



The elephant in the room: A global mechanism for E-Sport disputes

Serkan Kaya^a, Eda Şahin-Şengül^b, Aybuke Keskin^c

^a Assistant Professor in Law, Boğaziçi University, Türkiye

^b Senior Lecturer in Law, Bath Spa University, UK

^c Research Assistant, Balıkesir University, Türkiye

ARTICLE INFO

Keywords:

Arbitration
Blockchain
E-sports
Mediation
ODR
Videogame

ABSTRACT

The e-sports industry has seen exponential growth, leading to increased disputes among players, teams, and organisers. Traditional dispute resolution methods, such as litigation, often fall short due to their time-consuming nature, the lack of technical expertise of the parties, and the international scope of e-sports disputes. This article highlights the potential of Blockchain Dispute Resolution (BDR) mechanisms to address these challenges. BDR offers several advantages for e-sports dispute resolution, ensuring transparency by recording all transactions and decisions on a public ledger, which can be accessed by all parties involved. This reduces the risk of biased decisions and enhances trust among stakeholders. Additionally, smart contracts can automate the enforcement of agreements, reducing the need for intermediaries and speeding up the resolution process. The article also underscores the importance of developing standardised rules and protocols for blockchain-based dispute resolution in e-sports, as it provides a structured approach for the recognition and enforcement of decisions made through blockchain mechanisms. The article, therefore, argues that the integration of blockchain technology in e-sports not only offers potential solutions for dispute resolution but also opens new avenues for monetisation and fan engagement, exciting the industry and its fans with the possibilities it brings for a more interactive and engaging future.

1. Introduction

The world of e-sports, referring to competitive video gaming, has not just grown but exploded from a niche hobby to a global industry with millions of fans and substantial revenue.¹ Therefore, the challenges of ensuring fair play and resolving disputes among a range of stakeholders containing gaming associations, publishers, developers, tournament organisers, players, teams, fans, content creators, streaming platforms, retailers, service providers, and sponsors, become increasingly complex and pressing.² The advent of emerging technologies and the tokenisation

of in-game assets introduces new complexities to these e-sports disputes. As a result, efficient and reliable dispute-resolution mechanisms are more critical than ever.

Dispute resolution in e-sports currently relies on a combination of traditional litigation and alternative dispute resolution (ADR) mechanisms such as negotiation, mediation, arbitration, and conciliation. However, these methods often struggle to keep pace with the fast-evolving nature of the industry, particularly in cross-border disputes and technologically complex cases. The rise of digitalisation has transformed the way disputes are handled,³ leading to the emergence of

E-mail addresses: serkan.kaya@bogazici.edu.tr (S. Kaya), e.sahin@bathspa.ac.uk (E. Şahin-Şengül), aybuke.keskin@balikesir.edu.tr (A. Keskin).

¹ Leandro Toscano, Oscar Suarez and Alexia Gkoritsa, 'Resolving Video Games and eSports Disputes: How Can WIPO's Alternative Dispute Resolution Options Help?' <https://www.wipo.int/wipo_magazine_digital/en/2023/article_0018.html> accessed 3 October 2024.

² *ibid.*

³ Takashi Takashima, 'Developing Legal Frameworks for Dispute Resolution in the Digital Age' in Maud Piers and Sean McCarthy (eds) Transforming Arbitration Exploring the Impact of AI, Blockchain, Metaverse and Web3 (Radboud University Press 2025) 154.

<https://doi.org/10.1016/j.clsr.2025.106128>

Available online 10 April 2025

2212-473X/© 2025 The Authors. Published by Elsevier Ltd. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Online Dispute Resolution (ODR), a digital extension of ADR that facilitates negotiations, mediations, and arbitrations through online platforms.⁴ Given the inherently digital nature of e-sports, ODR presents a promising pathway for resolving conflicts efficiently and fairly.

Tokenisation refers to the process of converting rights to an asset into a digital token on a blockchain. For instance, virtual property rights could refer to ownership of in-game items or characters, intellectual property could include game designs or player strategies, and digital currency transactions might involve the purchase or sale of in-game currencies or items. These digital assets further highlight the need for secure and transparent dispute resolution mechanisms that can operate seamlessly in a decentralised environment.

Emerging technologies are significantly enhancing ODR platforms. Blockchain and Distributed Ledger Technologies (DLT) offer secure, transparent, and tamper-proof records, building trust between parties, reducing fraud, and improving data security in ODR processes. Artificial Intelligence (AI), including natural language processing and machine learning, streamlines tasks such as communication, document analysis, and decision-making, enabling faster and more accurate resolutions by identifying patterns in disputes. Additionally, chatbots are making the ODR process more accessible and user-friendly by providing consumers with information, answering questions, and assisting with documentation, reducing barriers to participation.⁵

However, traditional ODR methods have limitations, particularly in enforcing decisions and addressing the technical nuances of e-sports disputes. This is where Blockchain-Based Dispute Resolution (BDR) emerges as a potential solution. Originally developed for cryptocurrency-related transactions, BDR is a secure and decentralised mechanism that records a wide range of transactions, ensuring transparency, immutability, and efficiency. Leveraging smart contracts on a blockchain network, BDR automates resolution processes and eliminates the need for third-party intermediaries, offering a more efficient, fair, and secure alternative.

In industries like e-sports, where the nature of disputes is fast-paced, cross-border, and often involves technical complexities, traditional dispute resolution methods such as litigation often fall short. These shortcomings include the time-consuming nature of litigation, the lack of expertise in understanding the technical aspects of e-sports, potential biases in decision-making, and the cross-border nature of many disputes. Given its alignment with digitalisation and ODR, BDR could significantly enhance dispute resolution in the e-sports sector, handling disputes in a more streamlined and trustworthy manner. Although BDR may also initially face hesitance from parties unfamiliar with digital tools, its transparency through tamper-proof records,⁶

In this respect, the article first explores the evolution of e-sports, the intersection of traditional sports and e-sports, and the technological advancements shaping the future of this dynamic field. It then highlights the limitations of existing dispute-resolution methods and discusses the need for an effective dispute-resolution mechanism like blockchain, which is essential to support the growth and innovation of the video games and e-sports industry while preventing costly and protracted legal battles. The article, thus, concludes that BDR has the potential to

revolutionise the e-sports industry, addressing jurisdictional issues, protecting intellectual property rights, and supporting the growth and innovation of the sector.

2. Unveiling E-Sports: An overview of evolution, growth, and future prospects

2.1. The Rise and global reach of E-Sports

The term *e-sports* refers to competitive video gaming events featuring both professional and amateur players. E-sports, namely electronic sports, is defined as a form of sports and competitive gaming facilitated by electronic systems and human-computer interfaces, typically involves players competing in leagues, tournaments, and teams sponsored by businesses.⁷ In order to trace the origin and evolution of e-sports, one may examine the progression of computers and video games. It is believed that the first example of e-sports is a game called Tennis for Two, which was developed at MIT in the 1950s.⁸ In addition to its purpose being solely entertainment,⁹ it allowed two players to compete. Furthermore, it enabled spectators to watch the *match*. Thus, it comprises some components of e-sports, such as games, players, and audience.¹⁰ It may be claimed that this is a gateway to competitiveness, hence the emergence of e-sports.

The first game that could be played on various computers, *Spacewar!*, was considered to be the game that affected developers in the 1960s.¹¹ Arcades and video consoles were developed, and an e-sports tournament, *the Intergalactic Spacewar!*, was held at Oxford University in the 1970s.¹² In 1997, internet entrepreneur Angel Munoz founded the Cyberathlete Professional League, marking the first use of sports terminology in competitive gaming and initiating the ongoing evolution and debate over the term *e-sports*.¹³

The e-sports industry is growing day by day. Just at the beginning of the COVID-19 pandemic, the number of e-sports zealots was over 250 million, casual gamers were over 300 million,¹⁴ and the market revenue was nearly 1 billion USD. It is speculated to almost double by 2025.¹⁵ In 2022, the global e-sports market was valued at over \$1.38 billion, with projections reaching 1.87 billion USD by 2025.¹⁶ The largest markets are in Asia and North America, with China alone contributing nearly 20 % of

⁷ Juho Hamari and Max Sjöblom, 'What Is eSports and Why Do People Watch It?' (2017) 27 Internet Research 211, 211.

⁸ Tobias M Scholz, 'A Short History of eSports and Management' in Tobias M Scholz, *eSports is Business* (Springer International Publishing 2019) 19 <http://link.springer.com/10.1007/978-3-030-11199-1_2> accessed 7 October 2024.

⁹ *ibid.*

¹⁰ Julien Bousquet and Myriam Ertz, 'eSports: Historical Review, Current State, and Future Challenges' in Sharon Andrews and Caroline M Crawford (eds), *Handbook of Research on Pathways and Opportunities Into the Business of Esports* (IGI Global 2021) 3 <<http://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/978-1-7998-7300-6>> accessed 6 October 2024.

¹¹ *ibid.*

¹² Megan Farokhmanesh, 'First Game Tournament, "Intergalactic Spacewar Olympics," Held 40 Years Ago' <<https://www.polygon.com/2012/10/20/3529662/first-game-tournament-intergalactic-spacewar-olympics-held-40-years>> accessed 23 June 2024.

¹³ David J Finch and others, *Implications and Impacts of eSports on Business and Society: Emerging Research and Opportunities* (IGI Global 2020) 5 <<http://services.igi-global.com/resolvedoi/resolve.aspx?doi=10.4018/978-1-7998-1538-9>> accessed 6 October 2024.

¹⁴ Bousquet and Ertz (n 10) xviii.

¹⁵ 'eSports Market Revenue Worldwide from 2020 to 2025' <<https://www.statista.com/statistics/490522/global-esports-market-revenue/>> accessed 5 October 2024.

¹⁶ Christina Gough, 'Revenue of the Global eSports Market 2020-2025' <<http://www.statista.com/statistics/490522/global-esports-market-revenue/>> accessed 5 October 2024.

