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A game of relationships

An ecological critique to digital business ecosystems through the case of esports

Doctoral dissertation by

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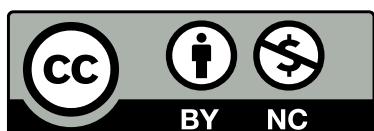
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Abstract

An expanding body of research in organisational studies and information systems characterises modern industries as systems comprising interconnected participants, utilising the ecosystem metaphor. This concept has been increasingly applied to examine platforms and innovation processes across both traditional and digital industrial sectors, particularly in scenarios where complementarity, interdependence, and non-hierarchical structures define the interactions among networked organisational entities. Nonetheless, recent critiques have pointed out that many of these applications maintain an ecosystemic viewpoint only at a superficial level, failing to integrate an ecological framework.

In this thesis, I adopt a qualitative methodology to explore esports as the empirical entry point for an ecological critique of the ecosystem concept. Through data collected around esports' "gaming houses," this work suggests that a greater focus on the ecological dynamics among and within ecosystemic participants is vital. By illustrating how the esports ecosystem substantially benefits from an analysis that clarifies the quality of connections forming its industrial networks, this research elucidates how broadening such an ecological perspective can enhance the debate on digital business ecosystems, thereby enriching the depth and theoretical complexity of ecosystemic representations found in existing literature.

Keywords: digital ecosystem, organisation studies, esports, ethnography, ecology

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Foreword: A satori on the couch

When I first began researching video games, it was not intentional. Even though I later discovered that such serendipity characterises a large portion of gamers' first steps, for me it was a satori on the road to this project. At the time, immediately after completing my master's degree at the University of Padua, I was seeking an approach that could broaden my perspective. After years of talking about individual psyches and internal objects, I was struggling to find a theoretical standpoint that could let me account for the (psychological) influence that "external matter," the Cartesian *res extensa*, has on us. I was deeply unsatisfied with the theoretical tools of the time, which were either overly focused on the "ego" or simply treated external factors as "social influences." Growing up with technology, it was not enough for me: I felt like dismissing the importance of my body, as I now consider my powerchair, more firmly, a crucial part of it. A cyborg, indeed, cannot look at technical constraints just from a human-centred point of view. However, this is not the story of how I discovered Latour and Haraway, or how their works profoundly influenced me over the past few years, nor is it about how deeply I am committed to promoting a theoretical approach that can move psychology beyond humans to encompass other forms of thought and emotion. This is the story of when I first watched myself playing as something more than my brain-melting pastime, and I owe this all to my nieces.

After reflecting on the power digital technologies could have on constructing ourselves, I wandered the land of our everyday artefacts, trying to find a strand of research that could speak to our contemporary practices of constructing reality through the interrelation with the sociotechnical matrix surrounding us. I was desperately seeking a technology about which I could write knowledgeably, but that was also sufficiently unexplored to be an interesting topic; in a pause between my searches, I turned on my PlayStation to catch up with my friends, a habit I retained after the pandemic. At that point, my younger niece sat beside me, asking what I was doing and who I was talking to. For her, a 6-year-old child, there was nothing weird about talking to a screen or spending hours pressing buttons to move a cartoon-like character. There were just a couple of things she could not get right: why I was doing what I was doing (inside the game) and how she could become part of it. In other words, she wanted to understand the scope of the game, i.e., the motivation behind that screened world, and how I might have been talking to both her and my friends, even if they were all in

their own houses, distant but present. Simply put, she was asking how I might have been there, in my parents' house with her after a shared dinner, but also in a different dimension, bonding with my friends while ranking on a global chart.

A satori happened at that moment, as I realised that my childhood pastime had always been something more: more than a way to keep my hands trained for sanitary purposes, more than a way to bond with my classmates, more than a competitive feat alternative to traditional sports, more than a tool to keep up social ties during the pandemic. It had always been a “more”, an overflowing practice that could not be dismissed as “simply playing”: what if that could hold true for other gamers, too? And what else could be done through video games?

With that in mind, I began exploring the current scholarship on game studies. From alternative worlds to impactful sociotechnical artefacts, academia had obviously amassed an increasing body of knowledge on gaming. I was shattered. People used virtual worlds to: celebrate funerals (Servais, 2015), organise thousands of people through year-long campaigns (Vesa, 2013), and gather millions of viewers for a final with no holds barred (Esports Charts, n.d.). This last point, among the peculiarities of worldwide gaming, struck me: for some people, gaming was not a game. To be precise, it was not simply a matter of passing the time and obtaining in-game rewards; it was a way to transform their life path, a career worth pursuing as the culmination of years of skill training. In a word, it was a sport or, better spelt, it was esports. And esports was precisely what I was looking for: straddling the line between play and seriousness, it embodied that exact definitional difficulty I had experienced when thinking about gaming. For some, it was a sports discipline on the verge of institutionalisation; for others, it was a by-product of the gaming industry. During my exploration, I learned that, unexpectedly, gaming was not a distancing technology, as it goes with the stereotype. Materiality and presence were an inescapable reality for people involved in esports, whether as a performance tool or a hated constraint. “Pro players” valued every inch of their proximity to one another. On the other hand, they asked so much of their “rig”, i.e., playing set, that they sometimes became a whole with it: a sociotechnical unity where the power of the technology was deemed as important as the quality of human skills.

However, esports is a still-evolving global phenomenon, with sociological literature on it struggling to keep pace and avoid contradictions or fragmentation (for a counter-example, see T. L. Taylor, 2012). How could a casual gamer like me say something

valuable to practitioners or academia? I was never involved in competitive gaming, nor particularly fond of streamers. What I did know, though, was that something worth scoping was there in that borderline activity that defied both stereotypes about gaming and those about sports. One more thing I did know: esports were a thing in Italy, but few to no scholars had discussed gaming in a territory where even a stable internet connection is hardly achievable.

At the verge of this awareness, I encountered a second turning point, as I discovered the work of Tobias Scholz (2019), which unpacked the global esports industry through the lens of management studies. As I started to (fore)see a possible direction for studying how a bunch of guys playing on a screen could become a worldwide phenomenon, moving thousands of followers (and millions of dollars), I met with STS-informed organisation studies. That was the spark for a fire to enlighten, as I accidentally walked upon an overlooked, but widely adopted, term, that of “ecosystem.” Resolved to pursue a crusade to incorporate my personal post-human, ecological perspective inside the study of esports, and specifically the Italian scene, another epiphany guided my (academic) sight: one of the most prominent Italian esports organisations had a gaming house (what was that I did not know already), and it was (relatively) around the corner. Even though it will become more evident throughout the following chapters, a gaming house, for the me of the time, was a materialisation of a virtuality, a real place to explore the nuts and bolts of what lies behind the screen. In other words, it was the place to test what my niece asked: what was happening inside it (both the place and the games), and how could it be possible that it was out there without anyone knowing it? Or, more scientifically said, what does it take to make an industry become an ecosystem, and what does it mean for those involved in it?

These, of course, are not my actual research questions but were the seeds behind this study. As I gradually positioned myself within academia, I had to reexamine and reconsider the reasons that had prompted me to pursue it. However, I needed to explain how it all began, not for the sake of entertainment, but to remember how I could have overseen all this. I could have remained convinced that games were just a dumb hobby I kept secret from my scholarly peers, a trivial thing that could teach me nothing. Instead, I discovered a different existential territory (Guattari, 1989, 1992), and I found it right in my backyard, or, better said, right in my bedroom. I learnt how a place could hide layers of meaning and function, which probably go unnoticed by one

another. I understood it takes just a different eye, like my niece's, to discover something new.

Arranging the bricks: Outlining the thesis's content

This thesis is structured to develop a critical and ecologically-informed perspective on digital systems, employing esports as an empirical terrain to articulate and operationalise the ecosystemic metaphor. The chapters follow a conceptual and methodological progression that moves from theoretical construction to empirical investigation, culminating in a synthesis of findings through an ecological lens.

The following Introduction (1) situates this work within academic and epistemological grounds. Its second section (1.1) introduces esports by retracing its historical evolution, which is then reprised with a focus on the Italian ecosystem in Box 1 (already showcasing data coming from the empirical research).

Chapter 2 constructs the theoretical foundation for the study by tracing the genealogy of the ecosystem metaphor and unpacking its epistemological implications. Beginning with an examination of metaphor-like reasoning in science (2.1), the chapter explores how the ecosystemic metaphor has travelled across disciplines – from ecology to cybernetics, information systems, and management studies (2.2-2.3). The chapter then synthesises this historical and conceptual material into an overarching framework (2.4) that centres ecological relationality, distributed organisation, and systemic adaptation. The final subchapter (2.5) presents an ecological critique of dominant uses of the metaphor, problematising its frequent co-option in the legitimisation of technocratic or neoliberal narratives. This critique sets the theoretical groundwork for the empirical analysis that follows.

Chapter 3 applies this ecological lens to the esports ecosystem, mapping its constituent actors, infrastructures, and flows. Core actors – game publishers, users, and organisational intermediaries – are examined first (3.1), followed by peripheral agents, including infrastructure providers and non-endemic sponsors (3.2). The aim is not merely to identify entities but to explore how their relations are patterned and situated, contributing to the ecosystem's form, function, and evolution. Chapter 3.3 provides a synthesis of this ecosystemic cartography, which serves as the empirical foundation for the more granular, field-based inquiry of Chapter 6.

