT system avoids some of the vulnerabilities that occur when the data are stored in a centralized database.²⁶⁴ But on the other hand there are legal implications about the interaction with GDPR on the process of data, the data processor and the identity of the parties, among others.

There is much controversy and discussion around blockchain technology and compliance with the GDPR, since some unique characteristics of the technology make compliance impossible, so alternative solutions and measures need to be taken into account. First of all, the issue of the data processor is crucial especially considering liability issues. The anonymity of blockchain makes it firstly difficult to properly identify the user, and on the other hand the collective participation of miners seems at a first review to make everyone involved liable. It is supported that every block or miner is responsible for the processed data.²⁶⁵ According to GDPR²⁶⁶ “Where two or more controllers jointly determine the purposes and means of processing, they shall be joint controllers. They shall in a transparent manner determine their respective responsibilities for compliance with the obligations under this Regulation, in particular as regards the exercising of the rights of the data subject and their respective duties to provide the information referred to in Articles 13 and 14, by means of an arrangement between them unless, and in so far as, the respective responsibilities of the controllers are determined by Union or Member State law to which the controllers are subject” making essential and necessary the exist-

²⁶⁴ Guy Zyskind, Oz Nathan & Alex 'Sandy' Pentland, "Decentralizing Privacy: Using Blockchain to Protect Personal Data," 2015 IEEE Security and Privacy Workshops, online: <<https://ieeexplore.ieee.org/document/7163223/authors#authors>> at 180.

²⁶⁵ Georgios Kalogerakis & Nikolaos Theodorakis, "Blockchain: implications, perspectives and challenges for the Greek legal system": 2019 DiMEE 1, online: <https://www.academia.edu/40377994/%CE%9A%CE%B1%CE%BB%CE%BF%CE%B3%CE%B5%CF%81%CE%AC%CE%BA%CE%B7%CF%82_%CE%98%CE%B5%CE%BF%CE%B4%CF%89%CF%81%CE%AC%CE%BA%CE%B7%CF%82_Blockchain_%CE%B5%CF%86%CE%B1%CF%81%CE%BC%CE%BF%CE%B3%CE%AD%CF%82_%CF%80%CF%81%CE%BF%CE%BF%CF%80%CF%84%CE%B9%CE%BA%CE%AD%CF%82_%CE%BA%CE%B1%CE%B9_%CF%80%CF%81%CE%BF%CE%BA%CE%BB%CE%AE%CF%83%CE%B5%CE%B9%CF%82_%CE%B3%CE%B9%CE%B1_%CF%84%CE%BF_%CE%B5%CE%BB%CE%BB%CE%B7%CE%BD%CE%B9%CE%BA%CF%8C_%CE%BD%CE%BF%CE%BC%CE%B9%CE%BA%CF%8C_%CF%83%CF%8D%CF%83%CF%84%CE%B7%CE%BC%CE%B1_%CE%94i%CE%9C%CE%95%CE%95_2019_%CF%83_5%CE%B5%CF%80> at 5.

²⁶⁶ *Supra* note 260 at art 26.

ence of an agreement between all parties. In closed blockchains, it is possible to do so if they have all agreed to be considered data controllers, whereas in open blockchains this is not a viable possibility, so there is a need to designate a data controller in order to be held liable. The participating nodes in the blockchain have various tasks as validating other nodes, participating in the mining of new blocks for profit, and maintaining a copy of the ledger among others. It is beyond the scope and purpose of nodes to identify issues about regulating data collection, processing, and utilization. The nodes execute a new block into the network and once it is verified and added to the blockchain it is not possible to edit or amend it without changing the whole network.²⁶⁷ During the operation of smart contracts where the code is uploaded to the blockchain and when they are executed (when the predetermined requirements are met) it is a matter of debate who is the controller of data and whether it is only the publisher or everyone involved.

When blockchain technology is used in personal data collection or procession there are obligations for the stakeholders that are involved in the collection and utilization of data that they may not be able to comply with. Blockchain technology and GDPR seem to conflict since the former uses cryptography to protect data and privacy rights, which has the characteristics of the blockchain (not easy to tamper with, absence of a central authority, anonymity, etc) regarding the storage and management of data. The latter has a central governing authority as a safeguard in protecting personal data from companies that store huge amounts of data which seemingly are opposing the use of blockchain.²⁶⁸

Most importantly, the field where GDPR and blockchain seem to conflict with each other, is the right to be forgotten. The subjects of data collection have the right to have their personal information removed by the data collector.²⁶⁹ A basic right given by

²⁶⁷ Khaled Salah et al, "Blockchain for AI: Review and Open Research Challenges" (1 January 2019), online (pdf): *IEEE Access* <<https://ieeexplore.ieee.org/ielx7/6287639/8600701/08598784.pdf>>.