⁴ Tripti Bhushan, 'The Impact of Digital Technologies on Alternative Dispute Resolution' (2020) 1(2) RBADR 329-330 <<https://rbadr.emnuvens.com.br/rbadr/article/view/175/148>> accessed 29 January 2025.

⁵ UNCTAD, 'Technology and the Future of Online Dispute Resolution (ODR) Platforms for Consumer Protection Agencies' (UNCTAD/TCS/DITC/INF/2023/5) 2023, 7 <https://unctad.org/system/files/official-document/tcsditcinf2023d5_en.pdf> accessed 29 January 2025.

⁶ Derric Yeoh, 'Online Dispute Resolution: The Future of Alternative Dispute Resolution' (Kluwer Arbitration Blog, 29 March 2018) <<https://arbitrationblog.kluwerarbitration.com/2018/03/29/online-dispute-resolution-future-alternative-dispute-resolution/#:~:text=There%20is%20now%20online%20mediation,increasingly%20making%20their%20presence%20felt>> accessed 29 January 2025.

the market.¹⁷ Revenue primarily comes from sponsorships and advertising, which totalled 641 million USD in 2021, followed by media rights at 192 million USD. The global e-sports audience reached 532 million USD in 2022 and is expected to grow to over 640 million USD by 2025.¹⁸ Businesses and organisations contribute to developing e-sports games. People choose e-sports as a career and pursue e-sports-directed degrees.¹⁹ This demonstrates that the e-sports industry is gaining importance, and so is the revenues and market share of the industry.

Although e-sports lack the physical activity typical of traditional sports, they require skills like hand-eye coordination and strategic thinking. As their acceptance grows, e-sports may eventually be recognised as a sport, potentially even joining the Olympics, despite their strong commercial focus.²⁰ Some elements of e-sports include games, players, and audiences, rapidly evolving, with large-scale tournaments such as the *League of Legends World Championship* attracting global audiences.²¹ While video gaming and e-sports are rapidly growing and becoming significant contributors to the global economy, the risk of disputes is also increasing in this dynamic environment.²² The urgency of these issues cannot be overstated, given the rapid growth and global reach of e-sports.

The growth of e-sports continues as more people engage with games and the industry explores new areas like virtual reality and e-sports. Despite the COVID-19 pandemic, perhaps even because of it, the e-sports industry has grown exponentially in the last few years. The pandemic boosted online gaming as a way to cope with lockdowns, further driving the industry's expansion.

2.2. E-Sports v traditional sports

The line between e-sports and traditional sports has blurred as gaming and sports increasingly intersect. This convergence is propelled by two simultaneous processes: the incorporation of gaming elements into sports (gamification) and the transformation of video gaming into a recognised sport (*sportification*).²³ The term *sportification of video gaming* refers to the ongoing process of institutionalising and professionalising video gaming, which involves incorporating sporting elements such as rules, performance standards (e.g., through e-sports and broadcasting), and traditional sports components like professional teams, lucrative gaming tournaments, and athlete endorsements into the gaming landscape.²⁴

Other examples include major sports leagues and traditional sporting clubs licensing their trademarks and merchandising rights to game developers.²⁵ Professional sports leagues are involved in creating popular video game franchises such as *NBA 2K* and *FIFA*, while traditional sports teams engage in e-sports, as seen with *PSG* establishing an e-sports club in 2016 competing in various games. Similarly, leagues like the

Singapore Premier League and Malaysia Football League have organised their own virtual football tournaments, namely the *eSPL* and *eMFL* respectively.²⁶

The intersection of e-sports and traditional sports is exemplified by the International Olympic Council's introduction of the Olympic E-sports Week. This event showcases virtual sporting competitions utilising virtual technologies, including a Fortnite-based virtual shooting event. It highlights potential growth opportunities for e-sports while raising questions about the future popularity of physical sports.²⁷

2.3. The Future of E-Sports technology

Advances, such as extended reality, in immersive technologies are revolutionising e-sports by merging virtual content with reality, with a market projected to grow significantly by the 2030s.²⁸ Extended reality includes virtual reality, which creates fully immersive digital environments; augmented reality, which overlays digital elements onto the real world; and mixed reality, which integrates digital and physical components.²⁹ These technologies enhance e-sports experiences for both players and spectators but raise legal concerns regarding privacy, data protection, and consumer safety due to potential risks associated with prolonged use.³⁰

The integration of artificial intelligence (AI) technology in gaming and e-sports is a significant trend, with applications ranging from controlling non-player characters in games such as *Dota 2* to monitoring and addressing negative player behaviour such as cheating and bullying. AI-based coaching apps such as *SenpAI.GG* aids e-sports athletes in analysing and improving their performance, while tools like *Rival.ai* assist teams in player performance and talent scouting,³¹ and AI is utilised by publicity managers to create highlight reels of gameplay based on automated analysis of video game footage.³²

A rising trend in e-sports involves the growing tokenisation of assets, where digital representations of ownership rights are stored on blockchains, enabling secure transactions without intermediaries.³³ This innovation offers promising opportunities for the e-sports industry, allowing assets such as in-game items and characters to be tokenised and traded.³⁴ For instance, *Axie Infinity* already embraces this technology by enabling users to battle, collect, and trade NFTs. Other examples would be the game *Illuvium*, which enables NFT avatars, namely *Illuvitars*, *Planet IX*, which allows players to farm, acquire, and trade NFT-represented items and lands,³⁵ *Grit* NFTs that customise appearances, particularly skins, of the avatars,³⁶ *Gods Unchained*, a trading card game that enables users to collect, trade, and battle cards, and *the Sandbox*

²⁶ Lau, Lim and Yong (n 23).

²⁷ *ibid.*

²⁸ *ibid.*

²⁹ *ibid.*

³⁰ *ibid.*

³¹ Softude, 'AI Redefining the Esports World: A Look at the Impact and Innovations' <<https://www.softude.com/blog/ai-redefining-the-esports-world-a-look-at-the-impact-and-innovations#:~:text=By%20providing%20challenging%20practice%20sessions,and%20improve%20their%20overall%20gameplay>> accessed 5 October 2024.

³² Ivan Šimić, 'How Can AI Improve Esports inside and Outside the Game?' <<https://esportsinsider.com/2023/11/ai-esports>> accessed 4 October 2024.

³³ Lau, Lim and Yong (n 23).

³⁴ Eliza Crichton-Stuart, 'Tokenizing In-Game Assets' <<https://gam3s.gg/news/tokenizing-in-game-assets/>> accessed 5 October 2024.

³⁵ 'Build, Trade & Play 2 Earn' <<https://planetix.com/>> accessed 5 October 2024.

³⁶ Crichton-Stuart (n 30); Kate Irwin, 'Battle Royale Shooter "Grit" Plays Like a Wild West PUBG—With NFTs' <<https://decrypt.co/138320/gala-games-nft-shooter-grit-feels-like-wild-west-pubg>> accessed 5 October 2024; Anvi Saini, 'The Ultimate Guide to GRIT' <<https://playtoearn.net/news/the-ultimate-guide-to-grit>> accessed 5 October 2024.

¹⁷ *ibid.*

¹⁸ *ibid.*

¹⁹ Bousquet and Ertz (n 10) xviii.

²⁰ Kirstin Hallmann and Thomas Giel, 'eSports – Competitive Sports or Recreational Activity?' (2017) 21 Sport Management Review 14.

²¹ Chainlink 'Blockchain for Esports: Monetizing a Digital-Native Community' <<https://chain.link/education-hub/esports-blockchain>> accessed 6 October 2024.

²² Toscano, Suarez and Gkoritsa (n 1).

²³ Kok Keng Lau, Edina Lim and Yi Xiang Yong, 'Legal and Regulatory Issues in Video Gaming and Esports (Part 2)' <<https://law.nus.edu.sg/trail/legal-and-regulatory-issues-in-video-gaming-esports-p2/>> accessed 2 October 2024.

²⁴ Haozhou Pu, Jeeyoon Kim and Corinne Daprano, 'Can Esports Substitute Traditional Sports? The Convergence of Sports and Video Gaming during the Pandemic and Beyond' (2021) 11 Societies 129.

²⁵ For instance, *Paris Saint-Germain* partnering with *Supercell* in 2019 to feature their football stars in the game *Brawl Stars* Laura Byrne, 'Paris Saint-Germain Adds Supercell as Official Club Partner' <<https://esportsinsider.com/2019/07/paris-saint-germain-supercell>> accessed 3 October 2024.

Game, a game that provides monetisation of players' NFTs.

It may be argued that the future of e-sports lies within macro-level trends such as data privacy, blockchain, AI, VR, 5 G, and regulatory issues, which may shape its impact on business and society while highlighting the need for global governance and exploring monetisation strategies similar to traditional sports.³⁷

Whereas e-sports organisations have large fan bases, monetisation remains a challenge. Current strategies include revenue from tournaments, apparel sales, and partnerships with content creators, but profitability is not guaranteed. Challenges such as multi-game environments and platform dependencies further complicate monetisation efforts.³⁸ In order to address these challenges, e-sports organisations are exploring blockchain technology and non-fungible tokens (NFTs) to deepen fan engagement and loyalty.³⁹ Since enhanced transparency is provided by blockchain by recording transactions on a public ledger, users will be protected from fraud.⁴⁰

NFTs offer persistent digital ownership and loyalty programs that incentivise fan engagement while creating new revenue streams through branded NFTs and their integration into NFT-based games.⁴¹ Embracing these technologies may be essential for e-sports organisations to achieve sustainable profitability and shape the future of digital entertainment and community engagement. All the examples demonstrate that the tokenisation of in-game items enables users to own virtual assets. Thus, it can be claimed that this will motivate players, and they will better engage in the game because the player will know that their items can be transferred to another game.⁴²

Developers can charge a fee to rent items or sell them as tokens. Therefore, tokenisation also offers potential monetisation opportunities for game developers and e-sports teams. However, legal challenges may arise because of regulatory uncertainty, cybersecurity risks, and possible implications for gambling laws.⁴³ Issues include jurisdiction-specific regulations, cybersecurity threats associated with blockchain technology,⁴⁴ and the possibility of violating gambling laws if chance elements are involved in token-creation processes.⁴⁵ It seems with the new and emerging technological advancements, the e-sports industry continues to hold a promising future, which brings us to the fact that its use and the disputes arising out of it will increase. Therefore, the next part analyses the current state of e-sports disputes, and the existing mechanisms used to resolve them to show the shortcomings of those mechanisms, which highlights the need for a new dispute resolution mechanism.