Chapter 4 addresses the methodological challenges of studying distributed, dynamic, and often opaque systems such as esports. Acknowledging the “dirty” nature of fieldwork in digital contexts, the chapter outlines a methodological assemblage composed of an unorthodox literature review (4.1), short-term ethnography, and

adaptive online data practices (4.2). Rather than presenting methodology as a neutral apparatus, this chapter critically reflects on how knowledge is situated, partial, and always embedded within infrastructural and positional constraints – both epistemological and physical.

Chapter 5 presents a state-of-the-art review of research on gaming houses to help the reader understand their role in the esports ecosystem. The section enhances current research by offering three analytical models – homes, facilities, and compounds – through which to map the historical and infrastructural evolution of the spatial and organisational anchoring of competitive gaming. These models are not presented as a chronology or taxonomy, but rather as heuristic devices that highlight the different stages and scales of ecosystemic emergence.

Chapter 6 represents the heart of this thesis, analysing evidence from the field, leveraging gaming houses as the empirical anchor of choice. Organised around three analytical dimensions – architecture, ties, and components – the chapter presents ethnographic accounts and theoretical interpretations that reveal how spatial, relational, and material configurations co-constitute the digital ecosystem. Drawing on ecological categories as well as concepts from other fields (sociology, organisation studies, IS research, etc.), this section will unpack possible alternatives to the current way of analysing ecosystems. Specifically, the three “tools” of tridimensionality, biologic relationality, and STS-informed assetisation will suggest the potential of a more nuanced, ecologically pregnant vocabulary for describing ecosystemic structure, relations, and composition.

The Conclusions (7) then synthesise the empirical and theoretical insights of the thesis, presenting a critical ecological mapping of the esports ecosystem. In particular, it will underscore the impact this work may have on organisation and IS studies, as well as on critical sociology and related fields interested in complex systems.

Finally, the End Credits (8) will constitute an unconventional coda to this work, revisiting the metaphor of the ecosystem not as a neutral descriptor but as a heuristic battleground, whose usage must be constantly reflexive and accountable. Notably, the last section (8.2) will hint at a possible continuation of this thesis’s suggested approach, substantiating the claim that an ecological stance is a viable, even necessary, posture to adopt in studying digital (eco)systems.

In addition to the main body of text, this thesis also offers three Appendices, each contributing to expand specific sections of the work. Appendix I includes a brief “gamer

vocabulary” to guide less expert readers through gaming jargon. Instead, Appendix II will contain an extension of Chapter 2, comparing the ecosystem concept with alternatives from fields such as engineering and platform studies. Then, Appendix III will examine two additional peripheral actors, thereby unpacking the last section of Chapter 3 (3.2.3) on non-endemic agents of the esports ecosystem. In the same vein, Appendix IV will conclude this work, again expanding on a theme that only surfaces in the methodological notes: the researcher’s positioning as a disabled person and the hurdles encountered during research (both inside and outside academia). The choice of leaving this two in-depth reflections separated, indeed, keeps the main body of work more readable, thereby centring the discourse on the empirical part and the thesis’ subject matter, the ecosystem metaphor; yet, the presence of appendices also enables the inclusion of important reflections on collateral themes, from the evolution (read, institutionalisation) of esports to the still-present stigma against disability.

In summary, this thesis adopts a relational, patterned, and critical approach to studying digital ecosystems, grounded in ecological theory and informed by empirical engagement with the esports domain. Each chapter adds a conceptual “brick” to this construction, with the overarching goal of demonstrating how a re-politicised and relational approach to ecosystemic thinking can enrich our understanding of digital worlds – without surrendering to metaphorical convenience or ideological capture.

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The sound of silence

is all the instruction

You'll get

~ Jack Kerouac, Book of Haikus (2003)

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1. Introduction: Reframing digital networks through ecosystemic thinking

In recent decades, the rapid expansion of digital infrastructures has prompted scholars to seek new conceptual frameworks that can capture the complex, distributed, and entangled nature of contemporary sociotechnical systems. Among these, the ecosystem metaphor has emerged as a particularly influential – albeit ambiguous – lens across disciplines such as information systems (e.g., Kapoor, 2018), computer science (e.g., Boley & Chang, 2007), and management studies (e.g., Jacobides et al., 2018). While frequently mobilised to describe configurations of digital platforms, networks, and markets, the ecosystemic perspective often risks being deployed in a naturalising, instrumentalised manner, obscuring rather than illuminating the power relations and historical contingencies that shape digital environments (Z. Ç. Alexander, 2014; Krivý, 2023).

This thesis seeks to reclaim the analytical potential of the ecosystem metaphor by developing an ecologically grounded framework for understanding digital business networks. After a thorough review of the previous applications of the concept in different scholarly fields, my work will draw from new materialist thought (DeLanda, 2009), cybernetic traditions (Wiener, 1948), and ecological epistemology (G. Bateson, 2000; Herzogenrath, 2009a) to conceptualise digital ecosystems not as fixed configurations of agents and technologies, but as adaptive, information-rich habitats characterised by patterns of relationality, feedback, and systemic interdependency. In this view, digital systems are not merely platforms for coordination or innovation; they are ecological arrangements that condition the behaviours, affordances, and co-dependencies of their constituent actors – human and non-human alike.

To empirically ground such a proposal, I will look at the industrial domain of esports, i.e., competitive gaming, one of the most highly digitalised areas of production, work, and leisure. This technologically dense environment will stress the importance of understanding the informatisation processes forming the ecology in which an increasing number of our institutions and organisations are embedded (Nardi & O'Day, 1999; Schultze et al., 2020), making digital ecosystems a crucial unit of analysis for grasping how value, control, and labour are (re-)organised in the digital era (Zuboff, 1988). In fact, esports are not only a technologically dense environment but are also deeply embedded in platform economies, distributed infrastructures, and hybrid forms of labour, offering a compelling empirical site to observe these dynamics. While this

study does not treat esports as the object of inquiry *per se*, it uses it as a strategic entry point to interrogate the structural, relational, and agential arrangements that define digital ecosystems more broadly.

To avoid reproducing overly linear or Darwinian framings of ecosystemic logics – as often found in business literature (Iansiti & Levien, 2004b; Moore, 1993) – this thesis adopts a relational and patterned approach to ecological analysis. Drawing on Márton’s (2022) ecological critique and Henfridsson and colleagues’ (2014) “network-of-patterns” model, it unpacks digital ecosystems through three relational dimensions: architecture (organisational structuring), ties (symbiotic relational modalities), and agents (assemblages of human and non-human actors). This analytical schema allows for a fine-grained description of how ecosystems are shaped not only by technological affordances or market logics but by heterogeneous and often contested patterns of interdependence (Márton, 2022, 2023).

Most importantly, the empirical reference aims at restoring the highly relational and ecological nature of ecosystems, whether intended as biological or otherwise formed. In particular, the thesis concludes by arguing that adopting an ecosystemic lens to examine complex systems of interrelated actors can shed light on oft-ignored dimensions in other systemic metaphors, such as platforms (Cristofari, 2024). This way, ecosystems will regain their analytical power as helpful descriptors of those friction-rich environments, where imbalance and mutual interdependence are core facets alongside power asymmetries, governance structures, and (overt or covert) hierarchies. In other words, the thesis will dismantle the “flatness” often assigned to (digital) networks, underscoring how vertical and horizontal relationships form necessary foci of ecological analysis (Thomas et al., 2024; Zuboff, 2019). In doing so, this thesis also helps to demystify prevailing representations of ecosystems as neutral, harmonious, or naturally emergent, offering instead a critical ecological account that does not exclude from the picture the “natural” (and necessary) conflict, dependency, and adaptive resilience showcased by complex systems (Haraway, 2013; Márton, 2022, 2023). The application of this framework to the esports field is not meant to be exhaustive, but rather illustrative of a broader epistemological and methodological shift: from viewing digital systems as assemblages of interoperable parts to understanding them as ecologically embedded, co-evolving, and politically charged networks.

1.1. A brief introduction to esports: Steps toward a digital ecosystem

Before delving into the analysis of the ecosystem as a metaphor and concept, it may be helpful to also introduce the empirical reference – i.e., esports – by retracing the milestones that brought it to where it is today.

Indeed, a brief historical excursus on the evolution of competitive play into a worldwide (economically leading) ecosystem will not only help less-informed readers situate esports as an industry and labour environment, but also provide continuity between the theoretical and empirical parts of this work. More specifically, the history of esports is important for understanding how technological progress, socio-cultural transformation, and organisational innovation intertwined to build one of the most intricate and widespread digital ecosystems today. In fact, esports has progressively incorporated agents, technologies, and broader cultural shifts in its path toward becoming a leading global industry, with a revenue volume that has already surpassed a billion US dollars (Newzoo, 2022).

While historical accounts of esports vary, this chapter will rely on the authoritative frameworks proposed by T. L. Taylor (2012), Dal Yong Jin (2020), and Nico Besombes (D. Y. Jin & Besombes, 2025), as well as previous syntheses of gaming history circulating within academia (Besombes, 2019; Borowy & Jin, 2013; Scholz, 2019). In particular, these accounts recognise three distinct phases, or “waves,” in esports evolution: (1) the era of local and technical experimentation (1950s–1980s), when social elements like youth culture merged with technical progress to bring digital play out of university labs into mainstream; (2) the era of connectivity and community (1990s–2010s), driven by network infrastructures, LAN parties, and the birth of professional teams (i.e., emerging, grassroots organisational forms); and (3) the era of global professionalization (2010s–present), marked by institutional consolidation, corporate involvement, and the rise of a global esports industry through the interrelation of a complex network of human and non-human agents.