²⁶⁸ Paul Voigt & Axel von dem Bussche, *The EU General Data Protection Regulation (GDPR) A Practical Guide, 1st ed.*, (Switzerland, Springer Cham, 2017) online: <https://doi.org/10.1007/978-3-319-57959-7>

²⁶⁹ Jamie Berryhill, Théo Bourgery & Angela Hanson, "Blockchains Unchained Blockchain Technology and its Use in the Public Sector" 2018 OECD Working Papers on Public Governance 28, online: <https://www.oecd-ilibrary.org/governance/blockchains-unchained_3c32c429-en>.

the GDPR is the right to have their data deleted which cannot be done in the blockchain since it is technically possible to delete data stored in the blockchain but there will be an indicator of the place where the data are kept. GDPR explicitly guarantees the right to permanently delete the data ('right to be forgotten') in the text of the regulation.²⁷⁰ In the case where a subject of data asked for the stored in the blockchain data to be deleted the data processor must delete them from all blocks which would alter the very essence of the technology. The fact that the right to be forgotten is controversial to DLT technologies was identified by the European Parliament which "Underlines that although DLT promotes self-sovereign identity, the 'right to be forgotten' is not easily applicable in this technology;"²⁷¹ In the event the blockchain is used as a database transaction with personal data, it will definitely contradict with GDPR mandates on the abovementioned basis.

Blockchain with a first review seems to be in conflict with GDPR. The provisions about the right to be forgotten which as mentioned before are integral to the regulation are in contrast with the same nature of blockchain technology and especially the features of immutability and decentralization. On the other hand, it can be supported that GDPR and blockchain take different approaches towards the same goal.²⁷² Both the GDPR and blockchain aim to promote secure and private collection of data and give the data subjects the freedom of control. GDPR and blockchain are conflicting and coherent at the same time and the conflicts need to be resolved by altering some aspects of the blockchain in order to comply with GDPR. This is a point of conflict since it seems that compliance can only be achieved by altering some of the basic characteristics of blockchain.²⁷³

²⁷⁰ *Supra* note 260 at art 17

²⁷¹ MOTION FOR A RESOLUTION on distributed ledger technologies and blockchains: building trust with disintermediation, 3 October 2018 at 32

²⁷² Jenna Lindqvist, "New challenges to personal data processing agreements: is the GDPR fit to deal with contract, accountability and liability in a world of the Internet of Things?" 2018 26(1) *International Journal of Law and Information Technology* 45-63, online: <https://www.researchgate.net/publication/323837832_New_challenges_to_personal_data_processing_agreements_is_the_GDPR_fit_to_deal_with_contract_accountability_and_liability_in_a_world_of_the_Internet_of_Things>.

²⁷³ *Supra* note 269

EPILOGUE

Concluding remarks

The aim of this thesis was not to expand on all of the legal matters from the use of the novel technologies- this would be impossible due to both the extent of the applicability and presence of various technologies in the sports industry, but also due to the variety and complexity of the legal matters that have arisen and will continue to emerge in following years. The present thesis was rather a brief and selective presentation of the digital technologies that are most likely to have a greater application in the sports industry and then present a brief analysis of several issues that will certainly be the subject of controversy between sports organizations, legislative bodies, courts, lawyers and computer engineers in the following years. Thus, it was inevitable to present the technical descriptions of the relevant technologies before getting into further detail about their implementation in the sports industry and the legal scrutiny around them.