3. Navigating E-Sports disputes: challenges, mechanisms, and the role of ODR

3.1. The landscape of E-Sports disputes

The explosive growth of e-sports has turned it from a niche activity into a global industry. Many different disputes can arise in the online environment. For example, in the 90 s a university student virtually

assaulted characters of women participants in *LambdaMOO*, an online community.⁴⁶ It is argued that video games, often seen as mere entertainment, have increasingly become tools for political,⁴⁷ cultural, and economic propaganda, as well as platforms for promoting terrorism.⁴⁸ Their interactive nature enhances their impact on players, especially children and adolescents, influencing behaviours and attitudes. Instances like Norway's 2011 attacks, linked to '*Call of Duty*', highlight their potential role in fostering violent tendencies. It is claimed that platforms like *Roblox* and *Discord* also expose young users to risks, including predatory behaviour and harmful content.⁴⁹

Online games create a distinct, controlled environment where players collaboratively assess and interpret potential misinformation and disinformation, relying on teammates to navigate rumors with minimal real-world consequences.⁵⁰ Furthermore, AI is increasingly being exploited to generate and disseminate disinformation and propaganda across various platforms, including esports communities. The accessibility and affordability of generative AI tools have lowered the barriers for malicious actors to create realistic fake content, such as text, images, and videos, which can be used to mislead and manipulate audiences. For instance, extremist groups may utilise AI to produce persuasive propaganda and refine their tactics, thereby enhancing their recruitment and operational planning efforts. Moreover, AI-generated content has been employed in disinformation campaigns targeting specific demographics, including gamers, to influence public opinion and

⁴⁶ Julian Dibbell, 'A Rape in Cyberspace' <http://www.juliandibbell.com/texts/bungle_vv.html> accessed 25 January 2025.

⁴⁷ The esports industry has increasingly become a target for disinformation and propaganda. For example, Russia has been accused of sponsoring teams and organising tournaments to promote state-approved messages, thereby extending its influence to a broad audience. Anton Khimiak, 'Cyberpropaganda: How Russia Exploits the Gaming Industry?' (25 November 2023) <<https://uacrisis.org/en/cyberpropaganda-how-russia-exploits-the-gaming-industry>> accessed 25 January 2025; Vlad Chayka, 'Z-Propaganda in e-Sports: How Russia Uses e-Sports as a Propagandistic Platform' (1 August 2024) <<https://ukraineworld.org/en/articles/infowatch/z-propaganda-e-sports>> accessed 25 January 2025. The U.S. military has long recognised video games as a powerful tool for propaganda and recruitment, investing heavily in war-themed games to shape public perception and attract recruits. This influence extends to modern military training, where game-style interfaces are used for real-world combat operations, further intertwining gaming with state-driven narratives. Marijam Did, 'Video Games Are a Key Battleground in the Propaganda War' (13 October 2024) <<https://jacobin.com/2024/10/video-games-military-propaganda-war>> accessed 25 January 2025.

⁴⁸ Tonguç İbrahim Sezen, 'Bilgisayar Oyunlarında Politik Etkiler; Propaganda: Sanal Medeniyetler Çatışması Olabilir Mi?' (İstanbul Üniversitesi İletişim Fakültesi Yayınları 2004); Linda Schlegel, 'Extremists' Use of Gaming (Adjacent) Platforms – Insights Regarding Primary and Secondary Prevention Measures' <https://home-affairs.ec.europa.eu/networks/radicalisation-awareness-network-ran/publications/extremists-use-gaming-adjacent-platforms-insights-regarding-primary-and-secondary-prevention_en> accessed 25 January 2025; Holly Collison-Randall and others, 'Media Framing of Far-Right Extremism and Online Radicalization in Esport and Gaming' (2024) 11 Humanities and Social Sciences Communications 1195.

⁴⁹ Hamza Kızılkaya, 'Dijital Propaganda Aracı Olarak Video Oyunları' (2025) 9 Kriter Dergi <<https://kriterdergi.com/dosya-toplum/dijital-propaganda-araci-olarak-video-oyunlari>> accessed 25 January 2025.

⁵⁰ Natascha A Karlova, 'Misinformation and Disinformation in Online Games: An Exploratory Investigation of Possible Cues' (PhD, University of Washington 2018) <<https://digital.lib.washington.edu/researchworks/items/26e0f435-9f11-4b9a-ae4b-c78ba98fad80>> accessed 24 January 2025.

³⁷ Finch and others (n 13) 149–160.

³⁸ Chainlink (n 21).

³⁹ *ibid.*

⁴⁰ 'The Potential of Asset Tokenization for The Gaming Industry' <<https://www.antiersolutions.com/the-potential-of-asset-tokenization-for-the-gaming-industry/>> accessed 6 October 2024.

⁴¹ Chainlink (n 21).

⁴² The Potential of Asset Tokenization for The Gaming Industry (n 40).

⁴³ Lau, Lim and Yong (n 23).

⁴⁴ *ibid.*

⁴⁵ Jona Jaupi, 'BET-AVERSE Metaverse "Gambling Casino" NFTs BANNED by Two US States in Shock Crackdown' <<https://www.thesun.co.uk/tech/18345996/metaverse-casino-nfts-ban-texas-alabama/>> accessed 6 October 2024.

sow discord.⁵¹ The rapid advancement of AI technologies poses significant challenges in detecting and countering such malicious activities, necessitating the development of robust safeguards and regulatory measures to mitigate the spread of AI-driven disinformation.

Effective solutions require parental supervision, strong family communication, regulatory measures, and collaboration between governments, NGOs, and technology platforms to ensure a safer digital environment. Platforms must develop clear content policies against election misinformation, collaborate with stakeholders, introduce reporting features, prevent monetisation of harmful content, and enhance transparency.⁵² For instance, a new game called 'Fake it to Make it' is launched by the Portuguese Safer Internet Centre. It aims to empower young people to combat disinformation by immersing them in the process of creating and spreading fake news and to foster critical thinking and media literacy to navigate the digital landscape responsibly.⁵³ The Ctrl+Alt+Disinfo: United with Ukraine Game Jam, supported by Sweden's Psychological Defence Agency, unites global game developers to create impactful games promoting media literacy and combating disinformation while raising awareness about the risks of information manipulation in gaming.⁵⁴ The U.S. State Department's Global Engagement Centre also seeks to combat disinformation through video game projects, but these initiatives may be less effective than entertainment-focused games, as disinformation is fundamentally a political challenge.⁵⁵

As it is mentioned, since e-sports industry has an international nature, this rise has led to increased disputes. Common examples of disputes include disagreements over unpaid salaries, wrongful terminations, transfer fees and transfer-related disagreements, missing bonuses, prize money, eligibility criteria, roster changes, and disciplinary actions.⁵⁶ Misconduct-related disputes such as cheating, match-fixing, doping, bug abuse, bullying, hate speech, and rage quitting are

also prevalent.⁵⁷ In order to address these issues, competition organisers and developers establish specific rules and regulations, including global standards for critical matters. Third-party organisations like the Esports Integrity Commission (ESIC) work to prevent, investigate, and resolve unethical practices within the esports ecosystem.⁵⁸

In 2014, the Counter-Strike match-fixing scandal saw players from iBUYPOWER and NetCodeGuides.com deliberately lose matches for financial gain, resulting in lifetime bans for those involved.⁵⁹ A notable instance is the 2020 Counter-Strike coaching bug scandal, where multiple coaches exploited a game bug to gain an unfair advantage, leading to suspensions by the ESIC.⁶⁰ In 2020, the esports industry saw several other high-profile legal disputes reflecting the sector's rapid growth and unique challenges. Key cases included Turner 'Tfue' Tenney vs. FaZe Clan, where sponsorship revenue and restrictive contracts were contested, ultimately leading to a settlement.⁶¹ Fraudulent activities also emerged, such as in the Tencent v Lao Gan Ma case, where imposters forged agreements for financial gain.⁶² Antitrust claims were prominent, with Epic Games suing Apple and Google over app store policies and high commission rates.⁶³ Intellectual property disputes like Nintendo v Switch hackers⁶⁴ and Tencent v a Guangzhou tech firm highlighted issues of piracy and unauthorised competition.⁶⁵ In addition, the Skillz cheating lawsuit raised concerns over account bans and fraud allegations. These cases underscore the importance of clear legal frameworks in mitigating conflicts within the esports landscape.

During the 2023 SEA Games in Cambodia, a controversy emerged during a Valorant match between Singapore and Indonesia over alleged cheating via known game bugs, leading to a pause in the game, a rollback of the score, and Indonesia's subsequent forfeiture, prompting organisers to award joint gold medals,⁶⁶ highlighting the necessity for clear rules and collaboration between game publishers and competition organisers in the absence of a centralised e-sports governing body.⁶⁷

Other important areas where disputes occur are intellectual property

⁵¹ Tate Ryan-Mosley, 'How Generative AI Is Boosting the Spread of Disinformation and Propaganda' (4 October 2023) <<https://www.technologyreview.com/2023/10/04/1080801/generative-ai-boosting-disinformation-and-propaganda-freedom-house/>> accessed 25 January 2025; David Gilbert, 'DOJ: Russia Aimed Propaganda at Gamers, Minorities to Swing 2024 Election' (5 September 2024) <<https://www.wired.com/story/project-good-old-usa-russia-2024-election/>> accessed 25 January 2025.