Each phase highlights the evolving relationship between play, labour, technology, and culture in the making of esports. In simpler words, such an initial chapter will unpack how esports came to become an ecosystem, and how current depictions (both historical and managerial) lack the relational depth needed to understand the intense interconnection between networked agents, which becomes instead clear when looking at how the field evolved from scratch to a global industry.

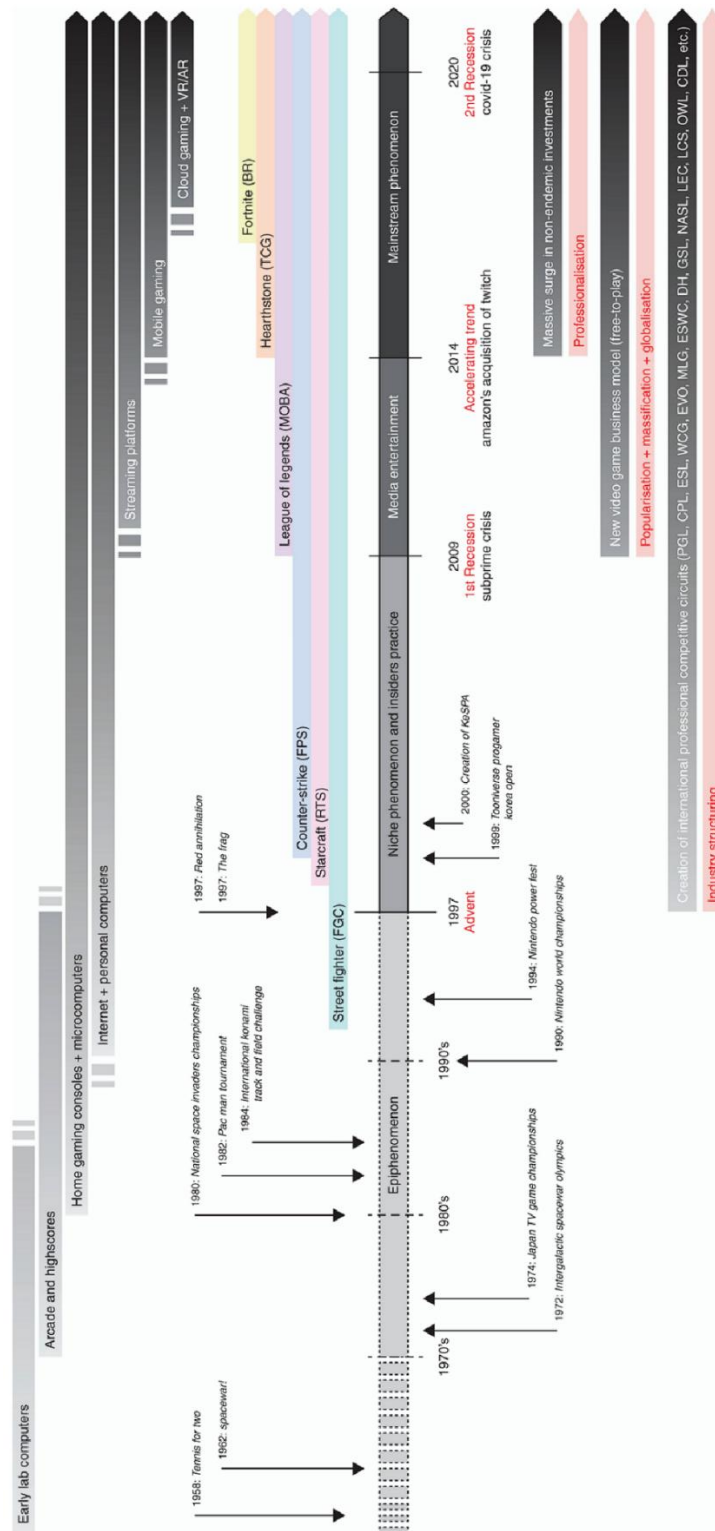


Fig. 1. One of the few, if not the only, comprehensive visual representations of the esports timeline. Drafted by Besombes (2019), this chronology highlights both historical turning points and crucial technical developments that shaped the esports ecosystem into what it is today. Still, the complexity of such a portrayal would have required more than a whole chapter to unpack; hence, I opted for a more concise version of esports' history for this introduction. (taken from Besombes, 2019)

1.1.1. Phase one: From university labs to arcades (1950s–1980s)

The origins of esports coincide with the early history of digital gaming. If *Tennis for Two* (Higinbotham, 1958) and MIT's *Spacewar!* (Russell, 1962), represent the first known examples of multiplayer digital games (Taylor, 2012; Scholz, 2019), the official birth of esports is usually set to 1972. In October of that year, indeed, Stanford University's AI Laboratory hosted the Intergalactic *Spacewar!* Olympics, the first-ever organised gaming competition, documented by Stewart Brand for *Rolling Stone* magazine (Taylor, 2012). This moment extends beyond a vernacular account of the early stages of gaming, as the inclusion of *Rolling Stone* signals this digital play as a public, spectator-oriented phenomenon.

A nature further confirmed by the subsequent emergence of arcade gaming in the late 70s, which not only expanded lab experiments into a mass entertainment form but also imbued gaming with social and cultural values. Indeed, the “arcade explosion” (Borowy & Jin, 2013) machines transformed gaming into a “coin-operated” social activity accessible in public spaces (Kocurek, 2015), where technical innovations like high-score leaderboards allowed for competition and ranking (Borowy & Jin, 2013; D. Y. Jin, 2020).

Such technical developments marked what Taylor (2012) described as esports' “first wave,” characterised by localised competition and machine-centred rivalry. If human agents remained mainly at the voluntary and amateur level, their early efforts established the symbolic and organisational roots of esports, emphasising the role of performance metrics, spectatorship, and community recognition in legitimising gaming as a competitive pursuit.

1.1.2. Phase two: LANs, online multiplayer, and early teams (1990s–2010s)

The second historical phase was propelled again by the arrival of technical innovation, specifically network technologies. The introduction of Local Area Networks (LANs) and broadband connections redefined the social and spatial boundaries of play, enabling players to compete remotely and giving rise to online multiplayer gaming (Scholz, 2019; T. L. Taylor, 2012).

Going into detail, the LAN parties of the 1990s – temporary gatherings where players connected personal computers for competitive matches – represented a transitional moment between the physical proximity of arcades and the virtual connectivity of the

Internet era, marking the first attempts to professionalise gaming practices (T. L. Taylor, 2012). The formation of the earliest teams, alongside the emergence of popular mainstays such as Counter-Strike (Valve, 2000) and StarCraft (Blizzard Entertainment, 1998), helped the community shift from “amateur enthusiasm” to “organised aspiration” (Scholz, 2019).

If this was confirmed by the birth of the first leagues and tournaments – e.g., the Cyberathlete Professional League (CPL, founded in 1997) – the leading role in the institutionalising process was played by a specific local environment: South Korea. Indeed, this Country saw sponsorships, rules, and standardisation overflow its competitive scene, also due to the governmental support. The media coverage offered by Korean television channels – such as Ongamenet (now OGN) and MBCGame – significantly contributed to transforming esports into a form of mass entertainment, in what Jin (2020) described as the “media-industrial articulation,” wherein digital games became nodes within a broader cultural economy.

All in all, the second wave of esports is marked by an increasing effort by human and organisational agents toward a “workification of play” (T. L. Taylor, 2012), laying the groundwork for a proper professional and industrial ecosystem in the years that followed.

1.1.3. Phase three: Global professionalisation and institutionalisation (2010s–present)

Fuelled by the prior introduction of technical, organisational, and cultural elements, the 2010s ushered in the third and current phase of esports history: the consolidation of competitive gaming into a global, multimillion-dollar industry organised through a network of interlaced actors (Scholz, 2019, 2020). If each phase reflects a distinct mode of mediation between play and work, contemporary esports crystallised as a professional ecosystem encompassing teams, sponsors, platforms, and audiences. Specifically, we can follow Jin (2020) and Scholz (2019) in noting how the arrival of digital platforms – such as Twitch (founded in 2011) and YouTube Gaming (introduced in 2015) – integrated esports into the broader trajectory of platformisation in culture and labour (Poell et al., 2019). Professionalising play through playbour, user production, and other monetisation strategies (e.g., content-creation; M. R. Johnson & Woodcock, 2019a, 2021; Sotamaa et al., 2021), esports (definitely) became a

participatory and consumable spectacle. According to Svensson and Pargman (2024), this meant a “sportification” of esports – understood here as the progressive introduction of novel ecosystemic agents, such as governance bodies, player representatives, and institutional actors.

As the distinction between professional and amateur blurred, competitive gaming merged with influencer economies and digital content production (Jenny, Besombes, et al., 2024; M. R. Johnson & Woodcock, 2021; T. L. Taylor, 2018). Consequently, industrial agents, like teams and players, transitioned toward new roles: sports clubs, media entrepreneurs, or even corporate conglomerates (Scholz, 2019). The legitimacy gained by esports’s consolidation as both a cultural industry and a form of digital labour definitely frames it as a complex, networked system of interdependent actors (Carrillo Vera & Antón, 2024; M. R. Johnson & Woodcock, 2021).