Of course, these are not the only technological advancements that will have a vital role in the sports industry. Artificial intelligence (AI) has probably the biggest potential of the new technologies and subsequently has already brought up challenges arising from the peculiar nature of AI that lawmakers and regulators have to take into consideration. The use of AI in the sports industry is evident in data management where both on-field and off-field decisions are made in many sports without any human interaction. Virtual reality and augmented reality can be the norm in the way sports are viewed and experienced in the future since they promise an even interactive experience to the consumer-fan that is competitive to the biggest blockbuster motion picture movies. Robotics has the potential to expand the limits of human achievements even more. Physical technologies and the improvement of the human body by innovation in the fields of nutrition, training, and rehabilitation guarantee the expansion of the careers of professional athletes. Athletes, consumers, and managers will be affected by the level of implementation of technology in certain sports and certainly, there would be a change in the way they operate in the sports industry. Those who gain the competitive advantages of these technologies and find creative ways to incorporate them into their organizations and sports will thrive in the new digital world. The application on the FinTech industry makes a perfect fit for the future of sports, particularly as it relates to sports as a business. While the short-term benefits will be limited by the willingness of the shareholders to accept some of these drastic changes, the long-term future of sports will be profoundly impacted by the advances in fintech. Sports governing bodies and national sporting organizations along with the national and transnational governing bodies ensure that sports remain healthy and sustainable and also that the sport product must remain attractive.²⁷⁴ As the general public and the newer generation of fans and consumers will be more and more familiar with new technologies, they will significantly increase the effect that digital applications have in sports. The challenge for companies that want to promote technological innovation is to remain committed in encouraging and educating every stakeholder on the importance of the adoption of these technologies by sports organizations and businesses while they need

²⁷⁴ *Supra* note 121.

to be ready to adjust and implement these innovative suggestions in order to gain a competitive advantage over their competitors.²⁷⁵

Younger generations who grew up in a digital world tend to understand and use novel technologies, such as applications of fintech and blockchain technology, in a way that older generations may not. Individual athletes, teams, sports organizations, and companies across the world are utilizing cryptocurrencies and the advantages that they come with and the use of cryptocurrencies as a payment method in getting more and more followers and many prolific athletes are choosing digital means of payment in all kinds of cryptocurrencies. Incorporating these novel technological advancements into the sports industry can revolutionize the industry. The sport governing bodies, the sports clubs, and of course the states that have the willingness to invest in these innovative technologies should work together to promote their jurisdictions and their business environment as a contemporary and welcoming ecosystem for new technologies and their proponents.

Depending on the level of their incorporation of smart contracts can revolutionize life as we know it and not only in the sports industry but on a much broader spectrum. Since there is controversy even around the legal nature of smart contracts it is easy to imagine that all existing principles and norms around contracts are under review. Matters of civil procedure are sure to come up when courts have to rule about the governing law, the identity of the parties, and many more matters that are typical of a traditional contractual relationship. It is possible that regulatory bodies will choose to follow the innovations of technology.²⁷⁶ But a possibility is also that a new set of laws and regulations can be established following the paradigm of “lex mercatoria” or the one of “lex sportiva” and founding «lex cryptography». Setting a set of customary laws to fill the gap that was left by the nonexistence of regulation about an issue was done by the stakeholders of the industry by setting the rules in order to regulate the basics of the industry and customary rules that applied everywhere regardless of the jurisdiction or state. An analogous set of

²⁷⁵ *Supra* note 21 at 217.

²⁷⁶ *Supra* note 82.

customary laws that can be the basis of a global and harmonized legal system can be the “Lex cryptographia”. “Lex cryptographia” can be the first step of setting a common ground between professionals of the industry, lawmakers, computer engineers by embracing the novel technological innovations and pave the way for much bigger integration. Although legislative bodies have taken initiatives to regulate the area of fintech and design a firm and stable regulatory framework on crypto relating products as a way to ensure investor protection there are still many gray areas left unreached where customary rules can cover.

Concluding, the special characteristics of the novel digital technologies and especially the ones of blockchain which include the distributed nature, the digital anonymity, and the absence of a central authority inter alia, are key factors in addressing the emerging legal issues and setting the governing law. Whether the existing regulatory framework and the various issues that have already been addressed by legislative bodies and jurisprudence in various jurisdictions will manage to address the issues and keep up with the ever-growing pace of technological advancement is a matter to be seen. There is a need to develop and implement laws and regulations on a harmonized global stage to achieve predictability and certainty that are essential to a stable and secure environment to further guarantee the sustainability of the industry. Whether new principles and laws that take into consideration the special characteristics of the digital age will be implemented or by adjusting the existing legal framework to properly address new technologies, the sports industry can be an innovator in creating and putting into practice a new legal guideline in the proper implementation of the new digital technologies in a dynamic and entrepreneurial industry.

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