⁵² Quinn Anex-Ries, 'Online Gaming Platforms Need to Address Misleading Election Information' (18 August 2022) <<https://www.newamerica.org/oti/bl og/online-gaming-platforms-need-to-address-misleading-election-information/>> accessed 25 January 2025.

⁵³ 'Fake It to Make It: New Game Challenges Disinformation' <<https://better-internet-for-kids.europa.eu/en/news/fake-it-make-it-new-game-challenges-disinformation/>> accessed 25 January 2025.

⁵⁴ Game Development against Disinformation' <<https://mpf.se/psychological-defence-agency/about-us/news/2024/2025-01-09-game-development-against-disinformation/>> accessed 25 January 2025.

⁵⁵ Foust J, 'There's No Dodge Button for Disinformation' (18 June 2024) <<https://foreignpolicy.com/2024/06/18/video-games-online-disinformation-united-states-state-department/>> accessed 25 January 2025.

⁵⁶ Armand Luque, 'Riot Games Unveils Independent Arbitration Court in New EMEA Dispute Resolution Program for LoL and VALORANT Esports' <<https://www.sheepesports.com/articles/riot-games-unveils-independent-arbitration-court-in-new-emea-dispute-resolution-program/en>> accessed 24 January 2025; Jake Nordland, 'Riot Games Launches Legal Dispute Resolution Mechanism for EMEA Esports' <<https://esportsinsider.com/2024/11/riot-dispute-resolution-mechanism-esports>> accessed 24 January 2025; Lars Thies and Vitorio Dimov, 'Alternative Dispute Resolution in Esports – The Riot Games Dispute Resolution System in Detail' <<https://haerting.de/en/insights/alternative-dispute-resolution-in-esports-the-riot-games-dispute-resolution-system-in-detail/>> accessed 24 January 2025.

⁵⁷ Cem Abanazir and Tsubasa Shinohara, 'Esports Governance and Esports Law' in Seth E Jenny and others (eds), Routledge Handbook of Esports (1st edn, Routledge 2024) 485 <<https://www.taylorfrancis.com/books/9781003410591>> accessed 24 January 2025.

⁵⁸ 'Who We Are' <<https://esic.gg/about/>> accessed 24 January 2025.

⁵⁹ Richard Lewis, 'Leaked Screenshot Hint of Match-Fixing at CEVO' (22 August 2014) <<https://dotesports.com/general/news/cevo-match-fixing-net-code-guide-ibuypower-546>> accessed 25 January 2025.

⁶⁰ Mike Stubbs, 'Multiple "CS:GO" Coaches Caught Cheating; ESIC Opens Inquiry' (7 September 2020) <<https://www.forbes.com/sites/mikestubbs/2020/09/05/multiple-csgo-coaches-caught-cheating-esic-opens-inquiry/>> accessed 25 January 2025; 'Alleged Complicity of Heroic Players in Historic Coaching Bug Scandal' (29 November 2023) <<https://esic.gg/open-investigation/alleged-complicity-of-heroic-players-in-historic-coaching-bug-scandal/>> accessed 25 January 2025.

⁶¹ Richard Wee, Low May Ping and Wong Zi Ying, 'Year 2020 : Latest Legal Disputes in Esports (Part 1)' <<https://www.richardweechambers.com/year-2020-latest-legal-disputes-in-esports-part-1/>> accessed 25 January 2025.

⁶² *ibid.*

⁶³ *ibid.*

⁶⁴ Nicole Carpenter, 'Nintendo Files Lawsuits in Crackdown against Switch Hackers' (18 May 2020) <<https://www.polygon.com/2020/5/18/21262121/nintendo-switch-hacking-lawsuit-pirated-games>> accessed 25 January 2025.

⁶⁵ Wee, Ping and Ying (n 61).

⁶⁶ Izzatul Razali, 'SEA Games: Controversial VALORANT Grand Final Ends in Historic Joint Gold For Indonesia and Singapore' <<https://sea.ign.com/valorant-t-pc/198967/news/sea-games-controversial-valorant-grand-final-ends-in-historic-joint-gold-for-indonesia-and-singapore>> accessed 2 October 2024.

⁶⁷ Lau, Lim and Yong (n 23).

(IP) and commercial issues.⁶⁸ It is highlighted that when it comes to e-sports disputes, researchers generally analyse them from copyright law and the perspective of gambling.⁶⁹ As the e-sports industry grows, the emergence of disputes is inevitable. For instance, *Blizzard Entertainment* and the *Korea E-sports Association* engaged in a licensing dispute over unauthorised broadcasts of *StarCraft* games, which was resolved in 2012 through an out-of-court settlement where both parties agreed to collaborate and jointly manage the rights and duties of *StarCraft* e-sports.⁷⁰

In 2015, a dispute arose between streaming services *Azubu* and *Twitch* over the broadcast of *League of Legends* player Lee 'Faker' Sang-hyeok's gameplay, with *Azubu* initially filing a DMCA complaint against *Twitch* for hosting the *SpectateFaker* channel, leading to its takedown, despite Faker lacking intellectual property rights over his gameplay, ultimately resolved by *Riot Games* filing its own DMCA complaint against *SpectateFaker*, citing its power to revoke rights granted to *LoL* players.⁷¹

In 2020, several notable IP related disputes highlighted key issues in esports. These included trademark infringement, such as *Boo McAfee's* case against *Torque Esports* over the term 'World's Fastest Gamer',⁷² and copyright claims, like *Ubisoft* suing *Apple* and *Google* for hosting a game similar to *Rainbow Six: Siege*.⁷³ Patent disputes, such as *Gamevice v Nintendo*,⁷⁴ and copyright cases involving athlete tattoos in *NBA2K* games underscored intellectual property challenges.⁷⁵ Class action lawsuits also emerged, including an investor suing *Unikrn* for alleged violations of securities law and a gamer filing against *Microsoft* over defective *Xbox* controllers.⁷⁶

In 2022, *Riot Games* sued *Netease* in multiple countries over allegations that *Netease's* game *Hyper Front* copied elements of *Riot's Valorant*, including characters and designs, resulting in a multi-jurisdictional legal battle that was eventually resolved through a settlement.⁷⁷ *Krafton*, the publisher of *PlayerUnknown's Battlegrounds*, initiated copyright litigation against *Garena*, the developer of *Free Fire*, claiming that *Garena* had

copied various elements and distinctive features of *PUBG*, such as in-game items, weapons, and maps.⁷⁸ Moreover, Russia is accused of developing its domestic esports scene independently by bypassing licensing agreements with Western game publishers like *Riot Games*, *Activision Blizzard*, and *Ubisoft*.⁷⁹ This move would allow esports tournaments to operate in the country without requiring approval from IP holders.

Since video game-related disputes are frequently international, involving participants and audiences worldwide, solutions need to be effective across different jurisdictions. In addition, it may be argued that the nature of e-sports demonstrates that disputes are not suitable for traditional court proceedings. The complexity of disputes in the video games and e-sports sectors is due to the blend of virtual and real-world elements and the involvement of multiple stakeholders.⁸⁰ Video games contain various IP-protected components, such as graphics, sound, gameplay, and software, leading to potential conflicts.⁸¹ Disputes often involve both physical elements, namely consoles and merchandise, and legal issues, such as IP rights and online interactions.⁸² They require quick resolution and can involve multiple jurisdictions and conflict of laws. Alternative dispute resolution methods (ADRs), such as arbitration and mediation, provide more customised and practical solutions for these unique disputes.⁸³

3.2. Existing dispute resolution mechanisms

Video games and e-sports disputes comprise a broad range of stakeholders, including gaming associations, publishers, developers, tournament organisers, players, fans, content creators, streaming platforms, retailers, service providers, and sponsors.⁸⁴ Disputes often stem from complex contractual relationships and encompass cross-border considerations, especially in IP rights, particularly trademarks, patents, and copyrights.⁸⁵ Litigation is the main resolution method in these disputes. The e-sports industry has grown beyond the control of any single company, involving diverse stakeholders and prompting regulatory efforts, with proposals for either a national governing body or joining an international organisation to ensure adequate oversight and support.

Effective dispute-resolution mechanisms are essential to support the growth and innovation of the video games and e-sports industry while preventing costly and protracted legal battles.⁸⁶ Stakeholders should establish effective dispute-resolution mechanisms from the outset to address potential conflicts.⁸⁷ ADRs such as arbitration, mediation, expedited arbitration, and expert determination offer flexible and cost-effective solutions to resolve these disputes efficiently, preserve business relationships, and enforce outcomes across borders.⁸⁸ *Toscano et al.* claim that these mechanisms have proven effective for IP and commercial disputes and can benefit the video gaming and e-sports sectors.⁸⁹

In order to address challenges, ADRs provided by the *WIPO Centre*

⁶⁸ Alexia Gkoritsa, Oscar Suárez and Leandro Toscano, 'Resolution of Video Games and eSports Disputes through WIPO ADR: A Game Changer' <<https://arbitrationblog.kluwerarbitration.com/2023/07/18/resolution-of-video-game-s-and-esports-disputes-through-wipo-adr-a-game-changer/>> accessed 3 October 2024; Toscano, Suarez and Gkoritsa (n 1).

⁶⁹ Jason G Reitman and others, 'Esports Research: A Literature Review' (2020) 15 *Games and Culture* 40.

⁷⁰ Lau, Lim and Yong (n 23); Andrew Miesner, 'Blizzard and KeSPA Settle Over Sc Broadcasting Rights' <<https://complexity.gg/blizzard-and-kespa-settle-over-sc-broadcasting-rights/>> accessed 2 October 2024; Stephen C Rea, 'Crafting Stars: South Korean E-Sports and the Emergence of a Digital Gaming Culture' (2016) 21 *Sports, Culture, and Asia* 22.

⁷¹ Colbert Hung, 'Streaming League of Legends and SpectateFaker – Would Arbitrary Game Licensing Rules Curtail Free Speech Like the Digital Millennium Copyright Act?' <<https://innovatus.com.tw/streaming-league-of-legends-and-spectatefaker-would-arbitrary-game-licensing-rules-curtail-free-speech-like-the-digital-millennium-copyright-act/?lang=en>> accessed 2 October 2024.