Box 1. Esports Renaissance: Retracing the history of esports in the Peninsula.

Even though it is one of the rising market niches within the esports industry, the Italian esports scene is still in its infancy in terms of research and scientific analysis. Not only have few scholars specifically tackled the geographical specificities of Italian competitive gaming, but even fewer researchers have produced a systematic account of the evolution of the Italian gaming community toward an institutionalised environment (Penello, 2024; Rizzi et al., 2019). Although data can be extracted from local market reports, most of the information in them is based on hearsay and insiders’ tales. This is why I decided to limit this focus on Italian esports to an “empirical box,” similar to those in the empirical section, given that most of the milestones collected here come from anecdotal evidence gathered through my fieldwork.

Even without tracing a precise chronological history of Italian esports, we can root them in the informal, technically improvised gaming cultures that emerged during the mid-1990s. Much less tied to university labs, early Italian gamers mainly remained confined within their houses, but also clustered around small computer shops and internet cafés. The few LAN parties were informally organised only within larger cities (e.g., Milan), functioning more as social gatherings than as competitive environments. The fragmented, primarily community-driven participation was bound together mostly through online forums, where players organised tournaments,

exchanged technical advice, and consolidated the first proto-communities that would later form the basis for competitive structures. During this period, Italy's esports development resembled that of many European countries, though the Peninsula's institutionalisation and events' portfolio largely lagged behind more developed countries. Indeed, infrastructural limitations and the absence of a unified governance hindered the regular organisation of leagues, or even major national events.

A more organised phase began to take shape in the mid-2000s. The diffusion of affordable broadband connections expanded the player base and facilitated more stable interregional competition. Larger LAN festivals and early tournament circuits emerged, attracting semi-professional teams and sponsors. Italian teams, such as InFerno eSports, and various (short-lived) organisations participated intermittently in European circuits, although competitive continuity remained inconsistent. Console-based competitions, especially those centred on FIFA (now EA FC; EA Sports, 1993) and PES (now eFootball; Konami, 1995), became particularly prominent. These games resonated with Italy's strong football culture and drew significant attention to competitive gaming well before the arrival of mainstream esports titles like League of Legends (aka LoL; Riot, 2009). Despite these developments and the emergence of the first organisational bodies (e.g., the tournament organiser PG esports), the scene lacked formalised structures, talent development programmes, and sustained investment, all of which limited the country's ability to keep pace with more consolidated markets in Northern and Western Europe.

A decisive shift occurred in the 2010s, with the rise of streaming platforms, most notably Twitch, and the emergence of Italian content creators and shoutcasters. These figures played an important role in transforming competitive gaming from a niche hobby into a recognised cultural product. Italian audiences became increasingly fluent in the norms and aesthetics of global esports, while publishers and international tournament organisers began localising their products for the Italian market. National leagues for LoL, Tom Clancy's Rainbow Six: Siege (aka R6; Ubisoft, 2015), Rocket League (Psyonix, 2015), and other titles were introduced, providing structured competition with regular seasons, nationwide events, professionalised teams, and media coverage. Concurrently, organisations such as

the Italian Interactive Digital Entertainment Association (IIDEA) began to track the sector through periodic reports. Although these documents often relied on industry-facing methodologies and grey literature rather than peer-reviewed research, they constituted the first systematic attempts to quantify the Italian esports audience, map stakeholder networks, and identify trends in sponsorships, consumption practices, and youth culture.

Just before the COVID-19 pandemic, the Italian esports sector experienced accelerated professionalisation, due to several factors. First, established football clubs entered competitive gaming through the growing FIFA ecosystem, leveraging their brands, infrastructures, and fan bases (e.g., AC Milan, 2020). Second, new and hybrid (media/esports) organisations such as Qlash, Mkers, and Samsung Morning Stars gained domestic and international visibility by fielding competitive rosters, opening training facilities, and developing partnerships with telecommunications firms and non-endemic sponsors (e.g., Samsung Newsroom Italia, 2018). Specifically, these organisations imported models from more advanced local ecosystems, including coaching structures, content-creation teams, and academy programmes to cultivate young talent (e.g., Schiavella, 2021). Third, Italian esports began to intersect with educational and institutional actors and also gave birth to the first institutional bodies explicitly tackling competitive gaming as a sport (e.g., FIDE). Universities, private academies, and vocational programmes introduced courses dedicated to esports management, digital media, and game-related professions, further embedding the industry within broader cultural and economic frameworks.

By the early 2020s, Italian esports has developed into a mid-sized but stable ecosystem. Deloitte's "Let's Play" reports, along with annual surveys by IIDEA, indicated growth in audience size, increased sponsorship activity, expanding media visibility, and gradual integration with the country's entertainment and sports industries (IIDEA, 2022; Ludwig & Lachmann, 2024). Italy remains smaller in market share compared to France, Germany, Spain, and the Nordic countries, yet it has achieved sufficient structural maturity to participate more actively in international circuits rather than merely consume foreign content (Deloitte & IIDEA, 2024; Statista, 2024).

If the export of Italian players, coaches, and production professionals became more common (fieldnotes from Qlash and Macko) – signalling a functioning (though still

modest talent pipeline – several challenges persist. Indeed, governance remains fragmented across multiple actors, including publishers, event organisers, endemic organisations, sports associations, and educational institutions, each with different incentives and levels of influence. Regional disparities continue to shape access to infrastructure, particularly in relation to broadband coverage and the availability of physical esports facilities. Moreover, investment flows remain inconsistent, often tied to short-term sponsorships rather than long-term institutional commitments, profoundly limiting the scale and sustainability of the Italian industry, even as its cultural and organisational foundations strengthen.

In sum, Italian esports evolved from informal LAN-based communities into a structured yet still-developing competitive sector only in the last few years, significantly later than in other competitive landscapes (e.g., Germany). Nonetheless, its growth reflects broader transformations within digital culture, including the mainstreaming of online gaming, the emergence of platform-based content economies, and the increasing convergence of (e)sports, entertainment, and digital media. While it remains less central within the European and global esports ecosystem, Italy has reached a stage of consolidation that enables both domestic development and meaningful participation in international circuits (Deloitte & IIDEA, 2024).

2. Enter the wilderness: Ecosystemic imaginaries for digital realms

The current debate over digital systems is fond of visual, architectural, and other kinds of metaphors, which are all employed for the sake of describing the organisational structure of such systems (Chun, 2011; Hayles, 2001; le Roux & Parry, 2020; Markham & Tiidenberg, 2020; van den Boomen, 2014; Wyatt, 2021). Some have fallen out of fashion or been abandoned due to variations in the guiding principles behind digital technologies; conversely, some metaphors have become ingrained in the popular imaginary, steadily taking residence in lay and scientific discourses alike (Bratton, 2015; Castells, 1996; Cristofari, 2024; Gillespie, 2010). In this Chapter, I will examine one of the most quoted (and dated) images used to describe technologies such as web services, complex infrastructures, and (digital) market sectors: the concept of an “ecosystem” (Krivý, 2023).

Before delving into the history of this concept, though, it may be helpful to provide a brief philosophical introduction to the use of metaphors in science. Metaphors can be viewed as valuable tools that enhance creativity in scientific reasoning, whether employed as didactical heuristics or to convey complex theories through a simple-to-understand construct (e.g., an easy-to-grasp visualisation). However, some authors have underlined how the operation of combining two thoughts, seamlessly equalising them through the analogic power of metaphor, might as well be used to mystify or lead to undesired effects (Black, 1993, 1955; Kuhn, 1993). For example, employing natural phenomena to describe the functioning of capitalism, finance, and economics more broadly can all serve the purpose of efficaciously communicating the intricate laws governing those phenomena; nonetheless, such “naturalisation” of economic and capitalistic processes might also hide a tendency to legitimate them to the reader, since natural laws are commonly seen as immutable and necessary for the prosecution of life and existence (E. Fisher, 2010a; M. Fisher, 2022; Haraway, 1976). As the chapter will later uncover, the ecosystem metaphor was often strategically misused to legitimise artificial arrangements (e.g., capitalistic predation; Z. Ç. Alexander, 2014; Mirowski, 1994). Hence, to counter these undesired effects, we should “trace [each] metaphor back to the process of its production” (Wark, 2015, p. 125) and defuse its potentially mystifying bearings to restore its power as a knowledge-producing tool (Eco, 2007; Kuhn, 1993). For this reason, this chapter will first focus on the historical evolution of the ecosystem concept, leaving the remainder to an

exploration of the meanings that organisation, marketing, and information studies have attached to the expression “digital ecosystem.” Finally, I will draw on Márton’s (2022) perspective to propose an “ecological critique” of the metaphor’s actual use in digital realms.

2.1. Metaphor-like processes in scientific reasoning

The implementation of metaphors to convey concepts and theories has been debated by philosophers of science since the very appearance of modern scientific thought (M. Johnson, 1981b). Without delving into classical framings of the concept, we can consider the works by authors who reflected on the use of metaphors within epistemology and scientific reasoning.

If late Romantic philosophers, such as Nietzsche, began noticing the arbitrariness of thought, posing metaphors at the very base of how our language works (M. Johnson, 1981a; Nietzsche, 1911), it was not until the 20th Century that epistemology began to analyse the heuristic power of metaphors within thought and reasoning (Wittgenstein, 1953). More specifically, authors like Max Black and I. A. Richards pushed for a reading of metaphors that was much more metaphysical (or hermeneutical) and epistemological, rather than aesthetic and rhetorical (Black, 1955; M. Johnson, 1981a; Richards, 1936). However, it was well after Black’s foundational essay that Thomas S. Kuhn arrived to claim that the whole scientific process is imbued with metaphorical thinking.

In a conference’s discussion with Richard Boyd (1993), the German science philosopher built on the original definition of metaphors’ functioning by Richards – which stated that a metaphor is made of “two thoughts of different things active together and supported by a single word, or phrase, whose meaning is the result of their interaction” (Richards, 1936, p. 93) – to elaborate on the value of metaphor-like processes in scientific reasoning. By applying Wittgensteinian language theory (1953) to science, Kuhn (1993) described metaphors not only as helpful heuristic devices that scientists employ to convey their theories and models, but also as analogic processes at the very base of the creation of a referential consensus between the scientific community. If by this move he partially equated metaphor with similarity – as “analogic processes” are defined as procedures of thought that are based on the comparison of two or more ideal entities (ibid.) – he indeed noticed that the reciprocal understanding

of referents in scientific reasoning is based on conventional meanings created by primordial ostensive moves. Given the impact of such a definition on both the scientific world and this work, let us retrace Kuhn's point in more detail.

First, the German philosopher rejected the view of science as a continuous approximation toward an exact definition of the "world's joints," i.e., the rules governing natural phenomena (ibid., p. 537). On the contrary, for Kuhn, science is a consensus-based effort that creates theories and models that "fit" observational data, but in turn influences them through its perspective, for example, on what to measure. If this seems detached from metaphor-like processes, Kuhn rapidly provides an example that clarifies how scientists agree on some basic elements: What is an electric charge? Kuhn answers this question by saying that the most diffused response will be the output of a measuring instrument, in this case, the galvanometer (ibid., p. 535). However, such answers clearly overlook a range of other possibilities consensually left unaddressed: the galvanometer needle, for example, might be attracted by a magnet, which is a radically different force. Such an example, for Kuhn, not only demonstrated that measuring errors exist but also displayed the conventions that lie behind scientific language: the scientific community, in other words, has silently accepted that the electric charge is measured by galvanometers, which are instruments intended to grasp a phenomenon that is theoretically based on what they measure.

If this seems tautological, in Kuhn's view, it decidedly pushed for a view of science as based on a series of ostensive processes that employed language and experience to make sense of reality and reach consensus (ibid.). If giving meaning to observational objects – i.e., "dubbing" (ibid., p. 540) – accomunate scientific and lay referents, what the former lacks is the possibility of being traced alongside a lifespan of events – i.e., "tracing lifelines" (e.g., Walter Scott is the Scotland-born author of *Ivanhoe*; ibid.). For Kuhn, this is why scientific referents need metaphor-like processes, as they refer to:

"[A]ll those processes in which the juxtaposition either of terms or of concrete examples calls forth a network of similarities that help determine the way in which language attaches to the world." (Kuhn, 1993, p. 539)

To put it more bluntly, attributing a referent to something in a scientific way means calling into play a set of semiotic fields which concur in (more clearly) defining what we are talking about. By resolving Kuhn's reasoning, we can then ascribe two crucial

roles to metaphors in scientific language and reasoning: they substantiate language and serve as fundamental heuristic tools for conveying theories and models.

Starting from the first point, Kuhn reprises the Wittgensteinian view on language (1953), but further underscore the ostensive power of metaphors, which he sees as substantive, or constitutive, of every language (and the scientific one especially). To demonstrate that, Kuhn takes the example of the Earth: before Copernicus, talking about the Earth was not something that related to other astronomic corpses, as Mars and the Moon (which was a planet, at the time) could only be considered opposite to the Earth; however – and this signals the consensual nature of scientific language – after the Copernican revolution the Earth could be compared to Mars or Venus, exploring similarities and characteristics they could differ on, even though being all part of planets, which became a referent that included all those corpses gravitating around the Sun, but not other planets (thus, excluding the Moon from the category). Thus, for Kuhn, metaphors are substantive to scientific terms – i.e., what “astronomic corpse” means derives from the network of similar objects named as such (ibid.).

Secondly, Kuhn adds that metaphors are also fundamental heuristic tools through which scientists explain and divulge theories, models, and concepts. Indeed, he notes that similes and analogies not only clearly convey complex ideas – i.e., (wrongly) using the Solar system to explain Bohr’s atomic model (ibid., p. 538) – but it also “activates” semantic networks. Continuing on the atomic example, Kuhn notes that such a misleading analogy had, in fact, proved efficacious to enhance the theory, if nothing else to prove the similarity wrong (e.g., electrons do not have elliptical orbits). This process ultimately leads to a more explicit definition of the theory, but also leaves space to “activate” new semantic networks to deepen the explanatory power of a metaphor.

In conclusion, if treating metaphors as “instruments of knowledge” enabled Kuhn to discover the potential of metaphors for theoretical improvement, more recent authors have pointed to the more strategic uses that metaphors can assume, both in lay and scientific discourses (e.g., Haraway, 1976, 2013). In such a posture, metaphors not only “put [us] to work” (Eco, 2007; as cited in Cristofari, 2024) to understand their cognitive value (see also Eco, 1986), but they strategically activate different epistemic networks to convey a (more or less explicit) message (Cristofari, 2024; Krivý, 2023; Wyatt, 2004). In simpler words, metaphors (use) contain(s) a political value, whose aim is often unveiled by discovering how these conceptual tools function “by lying”, as

Gillespie described (2010, 2017). This, as will become clearer in the following section, does not always mean that metaphors mislead us, nor that their employment within scientific rigour should be avoided. Instead, we can follow Cristofari (2024) in saying that “[t]he key point of the metaphor is that it does not convey the literal truth: it is rather a lie that tells the truth” (ibid., p. 4). In other words, it is precisely that differential shift of perspective that gives metaphor the power to illuminate so-far undiscovered areas of reality, ultimately enriching our understanding by forcing us into a different posture.

2.2. The ecosystemic metaphor: A loophole journey

After introducing the epistemic and hermeneutic power of metaphors, including the potentially “lying” politics that guide them, we can now turn toward a more restricted review of the semiotic networks activated by the ecosystem metaphor. As we have seen, metaphors play a role in constituting scientific terms; at the same time, they spark new ideas by juxtaposing existing, consensually accepted objects in ways that prompt new streams of research. As the notion of ecosystem is one of the most utilised metaphors employed to describe the organisational structure of either (digital) informational systems (Lyle et al., 2020; Márton, 2022) or digitally-enabled multisided markets (Cristofari, 2024; Kapoor, 2018), it may indeed be helpful to trace the birth, evolution, and use of this concept throughout its historical development in scientific discourse.

The term “ecosystem” was introduced by the English botanist Sir Arthur Tansley (1871-1955) in 1935. Tansley, a polyhedric thinker as well as one of the British plant ecology forefathers, introduced such a concept when researching the “plant community”, which he defined as “the collection of plant species in a particular place and time that live together and interact through a complex of competitive and cooperative interactions” (Golley, 1984, p. 54). Springboarding from this seminal definition – to which he later added the role of animals (i.e., other biotic elements), soils, and climate (i.e., abiotic components) – Tansley drafted the notion of an spatially-bounded, ecological system, i.e., “ecosystem,” significantly expanding the preceding concept of “biome,” or “biocenosis” – which comprised only biotic components.

Despite its linguistic alternatives – e.g., biogeocoenosis (Sukachev, 1960) – the concept became widely accepted (and spread) through Eugene P. Odum’s

“Fundamentals of Ecology” (1953), which is considered the opening oeuvre of modern ecology. Specifically, Odum’s key point was to reframe the concept of ecosystem as an organisational principle, supported by field data. By defining it as a synthetic concept comprising “obligatory relationships, interdependence, and causal relationships” (E. P. Odum, 1953), Odum also introduced the concept of “scalability” in ecosystemic analysis, positing that such a system could be conceived at various scales (and studied accordingly). He even recognised that the entire biosphere could, in fact, be theoretically defined as a singular, complex, and vast ecosystem (Golley, 1984; E. P. Odum, 1953). Although Odum’s work represented an innovative and ambitious take on the concept, many authors suggested that the “stylistic” choice to employ a large number of diagrams and figures might have played a role in boosting the appeal of “ecosystem” as a scientific catchword (Golley, 1984; P. J. Taylor, 1988). Indeed, the widespread use of images increased the heuristic power of the ecosystem metaphor, leading to Odum’s work being extensively adopted as a textbook, thereby diffusing his holistic ideas among younger generations of post-war scientists (Golley, 1984; P. J. Taylor, 1988).

The “new ecology” proposed by Odum then intersected with social sciences, economics, and political sciences to address global issues, thanks to the applicability of the systems perspective (Golley, 1984). Most importantly, the inclusion of mathematical language into the analysis of ecosystems fuelled a match with other scientific fields, first and foremost, cybernetics (Golley, 1984; Patten & Odum, 1981). Ecosystems were, thus, described as formed through and by relationships, feedback loops, and context-bounded interactions, closely resonating with cybernetics’ founding tenets. For its founding authors, like Wiener (1948) and Ashby (1956), systems are open to energy but closed to information and control (i.e., perturbation resilience), feedback loops form the basic interactive and communicative tool, and information is context-dependent (i.e., meaningful only within systems) and can only be communicated and received between parts of the system (McNaughton & Coughenour, 1981).