⁷² Terry Buhl, 'Torque Esports Battles Important Trademark Infringement Case Without Informing Investors: \$GAME.V \$MLLLF' (8 January 2020) <<https://www.teribuhl.com/2020/01/08/torque-esports-battles-important-trade-mark-infringement-case-without-informing-investors-game-v-mlllf/>> accessed 25 January 2025.

⁷³ Richard Wee and Wong Zi Ying, 'Year 2020 : Latest Legal Disputes in Esports (Part 2)' <<https://www.richardweechambers.com/year-2020-latest-legal-disputes-in-esports-part-2/>> accessed 25 January 2025.

⁷⁴ Taylor Lyles, 'Nintendo Wins Patent Fight against Company That Sued over Switch Design' (13 March 2020) <<https://www.theverge.com/2020/3/13/21177309/nintendo-switch-patent-gamevice-win>> accessed 25 January 2025.

⁷⁵ Wee and Ying (n 74).

⁷⁶ *ibid.*

⁷⁷ Nicole Carpenter, 'Riot Games Suing NetEase over Valorant "Copy"' <<https://www.polygon.com/23500704/riot-games-netease-lawsuit-valorant-hyper-front>> accessed 2 October 2024.

⁷⁸ Jay Peters, 'PUBG's Developer Is Suing Apple, Google, and the Developer of Lucrative PUBG Lookalike Free Fire / Krafton Takes Issue with Garena Free Fire and Garena Free Fire Max' <<https://www.theverge.com/2022/1/13/22882796/pubg-developer-krafton-suing-apple-google-garena-free-fire-max>> accessed 2 October 2024.

⁷⁹ Chayka (n 47).

⁸⁰ Toscano, Suarez and Gkoritsa (n 1).

⁸¹ *ibid.*

⁸² *ibid.*

⁸³ *ibid.*

⁸⁴ *ibid.*

⁸⁵ Gkoritsa, Suárez and Toscano (n 68); Toscano, Suarez and Gkoritsa (n 1).

⁸⁶ *ibid.*

⁸⁷ *ibid.*

⁸⁸ Toscano, Suarez and Gkoritsa (n 1).

⁸⁹ *ibid.*

offer efficient and cost-effective ADR mechanisms, ensuring fair and flexible dispute resolution across multiple jurisdictions and protecting stakeholders' interests, thus supporting the continued growth and innovation of the e-sports industry.⁹⁰ Stakeholders may consider mediation or arbitration, such as WIPO services, to avoid costly litigation in resolving these complex issues.⁹¹ Mediation and arbitration provide efficient means to ensure consistent legal outcomes, serving as suitable alternatives to the varying court decisions on IP-related issues.⁹²

Arbitration or mediation services offered by neutral international institutions such as the *WIPO Centre* could be utilised for suitable e-sports disputes without court litigation.⁹³ The Centre focuses on disputes on various issues, such as copyright, design, know-how, royalties, trademarks, unfair competition, misleading advertising, and R&D agreements. ADR services provided by WIPO are tailored to the video gaming and e-sports industries, offering neutral forums, expertise, confidentiality, and cross-border enforcement.⁹⁴ WIPO's ADR procedures have been instrumental in resolving various disputes, including copyright infringement, royalty disputes, trademark licensing, and unauthorised use of intellectual property.⁹⁵

Moreover, specialised dispute resolution organisations within the gaming industry have arisen to cater to the distinctive needs of the e-sports environment, with examples like the *World E-sports Association* creating the *Arbitration Court for E-sports* to offer a dedicated and impartial venue for effectively resolving e-sports disputes.⁹⁶ Furthermore, organisers have started to implement their own dispute resolution methods. For instance, Riot Games has launched a specialised dispute resolution mechanism for its esports leagues in the EMEA region, covering League of Legends and VALORANT.⁹⁷ The system utilises impartial arbitrators to settle financial and contractual disagreements involving players, teams, and coaches.⁹⁸ These advancements highlight the growing recognition of the unique challenges in the e-sports sector and the commitment to fostering a fair and transparent competitive environment.

Another potential route for resolving e-sports disputes lies with the *Court of Arbitration for Sport* (CAS) in Lausanne, known as the ultimate authority in the sports world, where commercial disputes can be arbitrated upon mutual agreement of the involved parties. In October 2023, the Bahrain E-sports Federation appealed to CAS regarding a contentious refereeing decision during the *Asian Games*, claiming unfair treatment and procedural irregularities that allegedly cost them a medal in the EA Sports FC Online event.⁹⁹ Rather than including provisions for appeals to the CAS, the technical handbook for the *Asian Games* outlines a dispute resolution process involving National and International Technical Officials, an E-sports Commissioner, and a Jury of Appeal whose decision was deemed final.¹⁰⁰

Due to the absence of a centralised e-sports governing body with judicial authority, disputes in e-sports are typically resolved through

traditional litigation or commercial arbitration, particularly in cases involving intellectual property infringement, which may necessitate multi-jurisdictional proceedings and lead to significant costs and potential conflicting outcomes.¹⁰¹ Whereas a national pan-e-sports governing body, with federal authority, could address anticompetitive behaviour and set industry standards, promoting competition and protecting consumer interests, an international e-sports association could provide regulatory consistency and access to global markets.¹⁰²

Since independent governance could ensure fairness by avoiding collusive practices being seen in traditional sports leagues, it may be suggested that a decentralised system, namely blockchain, will facilitate a transparent and fair environment. It is argued that a peer-to-peer e-sports sanctioning organisation should be established to ensure fair competition, integrity, and proper dispute resolution involving various stakeholders from the e-sports ecosystem.¹⁰³ This body would involve stakeholders, such as game publishers, developers, platform operators, event organisers, and players. It would certify compliance with rules, oversee matchmaking, prevent cheating, and handle disputes.¹⁰⁴ The goal is to provide a level playing field and enhance opportunities within e-sports, benefiting both players and tournament organisers.¹⁰⁵ Ultimately, the creation of such an organisation that uses BDR to solve e-sports disputes would not only bolster the credibility of e-sports but also drive its growth by ensuring a more equitable and trustworthy competitive environment.

3.3. Limitations of existing approaches

The evolving landscape of e-sports presents unique challenges for both traditional and alternative dispute resolution mechanisms. To begin with, international jurisdictional issues arise due to the global reach of e-sports tournaments and the disparate geographic locations of stakeholders. Traditional legal frameworks struggle to determine jurisdiction over disputes involving participants from multiple jurisdictions, leading to potential forum shopping and conflicting judgments. Moreover, enforcing judgments internationally is complicated by the digital nature of assets involved, such as in-game currencies and virtual items, which lack clear regulatory frameworks for cross-border enforcement.

The rapid pace of technological innovation in e-sports also introduces novel types of disputes, including those involving smart contracts for prize distribution and blockchain-based transactions for virtual asset ownership. A growing number of e-sport transactions involve crypto assets. For example, prize money and sponsorships can be paid in cryptocurrency, making it feasible to conclude agreements through smart contracts on the blockchain. This global nature of e-sports means that resolving disputes through traditional litigation, including ADR and ODR, is not straightforward. For instance, if an e-sport tournament organiser agrees to pay prize money in cryptocurrency, disputes arising from this agreement could be resolved through a smart contract. The smart contract could automatically transfer the prize money from the organiser's account to the players' accounts upon completion of the tournament, based on predefined conditions. These disputes often require specialised knowledge and technical understanding that traditional legal systems may not readily possess.

Additionally, the absence of standardised procedures across different e-sports titles and organisations contributes to inconsistency and uncertainty in dispute resolution outcomes. Addressing these shortcomings necessitates collaborative efforts to develop specialised dispute

⁹⁰ Gkoritsa, Suárez and Toscano (n 68).

⁹¹ Toscano, Suarez and Gkoritsa (n 1).

⁹² *ibid.*

⁹³ 'WIPO ADR for Video Games and Esports Disputes' <<https://www.wipo.int/amc/en/center/specific-sectors/videogames>> accessed 3 October 2024.

⁹⁴ Toscano, Suarez and Gkoritsa (n 1).

⁹⁵ *ibid.*

⁹⁶ Ryan Boonstra, 'Player 3 Has Entered the Game: Arbitration Comes to the eSports Industry' (2018) 10 *Arbitration Law Review* 103.

⁹⁷ Luque (n 56); Nordland (n 56); Thiess and Dimov (n 56).

⁹⁸ Nordland (n 56).

⁹⁹ Leonid Shmatenko, 'Bahrain Files Esports Dispute to the TAS/CAS' <<https://esportslegal.news/2023/10/30/bahrain-files-esports-dispute-to-the-tas-cas/>> accessed 3 October 2024.

¹⁰⁰ 'Arbitration Rules Applicable to the CAS Anti-Doping Division Asian Games Hangzhou 2022' <https://www.tas-cas.org/fileadmin/user_upload/Arbitration_Rules_for_the_CAS_ADD_Hangzhou_2023.pdf> accessed 3 October 2024.

¹⁰¹ Lau, Lim and Yong (n 23).

¹⁰² Laura L Chao, 'You Must Construct Additional Pylons: Building Better Framework for Esports Governance' (2017) 86 *Fordham Law Review* 737.

¹⁰³ Becky Harris, Alex A Igelman and Michael Pollock, 'Peer-to-Peer Esports Sanctioning Organization' (2020) 24 *Gaming Law Review* 614.

¹⁰⁴ *ibid* 614.

¹⁰⁵ Harris, Igelman and Pollock (n 106).

resolution mechanisms, integrate technological expertise into legal frameworks, and establish international standards that accommodate the unique characteristics of e-sports. By doing so, stakeholders can better navigate the complex legal landscape and ensure fair and efficient resolution of disputes in this dynamic and rapidly growing industry. Given these complexities and the need for more effective and adaptable solutions, the next section of the article will explore the necessity for establishing a new global dispute resolution system tailored to the unique demands of e-sports disputes.