Hence, the integration of ecological and cybernetic studies deepened the understanding of the organisational patterns underlying dynamic, feedback-regulated systems, which management scholars subsequently adopted for data-driven modelling (Golley, 1984). Indeed, the dominance of data in this perspective led to the emergence of “ecosystem engineering,” which applies systemic thinking to the design

and analysis of real-world cases (Golley, 1984). On the other hand, such heavy reliance on mathematical models also fuelled a view of ecosystems as “black box[es], containing both biological and nonbiological elements,” interconnected with one another and their surroundings (ibid.). If this general holistic notion ultimately entered the vernacular, it did not simplify the study of ecosystems, “black-boxing” their relationships behind theoretical – and oft-arbitrary – abstractions (Golley, 1984). Nonetheless, a residue of cybernetics’ influence can be found in three main focuses of contemporary ecology: first, the importance of feedback loops, which is also reflected in the emergence of a specific methodology, loop analysis (Justus, 2005; Levins, 1974); secondly, the ties that the ecosystem concept has with regulation and stability processes, cybernetically framed within the analysis of systemic resistance/resilience (e.g., Walker, 2020) and ecologically into studies about adaptation and (co-)evolution (e.g., G. Bateson, 2000); finally, the crucial role of information – which can take various biological forms, such as hormones and chemicals exchanged by an ecosystem’s biotic components – inside systemic functioning (e.g., Sell et al., 2023).

In sum, this subchapter described how the ecosystem concept moved from its birth within ecology into other domains, ultimately becoming an adaptable framework for the study of orderly representations of living and non-living environments, guided by an underlying principle (e.g., information), and co-evolving over time. If some scholars warned against considering ecosystems as “tangible objects,” but instead only as theoretical units (Blew, 1996), the common understanding of the concept remained focused on its relational properties, thereby fuelling applications aimed at unpacking informational and organisational systems marked by complexity and interdependency.

2.3. Digital ecosystem: A genealogy of the concept

The introduction of the concept explained why the term “ecosystem” has easily found its way into scientific fields dealing with complex systems. Such ease led authors to refer to it as a “dead metaphor” (Krivý, 2023), criticising its (often strategic) overuse (e.g., Z. Ç. Alexander, 2014). If we can understand the widespread use of the ecosystem metaphor as a form of “legitimacy exchange” (Bowker, 1993; Turner, 2008), it does not constitute the sole natural analogy employed by scholars to describe either (digital) infrastructures (see, for example, “stack” by Bratton, 2015) or late forms of

capitalism (described as a "digital vortex" by Dyer-Witheford, 2015). Nonetheless, I will leave a brief review of some competing imaginaries to Appendix II, focusing the following pages solely on the ecosystem analogy. This is particularly important since the word has become ubiquitous in some scholarly regions, such as platform studies, where, as van der Vlist (2022) states, "there is no platform, there are just (platform) ecosystems."

2.3.1. Historical transmigration of the ecosystem metaphor: through computers and businesses

One of the key points in Odum's theory was defining ecosystems as self-regulating energetic feedback systems without fixed or clear-cut borders (1953), something that, as we saw earlier, he derived from the first cybernetic-inspired theorisations of the '40s (e.g., Hutchinson, 1948). The analytical-mathematical framework employed by first ecologists showed its broad applicability to both natural and social phenomena, sustaining a technocratic viewpoint which equalises ecological (and social) relations to circuitry-like connections, as well as circular and logical (read, computer-like) causality behind their functioning (P. J. Taylor, 1988; P. J. Taylor & Blum, 1991). The subsequent implementation of the resilience theory (Holling, 1973) framed ecosystems as self-organising, complex adaptive systems, enriching the socio-technical metaphor with the ability to embrace unbalanced scenarios, which are much more common outside natural settings, and launched it as a "bridge between a scientific paradigm, a physical object, and a holistic point of view (Golley, 1996, p. 190). If this concept deviated slightly from the original cybernetic theorisation of circularly regulated systems, its flexibility enabled its (re-)integration into both computer science and business studies. For both, it came to be adopted as a buzzword describing self-generating processes occurring in a specific field, such as autonomous operating systems in computers (K. Kelly, 1994) or self-regulating processes within business communities (Moore, 1993).

From a computational perspective, we can see how the concept aimed to unveil the similarities between digital and natural evolutionary processes – which tech gurus proposed as analytically and ontologically identical (Ray, 1992) – and to showcase the power of technical innovations such as "generative algorithms." Such experimental software simulates natural evolution in virtual environments, thereby confirming the

possibility of understanding it through its “virtual copy” (Helmreich, 1998). These evolutionary simulators are important because they make explicit the field's dominant epistemology, which saw the natural world as “embod[ying] computational calculus” (Helmreich, 1998, p. 14), negates the possibility of divergent ontologies, and reiterates existing normative cultures (Haraway, 2013).

Similarly, business and marketing studies strategically employed the concept to stress how capitalistic markets “naturally progressed” (read, evolved) toward the directions pointed by “ecosystem leaders”, i.e., market goliaths (Moore, 1993). In this case, it was the resilience of ecosystems to perturbations that prompted the usage of such a metaphor to describe economic systems, since their stability is directly linked to their not being at equilibrium (Krivý, 2023). Drawing from the Batesonian concept of “coevolution” – a “power to create context” in its creator's words (G. Bateson, 1979) – and his participation in Macy conferences, Moore noted how industry leaders do not need to change social systems to promote other market actors to go along with their strategies, since it was sufficient to “change the ideas” of the social system itself (Moore, 1993). In other words, Moore employed a neo-Darwinian perspective to legitimise the oversized power of market leaders, promoting a narrative of management as unscrupulously “survival-oriented” and self-legitimising. Curiously, Moore's capitalistic view does not seem to be supported by scientific evidence and, additionally, makes use of outcried ecological theories, like those of “climax communities” (Krivý, 2023).

Nonetheless, the narrative depiction of firms, customers, suppliers, competitors, and stakeholders as part of a business ecosystem continued to circulate in the field, ultimately reconnecting with the more vernacular meaning of holistic-flavoured networks. In this sense, it was again employed by the CEO, Carly Fiorina, to describe HP's corporate strategy for approaching globalisation. Her keynote, called “The digital ecosystem,” closed the circle between computer and business studies: not only did she describe the world as “a single global ecosystem – wired, connected,” but she also employed the shared ecosystem metaphor to draw emphasis on the indivisibility that characterised contemporary capitalism, where virtual and physical producing processes represented two faces of the same coin (Fiorina, 2000; Krivý, 2023). Fiorina's metaphor is crucial not for her paternalistic framing of market leaders as “civilising agents” – as where defined humans in “generative algorithms” (Helmreich, 1998) – for the “world's poorest countries [to make them] skip directly to the digital

world” (Fiorina, 2000), but because of the slippage of meaning it entails. In fact, a thorough reading of Fiorina’s keynote reveals that “ecosystem” refers to both technologies (first and foremost, the Internet’s infrastructure) and market actors (business partners, customers, etc.). Hence, we can follow Krivý (2023) in seeing Fiorina’s use of the term as combining a nature-like view of technological interconnectedness with a biological legitimisation of economic interdependence, which places big corporations at the centre.

A combination that echoes the concept of “digital business ecosystem” (Moore, 2006), where our byword comes to express a complex mixture of notions like “expansion” (e.g., Apple’s ecosystem is made by its ecology of interconnected products), “competition” (e.g., the esports ecosystem comprises competing firms), or “regulation” (platforms represent specific forms of organising value-creation, as displayed by Poell et al., 2019). The chaotic semantic references of Moore’s viewpoint are, in fact, still present in the use of the term, as demonstrated by the report by the European Commission (EC) with the same name (Corallo et al., 2007). Indeed, this report reiterates Fiorina’s overlap between technical and economic networks – here intended as both a digital infrastructure and the “digital copy” of the “real” economy (Krivý, 2023) –, ultimately serving the purpose of scientifically legitimising those “new forms of linkages, exchanges, and feedback loops” forged by and composing digital capitalism (Ong, 2007).

On the same page, management scholars coined the notion of “entrepreneurial ecosystems” to naturalise the capitalistic response to global and digital challenges, influenced by the rising myth of Silicon Valley and Big Tech culture (Krivý, 2023). By defining ecosystems as “a multitude of specialized, diverse entities [which] feed off, support, and interact with one another” (Bahrami & Evans, 2010, p. 63), this viewpoint presented Silicon Valley as the paradigmatic model of (entrepreneurial) business success, emphasising (read: naturalising) elements such as digital innovations, community-like architectures, and reckless risk-taking. Specifically, the notion of “flexibility” became of particular importance, as the instability and ephemerality of “entities” – meaning both economic actors (organisations, institutions, investors, etc.) and social units (social networks, subjectivities, personal skills, etc.) – were seen as imitating the natural and perpetual processes of decay and renewal of biological environments.