3.4. The advantages of ODR

ODR encompasses a range of methods and technologies that enable parties to resolve their disputes over the internet.¹⁰⁶ The advantages of ODR consist of time and cost savings, flexibility, accessibility and expedited processes.¹⁰⁷ The adoption of ODR has gained traction globally, with its ability to cater to diverse disputes ranging from consumer conflicts to cross-border commercial disagreements.

When properly structured, ODR systems can help parties protect their rights effectively and in a timely manner and increase the enforceability of decisions.¹⁰⁸ The design of such a system should prioritise clear rules, robust infrastructure, and strong procedural safeguards to ensure fairness and transparency. These systems include mechanisms that encourage participation and ensure that parties comply with the rules. Service providers play a central role in this context; their authority and credibility are instrumental in establishing trust among users. Moreover, mechanisms such as penalties for non-compliance or bans for rule violations can be incorporated into the ODR process to strengthen adherence to decisions. Hence, it can be claimed that measures such as the strong position of the service provider and the imposition of prohibitions and penalties on those who violate the rules increase the effectiveness of ODR.¹⁰⁹ Such practices are a long-standing part of ODR. However, it is important to remember that ODR is an out-of-court process; therefore, enforcement mechanisms often rely on quasi-official means. These may include technological features, such as automated compliance tracking, or reputational tools, such as rating systems, which incentivise parties to honour agreements. Such features highlight the importance of integrating enforcement strategies into the early design phase of ODR platforms.

ODR theory, developed over years of practical implementation, provides valuable insights for setting up effective systems. For example, the theory emphasises the importance of user-centric design, conflict prevention tools, and scalable solutions for dispute resolution.¹¹⁰ By aligning the platform's capabilities with these principles, service providers can maximise the potential of ODR to deliver equitable and enforceable resolutions.

While ODR has demonstrated its potential to transform dispute resolution, its success hinges on careful consideration of enforcement challenges. Policymakers, practitioners, and technology developers must collaborate to ensure that ODR systems are equipped with the necessary tools and mechanisms to address enforcement gaps while maintaining accessibility and fairness.

4. The need for a global dispute resolution system for E-Sport disputes

The growing e-sports necessitates a robust and universally acknowledged system for resolving disputes in order to properly handle the varied and intricate challenges that develop within its global framework. Due to jurisdictional constraints and the rapid advancement of technology, traditional legal systems face difficulties in offering quick and fair resolutions for e-sports contests, which attract participants and stakeholders from around the world. In the e-sports industry, resolving disputes arising from smart contracts through traditional means (such as court proceedings) contradicts the automated and digital framework that smart contracts aim to establish. For example, if an e-sports team unfairly penalises a player under a smart contract, seeking reimbursement through court proceedings undermines the automated digital solutions promised by blockchain technology. Such scenarios are incongruent with the industry's need for rapid and efficient operations, as smart contracts are intended to provide swift resolutions for disputes without the necessity of court intervention.

An exclusive worldwide dispute resolution system would develop unambiguous and standardised protocols specifically designed for the distinctive attributes of e-sports, encompassing the settlement of conflicts related to digital assets, international transactions, and new technology such as blockchain and AI. An implementation of such a system has the potential to improve clarity, establish uniformity in the process of making decisions, and cultivate trust among participants, including players, teams, sponsors, and investors, by offering equitable and effective responses to conflicts. Through the promotion of international cooperation and the utilisation of specialised expertise in gaming, technology, and law, a global dispute resolution system may effectively reduce legal uncertainties and provide support for the sustained expansion and legitimacy of e-sports worldwide.

4.1. Transitioning to new technologies for effective justice in E-Sports disputes

While employing ADR offers substantial benefits over traditional court litigation, its use in cross-border e-sport disputes still presents particular challenges. These challenges include the need for travel and face-to-face (F2F) sessions.¹¹¹ Jurisdictional barriers, such as determining the place of business and the high cost of legal proceedings in some regions, can make traditional ADR systems impractical in the context of the digitised economy and advances in information and communication technologies (ICT).¹¹²

There is a pressing need to modernise ADR to provide a cost-effective and practical alternative for resolving e-sport disputes, thereby meeting the legal, economic, and social demands of the globalised world.¹¹³ The rise of e-sports, with its international scope and digital nature, necessitates a shift towards more efficient and accessible dispute resolution mechanisms that leverage ICT to overcome traditional barriers. By doing so, ADR can be better positioned to address the unique challenges of the e-sport industry and provide a reliable means of resolving conflicts

¹⁰⁶ See for examples of ODR, Julia Hörnle, *Cross-Border Internet Dispute Resolution* (Cambridge University Press 2009) 74–90.

¹⁰⁷ Pablo Cortes, 'The Potential of Online Dispute Resolution as a Consumer Redress Mechanism' (2007) 4-5 <<https://ssrn.com/abstract=998865>> accessed 29 January 2025; Council of Europe, *Online Dispute Resolution Mechanisms in Civil and Administrative Court Proceedings* (Council of Europe 2021); OECD, 'OECD Online Dispute Resolution Framework' (OECD 2024) <https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/10/oecd-online-dispute-resolution-framework_e88b6c6a/325e6edc-en.pdf> accessed 29 January 2025.

¹⁰⁸ Council of Europe (n 110); OECD (n 110).

¹⁰⁹ OECD (n 110) 16, 24.

¹¹⁰ Council of Europe (n 110); *ibid*.

¹¹¹ See Pablo Cortés, *Online Dispute Resolution for Consumers in the EU* (Routledge 2011); Julia Hörnle, *Cross-Border Internet Dispute Resolution* (Cambridge University Press 2009); Ethan Katsh and Janet Rifkin, *Online Dispute Resolution: Resolving Conflicts in Cyberspace* (Jossey-Bass 2001); Gabrielle Kaufmann-Kohler and Thomas Schultz, *Online Dispute Resolution* (Kluwer Law International 2004); Daniel Rainey, Ethan Katsh and Mohamed Abdel Wahab (eds), *Online Dispute Resolution: Theory and Practice* (Eleven 2021); Faye Fangfei Wang, *Online Arbitration* (Routledge 2017).

¹¹² Serkan Kaya, *Consumer Dispute Resolution in the Digital Age: Online Dispute Resolution* (On İki Levha 2020) 13.

¹¹³ Pablo Cortes, *The Law of Consumer Redress in an Evolving Digital Market: Upgrading from Alternative to Online Dispute Resolution* (Cambridge University Press 2018) 43; Kaya (n 115) 13.

across borders.

ODR provides an efficient means to resolve disputes in cross-border e-commerce transactions by removing the necessity for parties to travel between different locations, thereby saving them time, effort, and money.¹¹⁴ ODR has demonstrated significant efficacy in addressing disputes arising from online transactions, and it also shows considerable promise for the e-sports industry. These private justice systems often represent the only practical method for resolving claims related to e-sport transactions and competitions. ODR offers a viable path to justice, particularly when traditional state justice systems face high legal costs, especially in international contexts, and the overwhelming volume of disputes.¹¹⁵ Consequently, ODR provides a faster, more cost-effective, and simpler solution for conflict resolution in e-sports. However, a significant limitation of most ODR systems is their inability to produce decisions enforceable by state authorities.¹¹⁶ For ODR to be a reliable means of providing justice, its outcomes must be legally binding. Self-enforcement mechanisms must be developed to ensure the effectiveness of ODR without the need for state courts and enforcement agencies.¹¹⁷ In this regard, a blockchain-based dispute resolution system could offer innovative methods for self-enforcing ODR decisions in e-sport disputes.

ODR encompasses various forms, including technology-assisted, technology-facilitated, and technology-based dispute resolution mechanisms. Initially, ODR primarily utilised information technology for data transmission before evolving into its second-generation.¹¹⁸ The second generation of ODR has integrated technological tools into the core of the dispute resolution process, moving it online and incorporating features like automated decision-making and algorithm-driven software.¹¹⁹ In the context of e-sports, this evolution can result in automated systems handling disputes related to tournament outcomes, prize allocations, player behaviour, and other common issues, providing a streamlined and accessible method for resolving disputes.

4.2. Introducing blockchain-based dispute resolution systems

BDR, as the new generation of dispute resolution mechanism¹²⁰ utilises blockchain technology to conduct the entire dispute resolution process digitally, from initiation to enforcement, using smart contracts that automatically execute terms encoded in computer code.¹²¹ BDR systems present innovative approaches to resolving disputes through smart contracts and decentralised governance.¹²² For instance, smart contracts can automatically transfer owed compensation from one

party's account to another's.¹²³ BDR can offer parties remedies without the costs, time, stress, and other drawbacks associated with traditional litigation, which often involves expensive court fees, lawyer expenses, and lengthy procedures that can deter individuals from pursuing legal action even if they have a strong cause of action.¹²⁴ The decentralised approach blockchain provides ensures that transactions and agreements will be recorded securely and transparently¹²⁵ in a distributed ledger maintained across a network of computers, ensuring that all participants have access to a consistent and immutable record of the data.¹²⁶ Smart contracts can automatically execute themselves¹²⁷ through code programmed to run on a blockchain.¹²⁸ Smart contracts efficiently manage the distribution of funds or assets, enhancing transparency and security,¹²⁹ which is why BDR systems offer a transparent, secure, and decentralised method for resolving disputes.

Traditional dispute resolution systems are inadequate for smart contract disputes, leading to the rise of non-judicial dispute resolution mechanisms.¹³⁰ For instance, *Ethereum* developers create on-chain dispute resolution solutions, promising low-cost and accessible justice.¹³¹ Platforms such as *Kleros*,¹³² *Aragon Network*,¹³³ and *Matter-eum*¹³⁴ enable decentralised arbitration, pre-coded within the contracts, to settle disputes on the blockchain efficiently.¹³⁵ These platforms share the fundamental idea that the most efficient way to resolve blockchain

¹²³ S Kaya and E Şahin-Şengül, 'Global Class Actions: Towards a Blockchain-Based Dispute Resolution System' (2024) 47 *Journal of Consumer Policy* 21, 41.
¹²⁴ *ibid.*

¹²⁵ Wulf A Kaal and Craig Calcaterra, 'Crypto Transaction Dispute Resolution' (2018) 73 *The Business Lawyer* 109, 114–115.