Even though, as already mentioned, other natural metaphors emerged over the years (e.g., rhizomes; Castells, 1996), the recent rise of platform studies has revived the importance of the ecosystem as a way to describe non-linear networks of value production (Krivý, 2023; Luque-Ayala & Marvin, 2020). From this perspective, ecosystems are driven by companies that can build networks of services and modules to extract value from customers and providers, thereby expanding their control over a large set of vendors and products to clinch large market shares. More generically, platform ecosystems are business models through which “orchestrators” (Jacobides et al., 2019) grow exponentially to create a space (i.e., the platform) to be offered to others, either customers or other firms (i.e., a network), to collaborate and compete (Krivý, 2023). Ultimately, the metaphor proved particularly effective in evoking forms of (non-)human (self-)organising networks characterised by competitive and/or symbiotic relations (Wark, 2015), but also reiterated the “opacity” often found in platform discourses. Indeed, its conceptual fallacies – e.g., its scanty description of the kinds of relationships (mutual, necessary, etc.) within a given network (Krivý, 2023) – have been strategically deployed to put forward neo-Darwinist legitimations of (existing or desired) capitalist settings (Haraway, 1976; Krivý, 2023; Srnicek, 2017). In conclusion, the ecosystem metaphor has travelled through the sciences and praxes – be it to legitimise corporate neocolonial ambitions, to theoretically frame entrepreneurial policies, or to endorse techno-optimistic imaginaries –, finally taking residency in business models and platform studies. Nonetheless, all this travelling did not solve some crucial questions, for example, which components and relations should be included in studying ecosystems, what kinds of flows traverse them, their limits and contents, and how they could be accounted for (Luque-Ayala & Marvin, 2020).

2.3.2. Digital ecosystems: From autonomous algorithms to infrastructures

One of the most accepted definitions of a digital ecosystem was proposed, some years ago, by the Institute of Electrical and Electronics Engineers (IEEE), during one of its conferences:

“[An ecosystem] is an open, loosely coupled, demand-driven, domain clustered, agent-based, self organized collaborative environment where agents form temporary coalitions for a specific purpose or goal, and each is proactive and responsive for its own benefit.” (Whelan, 2010)

IT studies have progressively adopted such a wide-ranging definition because it allows for dissection into its composing elements, but also comparison between ecology and digital sciences (Boley & Chang, 2007): for example, the abstract term “agents” substitutes the more biological “ecological species” to describe the individual components of a network (Dong & Khadeer Hussain, 2007; Whelan, 2010). Nonetheless, the following lines will explore some domain-specific concepts that IT studies have drafted to describe digital ecosystems.

Architecturally speaking, digital ecosystems are characterised by openness, technically intended as both the transparency of their internal relations and processes (Whelan, 2010), as well as their availability to extraneous elements (Boley & Chang, 2007). Indeed, computer scientists joined ecologists in recognising that ecosystems are analytical, or conceptual, objects: this means that clearly defining the limits of an ecosystem might be difficult, as it remains embedded in broader networks of interconnected environments (Dong & Khadeer Hussain, 2007).

If such an element clashes against the cybernetic view of closed recursive systems (e.g., Wiener, 1948), modern networks entail more “mobile” individual parts, called “agents,” which can also vary their roles (Boley & Chang, 2007). As a matter of fact, IT studies define agents, or “individuals” in ecological terms, as basic units guided by personal interest, whose participation and collaboration within ecosystems thus remain “temporary” (Boley & Chang, 2007). Consequently, networks’ architecture should permit agents to move without restraint within and between ecosystems, as they flexibly coagulate or abandon groups of other agents to pursue their interests (Boley & Chang, 2007). This also explains why the definition of ecosystems specifies that these networks are “loosely coupled” and “domain clustered,” as agents temporarily converge on mutual interests and gather in specific ecosystems aligned with their interests (Whelan, 2010). Moreover, ecosystems are “demand-driven” because of the “pull-in” type of convergence they exhibit, in which agents collaborate without external restrictions or push (indeed, the opposite type is called “push-in”; Whelan, 2010). The collaborative flavour characterising agents’ temporary and loose coalitions represents the connection between the architectural domain and its components – or, in ecological terms, between the welcoming environment and species (Boley & Chang, 2007; Whelan, 2010). In this regard, the definition ascribes a tendency to selfishness to agents since it states that the very motivation behind the collaboration within, and even the participation in, a (digital) ecosystem is the

subjective pursuit of interests which accidentally happen to be coherent or complementary to those of other agents participating in the ecosystem, and facilitated by that specific hosting environment (Boley & Chang, 2007; Dong & Khadeer Hussain, 2007; Whelan, 2010). Such a definition might sound neo-Darwinian and oversimplified, as it negates the possibility of agents collaborating for the sake of staying in the ecosystem, or, in other words, it forces agents to an overly egotistical posture – something that clashes with modern ecology, and even more so, the configuration of non-human actors participating in networks (Krivý, 2023; Márton, 2022).

Nonetheless, for IT systemic scholars, self-interest and temporary coalitions allow networks to “self-organise” since they purposely re-organise their composition and hierarchy to chase an emerging need, thus representing a conceptual solution to solve the logical struggle of unrewarded, intentional, collaborative behaviours (Boley & Chang, 2007; Whelan, 2010). The reflection on self-interest also links to the nature of “individuals,” who take the moniker of agents in digital environments: paralleling natural species in biological ecosystems, agents, too, are entities made of organs, which can be defined as the basic units and operating parts of individuals – who can thus be described as ecosystems themselves, even if of a smaller order (Márton, 2022; Patten & Odum, 1981). When dealing with digital networks, agents are usually divided into “clients” and “servers,” terms that indicate their role within the net of relationships (Boley & Chang, 2007). The peculiarity of ecosystemic agents, once again, is their flexibility in assuming these roles, which they can readily embody to fulfil the environment’s emerging needs, and that, unlike other network configurations, are not fixed and/or mutually exclusive (Boley & Chang, 2007). This characteristic of embodying both roles simultaneously promotes the open, temporary, and plastic nature of ecosystemic coalitions and explains why ecosystems are defined as “agent-based” (Boley & Chang, 2007). Moreover, it concurs with ecosystemic structural “democracy” since the possibility for all (or most) components to assume a receiving or a communicating function allows ecosystems to be configured as open communities without centralised control (Boley & Chang, 2007). Instead, the distributed network of relations avoids the need for single-role behaviours and guarantees trust by the willing, proactive, and temporary nature of such coalitions (Boley & Chang, 2007). Some of these coalitions might actually coagulate around single, dominant entities, or “leading agents,” and take the form of “swarms” of coordinated agents (Boley & Chang, 2007), ultimately echoing Moore’s view on business ecosystems (Moore, 1993, 2006).

The final point of this outline of digital ecosystemic theory concerns the “semantics” that guide both the construction (i.e., the architecture’s design) and the interpretation of the exchanges occurring within a network (and between networks). Taking the legacy of cybernetics (Patten & Odum, 1981; Wiener, 1948), IT studies posit that ecosystems must process and exchange messages (information) to coordinate their behaviour and function (Boley & Chang, 2007).

Hence, digital ecosystems must be built on a shared language that enables communication. However, digital networks differ from other kinds of ecosystems in the kind of semantics that lies at their foundation: in fact, biological ecosystems are based on “shared implicit semantics”, co-developed through evolution and coexistence, whereas social ones make use (additionally) of “shared explicit informal semantics” like behavioural and linguistic conventions (Boley & Chang, 2007). Conversely, digital ecosystems incorporate “shared explicit formal semantics” to function (Boley & Chang, 2007), which is built into and communicated via artificial languages. This enables high-precision automation across several areas due to its formal nature, which employs shared protocols to both define entities (and their metadata) and specify their interactive rules (Boley & Chang, 2007).

Specifically, networks utilise distributed and constantly updated semantics webs of global identifiers, like the DOI (Digital Object Identifier) and IRI (Internationalized Resource Identifier): these formal languages make use of metadata and precise (explicit) descriptions to categorise and index entities, for example, dividing them into classes and attaching properties that help subsequent retrieval through associative links (Boley & Chang, 2007). These descriptive values form arbitrary “ontologies” (usually modularised into “subontologies”) that function as a digital ecosystem’s vocabulary (Boley & Chang, 2007). The choice of language (or ontology) determines which identifiers the system uses, to which properties are attached (forming domains and categories).

Additionally, a formal semantics must include “rules”, intended as algorithmic procedures to deal with the vocabulary: in other words, rules specify how to derive, create, and combine properties, check metadata integrity, and process retrieved information (Boley & Chang, 2007). In simpler words, rules mimic natural syntax and other linguistic basic rules, such as word formation and meaning-attachment, giving the necessary tools to “speakers” to perform their exchange (Boley & Chang, 2007; Eco, 1995).

Semantics is important because it provides an ecosystem with a language to efficiently exchange information about the entities moving within such an environment (Boley & Chang, 2007). Nonetheless, it is essential to note that formal, explicit semantics, or artificial linguistic conventions, must be pre-emptively agreed upon and built into a digital ecosystem's architecture; otherwise, it will not be able to exist and function (Boley & Chang, 2007). This means, for example, that digital ecosystemic collaboration and communication must be designed for in advance, and cannot occur within agents and environments, unless architecturally or artificially implemented. This point constitutes a significant difference between digital networks and biological (but also social) ecosystems, which instead see their collaborative and communicative procedures as emerging and multifaceted processes, which may also give rise to conflicts, misunderstandings, and even failures (G. Bateson, 1956; Márton, 2022). All in all, the digital formalisation of (biotic) ecosystemic functioning helped expand the concept's analytic power, enhancing its applicability to hybrid or purely virtual scenarios (Boley & Chang, 2007; Whelan, 2010). Nonetheless, it did so at the cost of losing important axioms regarding reward-free collaboration, natural evolution through imbalance, and resilience (Krivý, 2023; Márton, 2022, 2023). Indeed, both platform scholars (e.g., Kapoor, 2018) and classical thinkers (e.g., Deleuze & Guattari, 1987) have demonstrated how the guiding motives behind networking and systemic relationships are often far more complex than linearly logical, as will be clearer through the ecological critique proposed in Chapter 2.5.