¹²⁶ Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System' <<https://bitcoin.org/bitcoin.pdf>> accessed 16 December 2022.

¹²⁷ Bronwyn E Howell and Petrus H Potgieter, 'Uncertainty and Dispute Resolution for Blockchain and Smart Contract Institutions' (2021) 17 *Journal of Institutional Economics* 545, 547.

¹²⁸ Vitalik Buterin, 'DAOs, DACs, DAs and More: An Incomplete Terminology Guide' <<https://blog.ethereum.org/2014/05/06/daos-dacs-das-and-more-an-incomplete-terminology-guide>> accessed 18 January 2023.

¹²⁹ Kaya and Şahin-Şengül (n 126) 38.

¹³⁰ Michael Buchwald, 'Smart Contract Dispute Resolution: The Inescapable Flaws of Blockchain-Based Arbitration' (2020) 168 *University of Pennsylvania Law Review* 1370, 1373.

¹³¹ *ibid.*

¹³² Kleros, 'About Kleros' <<https://kleros.io/about/>> accessed 14 June 2024. Kleros has actively addressed disputes in the esports sector, particularly concerning cheating allegations. For instance, in games like Counter-Strike, players accused of using aimbots—a type of cheating software—can have their cases submitted to Kleros. Jurors specialising in gaming disputes review evidence, such as gameplay footage, to determine if cheating occurred, ensuring swift and transparent resolutions. Federico Ast, 'Decentralized Justice: Fighting Cheating in Gaming and Esports' (25 September 2024) <<https://blog.kleros.io/decentralized-justice-fighting-cheating-in-gaming-and-esports/>> accessed 26 January 2025. Beyond esports, Kleros has been utilised in various sectors, including international service contracts. A notable example involves an agreement between Desarrolladora Creative Terra from Argentina and Grupo La Nave Creativa from Peru, where Kleros was designated as the dispute resolution mechanism. In this case, if disagreements arose, both parties would submit their disputes to Kleros's online arbitration system for resolution. Federico Ast, 'Secure Your Contract With Kleros Dispute Resolution' (23 September 2020) <<https://blog.kleros.io/secure-your-contract-with-kleros/>> accessed 26 January 2025.

¹³³ Aragon Network DAO <<https://andao.aragon.org>> accessed 15 July 2023.

¹³⁴ Matter-eum, 'About Us' <<https://mattereum.com/about-us/>> accessed 14 June 2024.

¹³⁵ Kaya and Şahin-Şengül (n 126) 38.

¹¹⁴ Katsh and Rifkin (n 114) 56.

¹¹⁵ Florence Guillaume and Sven Riva, 'Blockchain Dispute Resolution for Decentralized Autonomous Organizations: The Rise of Decentralized Autonomous Justice' in Andrea Bonomi, Matthias Lehmann and Shaheez Lalani (eds), *Blockchain and Private International Law* (Brill Nijhoff 2023) <<https://ssrn.com/abstract=4042704>> accessed 14 June 2024.

¹¹⁶ Pietro Ortolani, 'Self-Enforcing Online Dispute Resolution: Lessons from Bitcoin' (2016) 36 *Oxford Journal of Legal Studies* 595, 595.

¹¹⁷ *ibid.*

¹¹⁸ Daniel Rainey, Ethan Katsh and Mohamed Abdel Wahab, 'Introduction' in Daniel Rainey, Ethan Katsh and Mohamed Abdel Wahab (eds), *Online Dispute Resolution: Theory and Practice* (Eleven 2021) 3.

¹¹⁹ Serkan Kaya, Muhammed Danyal Khan and Rao Imran Habib, 'Advanced Technologies for Supporting Dispute Resolution: An Analysis' (2019) 2 *Review of Applied Management and Social Sciences* 47; Orna Rabinovich-Einy and Ethan Katsh, 'Artificial Intelligence and the Future of Dispute Resolution – The Age of AI-DR' in Daniel Rainey, Ethan Katsh and Mohamed Abdel Wahab (eds), *Online Dispute Resolution: Theory and Practice* (Eleven 2021).

¹²⁰ Federico Ast and B Deffains, 'When Online Dispute Resolution Meets Blockchain: The Birth of Decentralized Justice' (2021) 4 *Stanford Journal of Blockchain Law and Policy* 241.

¹²¹ Guillaume and Riva (n 118).

¹²² Ast and Deffains (n 123).

disputes is through arbitration that utilises blockchain technology.¹³⁶ These systems excel in handling low-value digital claims and micro-transactions by providing cost-effective, transparent, and immutable resolutions.¹³⁷

One can argue that smart contracts are dynamic but are difficult to reverse;¹³⁸ thus, this raises legal issues as they execute automatically on blockchain technology.¹³⁹ On the other hand, since BDR systems can autonomously enforce their decisions on the blockchain,¹⁴⁰ they eliminate the need for external actors or state authorities.¹⁴¹ They also eradicate the need for intermediaries such as attorneys and judges.¹⁴² By creating a tamper-proof digital ledger of agreements, disputes can be resolved more quickly and accurately.¹⁴³ The immutability blockchain facilitates secure and accessible records for enforcement.¹⁴⁴ Furthermore, BDR systems can standardise harm assessment by selecting a single jurisdiction, addressing the issue of varying substantive laws and procedural rules across different countries.¹⁴⁵

One can also argue that smart contracts function autonomously according to pre-set code, which can lead to complications if the code does not accurately reflect the parties' true intentions. On the other hand, traditional contracts allow for human interpretation of ambiguous terms, providing more flexibility, which smart contracts lack. This rigidity may cause issues in unforeseen circumstances or when mistakes arise. Additionally, smart contracts are immutable, meaning they cannot be altered once deployed. This characteristic can present enforcement issues if adjustments are required or if the code contains errors that lead to unjust results. In contrast, traditional contracts can be renegotiated or amended by mutual agreement, offering more flexibility.¹⁴⁶ Therefore, not all disputes can be resolved this way, but BDR offers a cost and time-effective and efficient alternative to traditional litigation. One may avoid pursuing their rights in court because of the high costs of litigation, including court fees, lawyer fees, and lengthy procedures.¹⁴⁷ This issue can be addressed using smart contracts, which can automatically transfer compensation amounts from one party's account to another in the event of specific disputes, assuming the smart contract is linked to the parties' bank accounts or wallets. Moreover, the need for user-friendly crypto wallet solutions and the challenges of global jurisdiction and law inconsistencies complicate BDR adoption.¹⁴⁸ In transactions containing cryptocurrencies and smart contracts, BDR systems face challenges with crypto wallet accessibility, especially for the ones

unfamiliar with cryptocurrencies.¹⁴⁹ Nonetheless, user-friendly wallets could solve this problem by means of smart contracts enabling seamless compensation transfers to the user's wallet in cases where the conditions of a compensation claim are satisfied.¹⁵⁰

BDR can accelerate the claims process, making it faster, more effective, and more reachable to claimants. Using electronic document management systems to store, organise, and manage large volumes of legal documents significantly reduces the time and resources needed for processing.¹⁵¹ These capabilities mark a significant improvement over other online dispute resolution systems that lack blockchain integration.¹⁵²

As mentioned above, transparency is one of the main advantages of using blockchain for dispute resolution. The decentralised nature of blockchain allows all parties in a dispute to access the same data, minimising disagreements over data accuracy and completeness.¹⁵³ Cryptographic security in blockchain makes it much harder for the data to be tampered with or altered by unauthorised parties,¹⁵⁴ thereby enhancing trust in the fairness and impartiality of the process.

BDR systems are effective for handling crypto assets and activities codified in smart contracts but face limitations with non-crypto assets, which may require state intervention for enforcement.¹⁵⁵ Integrating off-chain data and events into smart contracts often entails oracles, namely intermediaries that provide external data to the blockchain.¹⁵⁶ Whereas oracles can connect with external systems, fetch data from trusted sources, and send it to the smart contract for processing, their reliability and accuracy must be considered, as there is always a risk of incorrect or tampered information.¹⁵⁷ Hence, strategies such as using trustworthy data sources or employing multiple oracles to achieve consensus can be implemented.¹⁵⁸

It may be asserted that jurisdictional and legal variations caused by global disputes challenge BDR. as products and transactions become global, resolving disputes traditionally becomes more challenging, as exemplified by crypto payments.¹⁵⁹ for instance, in 2021 tesla briefly allowed cars to be purchased using bitcoin in the US.¹⁶⁰ therefore, the globalisation of products and services highlights the need for effective BDR systems because disputes will be subject to varying laws across countries. transactions on blockchain platforms can be subject to multiple laws and regulations, and the jurisdiction governing these transactions may be unclear, especially when multiple jurisdictions are involved. these challenges are similar to those encountered in traditional private international law. while private international law has well-established rules for resolving conflicts of law, there is no reason these principles could not be applied to address the jurisdictional complexities of blockchain transactions.¹⁶¹

¹³⁶ Howell and Potgieter (n 88); Serkan Kaya and Kadirhan Maviş, 'Blokzincir Teknolojilerinin Uyumazlık Çözüm Sistemleri Üzerindeki Etkisi: Merkezi Olmayan Adalet Sistemi' (2022) 10 Sakarya Üniversitesi Hukuk Fakültesi Dergisi 477; Orna Rabinovich-Einy and Ethan Katsh, 'Blockchain and the Inevitability of Disputes: The Role for Online Dispute Resolution' (2019) 2019 Journal of Dispute Resolution, 47; Amy J Schmitz and Colin Rule, 'Online Dispute Resolution for Smart Contracts' (2019) 2 Journal of Dispute Resolution 103.

¹³⁷ Ast and Deffains (n 116).

¹³⁸ Darcy Allen, Aaron Lane and Marta Poblet, 'The Governance of Blockchain Dispute Resolution' (2019) 25 Harvard Negotiation Law Review 77 <<https://www.ssrn.com/abstract=3334674>> accessed 1 February 2023; Serkan Kaya, 'Blokzincir Tabanlı Akıllı Sözleşmelerden Doğan Uyumazlıkların Çözümü' (2022) 18 Medeni Usul ve İcra-İflas Hukuku Dergisi 519, 529.

¹³⁹ Allen, Lane and Poblet (n 141) 77.

¹⁴⁰ Guillaume and Riva (n 118) 3.

¹⁴¹ Kaya and Şahin-Şengül (n 126) 39.

¹⁴² Schmitz and Rule (n 139).

¹⁴³ Kaya and Şahin-Şengül (n 126) 39.

¹⁴⁴ Buchwald (n 133) 1377.

¹⁴⁵ Kaya and Şahin-Şengül (n 126) 39.

¹⁴⁶ Penny Kontogeorgou, 'Greece: Blockchain' <<https://www.legal500.com/guides/chapter/greece-blockchain/#:~:text=Traditional%20contracts%20allow%20for%20human,are%20bugs%20or%20unforeseen%20situations.>> accessed 29 January 2025.

¹⁴⁷ *ibid* 41.

¹⁴⁸ *ibid* 40.

¹⁴⁹ *ibid* 40.

¹⁵⁰ *ibid*.

¹⁵¹ *ibid* 39.

¹⁵² *ibid*.

¹⁵³ *ibid*.

¹⁵⁴ Buchwald (n 133) 1380.

¹⁵⁵ Guillaume and Riva (n 118) 58–59.

¹⁵⁶ Buchwald (n 133) 1379.

¹⁵⁷ Kaya and Şahin-Şengül (n 126) 40.

¹⁵⁸ *ibid* 40.

¹⁵⁹ *ibid*.

¹⁶⁰ Tim Copeland and Jeff Benson, 'Here's How Much It Costs to Buy a Tesla with Bitcoin' <<https://decrypt.co/57071/heres-how-much-a-fully-loaded-tesla-model-s-will-cost-you-in-bitcoin>> accessed 14 June 2024.

¹⁶¹ Alan Ma, 'Emerging Legal Issues in Blockchain for Construction Supply Chains' (2020) ICVISP 2020: Proceedings of the 2020 4th International Conference on Vision, Image and Signal Processing, 6–7 <<https://www.open-access.bcu.ac.uk/9942/1/DC1001%2C%20Ma%2C%20Blockchain%20Legal.pdf>> accessed 29 January 2025.

4.3. Revolutionising E-Sports dispute resolution: the role of blockchain in enhancing fairness and efficiency

In the rapidly expanding field of e-sports, disputes can stem from various sources, including contractual disagreements, prize distribution issues, and violations of player conduct. Traditional legal processes often prove cumbersome, especially given the international nature of many e-sport competitions. Furthermore, the varying e-sports regulations across different countries subject claimants to various legal rules. This results in some claimants receiving timely and cost-effective compensation, while others face lengthy and expensive litigation without guaranteed compensation.¹⁶² Here, BDR systems offer a promising solution.

E-sports involve numerous stakeholders across different jurisdictions—players, teams, sponsors, and event organisers. This international scope can lead to inconsistencies in dispute resolution, with some participants receiving timely and cost-effective justice while others face lengthy and expensive legal battles. Additionally, managing and distributing awards or settlements in e-sport disputes can be challenging, particularly with large numbers of claimants. Identifying and compensating affected parties can become a logistical nightmare, especially in cases where the financial stakes are high but individual claims are relatively small.

BDR systems provide a transparent, secure, and decentralised means of resolving these disputes. By utilising smart contracts, BDR systems can automate the enforcement of decisions, ensuring that outcomes are carried out without external enforcement authorities. Smart contracts can autonomously execute their terms, making the resolution process more efficient and reliable.¹⁶³ This capability represents a significant improvement over traditional online dispute resolution systems that do not incorporate blockchain technology.

In e-sports, smart contracts on a blockchain network can automate dispute resolution, eliminating the need for third-party intermediaries such as lawyers and judges.¹⁶⁴ For instance, a tamper-proof digital ledger can document agreements between players and organisers, enabling swift and accurate dispute resolution. The decentralised and immutable nature of blockchain technology ensures that records of decisions are secure and accessible, facilitating enforcement.¹⁶⁵

Moreover, BDR can enhance the distribution of settlements in e-sport disputes. Blockchain technology can monitor and manage settlement payments transparently, ensuring that each eligible party receives their fair share of any awards. This is particularly useful in scenarios involving prize money or sponsorship disputes, where equitable distribution is critical. Furthermore, BDR systems can be designed to apply consistent rules, reducing complications arising from differing jurisdictional laws and procedures.

In addition to improving dispute resolution, BDR can streamline the administration of claims and settlements in e-sports. Traditional processes often require extensive paperwork and evidence submission, which can be time-consuming and burdensome for claimants. BDR can expedite this process through electronic document management systems, reducing the time and resources needed to handle disputes.

Transparency is another key advantage of using blockchain technology for e-sport disputes. The decentralised nature of blockchain ensures that all parties involved can access the same data, minimising disputes over data accuracy or completeness. Blockchain's cryptographic security makes it difficult for unauthorised parties to alter the data, increasing trust in the fairness and impartiality of the dispute resolution process.¹⁶⁶

While BDR systems are often associated with contract disputes, they

can also be applied to tort cases in e-sports, particularly those arising from contractual relationships, such as disputes over player injuries during sponsored events. In cases where large groups of players or fans are affected, BDR can provide a reliable and efficient means of seeking redress, helping maintain the reputations of the e-sport organisations.

5. Conclusion

The rapid and significant growth of the e-sports industry has led to various complex disputes that traditional dispute-resolution methods are not adequately equipped to handle. As the industry evolves, it increasingly mirrors traditional sports in organisational complexity, encompassing a network of stakeholders such as players, developers, teams, sponsors, and fans. The introduction of emerging technologies and the tokenisation of in-game assets add new dimensions to these disputes, particularly regarding virtual property rights, intellectual property, and digital currency transactions. Current dispute resolution systems, including those provided by the WIPO and the World E-sports Association, have made strides in offering solutions tailored to the e-sports sector. However, these conventional methods often fail to address the unique challenges posed by the digital and global nature of e-sports disputes. The need for an updated, effective, and equitable dispute-resolution mechanism is evident.

This article thus delves into the potential of blockchain-based dispute resolution mechanisms in the e-sports industry, examining how they can address current shortcomings and pave the way for a more equitable competitive environment. A blockchain-based system offers several advantages over traditional methods, particularly in terms of transparency, decentralisation, and immutability. Such a system can be particularly effective in handling disputes related to digital assets, including in-game asset ownership, prize money distribution, and microtransactions. These types of disputes, which are often straightforward and governed by clear, predefined conditions, can be efficiently managed through the use of smart contracts. The automatic execution of these contracts ensures that the resolution process is fast, secure, and transparent, reducing the potential for manipulation and enhancing trust among stakeholders.

However, blockchain-based systems must also address the more complex disputes that arise in the e-sports industry, such as sponsorship conflicts, intellectual property disputes, and allegations of match-fixing. These issues often involve subjective judgment, human interpretation, and negotiation, areas where the rigidity of blockchain technology may fall short. To overcome this limitation, a hybrid approach is recommended, wherein blockchain technology is integrated with traditional arbitration or mediation mechanisms. This combination would allow for the efficient handling of straightforward disputes while still providing the flexibility necessary for more nuanced and complex cases.

One key challenge that must be addressed in implementing blockchain for dispute resolution is the automatic execution of payments, particularly in the context of cryptocurrencies. While blockchain is well-suited for managing digital transactions, the use of cryptocurrency for prize money, sponsorships, or other financial transfers could present issues, particularly in jurisdictions where cryptocurrency regulations are still developing. Therefore, it is crucial to establish clear guidelines regarding which types of transactions are appropriate for blockchain-based resolution. For example, smaller transactions and in-game purchases may be efficiently handled through blockchain, while larger or more complex payments, such as sponsorship agreements, may require traditional payment mechanisms and dispute resolution processes.

Furthermore, for blockchain-based systems to be widely accepted and trusted by all participants, education and user awareness are critical. Stakeholders must be well-versed in the technology, its benefits, and its limitations. Transparency alone is not sufficient; users must understand how blockchain works, how to interact with it, and how to interpret the data recorded on the blockchain. Additionally, ongoing efforts to refine the mechanisms governing dispute resolution in more

¹⁶² Kaya and Şahin-Şengül (n 126) 38.

¹⁶³ Guillaume and Riva (n 118) 3.

¹⁶⁴ Schmitz and Rule (n 139).

¹⁶⁵ Buchwald (n 133) 1377.

¹⁶⁶ *ibid* 1380.

subjective cases, such as IP infringements or sponsorship disagreements, will be essential for the successful implementation of these systems.

In conclusion, blockchain technology holds significant potential to revolutionise dispute resolution within the e-sports industry. By providing a transparent, decentralised, and efficient framework, it can address many of the challenges currently faced by the sector. However, for BDR systems to be fully effective, they must be designed with careful consideration of the specific nature of e-sports disputes, incorporating both automation for straightforward cases and human intervention for more complex matters. By establishing clear parameters for decision-making and educating users on the system's operation, the e-sports industry can leverage blockchain technology to foster a more equitable, efficient, and transparent dispute resolution environment.

Statements and declarations

All authors certify that they have no affiliations with or involvement in any organisation or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

Declaration of competing interest

All authors certify that they have no affiliations with or involvement in any organisation or entity with any financial or non-financial interest in the subject matter or materials discussed in this manuscript.

Data availability

No data was used for the research described in the article.