2.3.3. Business ecosystems: From linear value-chains to platformised networks

As we saw, the ecosystem metaphor has been steadily incorporated into business and management discourses, both by academics (e.g., Moore, 1993) and stakeholders (e.g., Fiorina, 2000). Notably, the use of the term ecosystem has risen alongside that of digital capitalism, being widely adopted to describe multisided markets and platform(ised) arrangements. Summarising 25 years of management research on the topic, Bogers and colleagues (2019) defined ecosystems as “an interdependent network of self-interested actors jointly creating value.” This definition comprises the four core components necessary to study ecosystems as organisational and managerial objects – interdependence, network-like structure, self-interested actors,

and ecosystem success – which will guide the following lines throughout a review of the concept in a more economic sense.

Overall, the ecosystemic organisational form has been targeted by researchers as an enabling infrastructure based on co-dependency, allowing actors to jointly create a value that they would not be able to obtain alone or with other market configurations (Adner, 2006; Bogers et al., 2019). The rest of the chapter, though, will go into details about the four core facets of the definition. In this sense, we must acknowledge how, if the first three elements are operational bricks that describe the architecture and functioning of an ecosystem, the last one is a performative evaluation of ecosystemic organising. Hence, the perspective on the term summarised by Bogers and colleagues (2019) is twofold: ecosystems “as structure,” brilliantly championed by Adner (2017), against the “affiliation” posture, which focuses on network relations, technology, and division of labour (Baldwin & Clark, 2000).

Ecosystemic success

Starting from the last, more performative domain, we must acknowledge how ecosystemic success has been a primary interest for managers and scholars, as the concept was boosted by its alleged capacity to frame theoretically the benefits of a new, more interconnected way of organising and, consequently, value generation (Adner & Kapoor, 2010; Moore, 1993). Adner (2006) brilliantly summarised the point by stating that the *raison d'être* of an ecosystem is “to create value that no single firm could have created alone” (ibid., p. 100). However, measuring such success or value creation has proven more challenging than expected, forcing many scholars to rely only on qualitative assessments to support their view (Pagani, 2013; van der Borgh et al., 2012).

Similar to what happened to biological ecosystems, global measuring has been employed to contrast the network opacity, leading to studies to adopt markers such as aggregated market share (Adner & Kapoor, 2010; J. West & Mace, 2010), market penetration (Sandström, 2016), or firm survival rate (J. West & Wood, 2014), to derive data on ecosystem health and efficacy. Indeed, indicators of ecosystemic activities often lack sufficient analytical granularity, underestimating the effects of breakdowns and closures on individuals involved in the ecosystem's more “local” branches (Auerswald & Dani, 2017).

Hence, ecosystem success remains hard to quantify and still relies heavily on proxy measures for scientific assessment, critically undermining the practical applicability of the ecosystemic conceptualisation. For this reason, Bogers and colleagues (2019) suggest to analyse ecosystemic success through actors' individual interests, as understanding their motives helps reconstruct the reasons behind their participation (and permanence) in the given ecosystem.

Self-interested actors

In management, business, and organisational literature, the IT-flavoured term of "agents," shared also by bio-social scholars, has been substituted by the term "actors" (or "participants"), which denotes all those firms, institutions, and individuals comprised in a market environment (e.g., Brown & Mason, 2017). Aprioristically framed as egotistical and self-interested, Bogers and colleagues (2019) identify four categories of actors: sponsoring firms, member firms, non-profit organisations, and individuals.

The first category, which is also the most researched, applies to firms that control or guide the ecosystem, thereby profoundly influencing the other components by occupying a leading role within the network. Careful readers will recognise here a reference to the concept of "ecosystemic leaders," introduced by the management scholar Moore (1993) and rapidly adopted across all declinations of ecosystemic analysis. More recently, researchers exploring IT-related ecosystems have employed the term to indicate the firm behind the infrastructure or underlying software architecture (i.e., the platform creator or coordinator), or even the joint ventures and communities responsible for compatibility standards and open source components (Antonelli, 1994; Parker et al., 2017; Spaeth et al., 2015). In business scenarios, leading firms are those that employ resources and technologies to build and control a network of actors, from complementors to customers, and benefit from the resulting value creation. As the theory goes, sponsoring companies can leverage ecosystems to align stakeholders' interests or build coalitions (external activities; Gawer & Cusumano, 2014; J. West & Wood, 2014); alternatively, they can direct their attention within the network (internal actions) and position themselves as ecosystemic coordinators and enhance other actors' engagement (Baldwin, 2012; Gawer & Henderson, 2007). More pragmatically, though, managers often equate the ecosystem's shares with those of the sponsoring firm (Iansiti & Levien, 2004a; Zhu &

lansiti, 2012), attributing to the company the benefits accrued from creating a network of complementary actors. However, there is little research confirming such a view, except for some anecdotal evidence (e.g., Jones, 2017), pushing more cautious scholars to underline how complementarity, in ecosystems, should be intended more as bi- or even multi-directional (Jacobides et al., 2019), thus benefiting all those participating in the network (albeit with differing shares).

The second category, member firms, contributes instead to the success of a network by reinforcing each other's performance, sustaining market leaders through complementarities or other industrial interactions (Adner, 2006; Ceccagnoli et al., 2012; Moore, 2006). Member firms must resist overcontrolling or extractive tendencies by ecosystem leaders (i.e., sponsoring firms), thus relying on few resources to sustain their existence in excessively competitive environments (J. West & Wood, 2014). Multilateral dependencies force firms on all levels to coordinate their strategies to maintain a balance needed for co-existence; otherwise, the ecosystem risks slowly breaking apart and, ultimately, collapsing (Ansari et al., 2016; Jacobides et al., 2018; Kapoor & Lee, 2013). Therefore, complementors, suppliers, and customers find themselves having difficulty balancing self-interests (e.g., revenue-making) with collaboration and partnerships, which remain fundamental to transforming a value-chain into a proper network of interdependent value-creating firms (J. F. L. Hong & Snell, 2013; Huber et al., 2017; van der Vlist, 2022).

Precisely on the edge between self-interested survival and co-dependencies lies the third category detected by Bogers and colleagues (2019), "non-profit organisations." These actors do not engage in ecosystems for revenue-making purposes, yet remain involved even without a direct economic benefit. For example, universities and research centres draw their income from different sources, so their survival is not (strictly) predicated on their participation in a business ecosystem (Hayter, 2016). This means that such actors are often found in supporting roles, providing the network with technological or knowledge tools to innovate and thrive. This also translates into an effort to foster ecosystemic coordination and collaboration, as seen in governing bodies (usually non-profit entities) that promote the adoption of shared protocols and regulations (e.g., protocols for software porting; see also Brunsson et al., 2012; Rosenkopf et al., 2001). To this end, they employ strategies such as mediation, consensus, and regulations to harness market competition or external influences (e.g., regional laws; Simcoe, 2012; Wiegmann et al., 2017), enhancing the ecosystem

without direct commercial success. Instead, their success measure often relies on community involvement and size (Kilamo et al., 2012; von Krogh et al., 2012), as their self-interest is more directed toward maintaining long-term motivations and a steady flow of incoming contributions, partnerships, and (sociotechnical) exchanges (Sims et al., 2019). Other kinds of non-profit organisations, instead, try to position themselves as enablers and connectors between both internal (i.e., nodes of the network) and external actors (i.e., other ecosystems), for example, by actively collaborating to define governing policies, standards, and (market) norms (O'Mahony & Karp, 2022; Wiegmann et al., 2017).

The last category, individuals, increasingly weighs on ecosystemic equilibrium due to the enabling possibilities offered by modern technologies (Hanna et al., 2011). As intrinsic and personal motivations become tied to the firms and institutions they represent (Selsky & Parker, 2005), individuals find themselves to be both constructive agents – building cooperative relations among organisational bodies and maintaining a reputation (Dellarocas, 2010; Mathias et al., 2018; Spaeth et al., 2015) – and labour force, since most digital ecosystems rely on individuals' low- or un-paid work (Beverungen et al., 2015; Lazzarato, 2006; Terranova, 2000), often without being explicitly employed or incorporated by organisations (Alaimo et al., 2020; Alaimo & Kallinikos, 2017; Kallinikos, Aaltonen, et al., 2013). Indeed, technology-mediated strategies like crowdsourcing (K. J. Boudreau & Jeppesen, 2015) have been surpassed by contemporary platform capitalism (Srnicek, 2017), which extracts value not only from individual entrepreneurs (Qiu et al., 2017) but directly from users' data, making them a product inside their platform ecosystem (Alaimo et al., 2020; Bruni & Esposito, 2019a; Gillespie, 2018; Hyysalo et al., 2016). Ultimately, users' production (and idiosyncratic motives) further complicates the set of success thresholds, somehow undermining the framework proposed by Bogers and colleagues (2019).

Interdependence

Describing the typology of relationships needed to define an ecosystem, “interdependence” represents the first operational, structure-defining concept. Indeed, the nature of relationships clearly distinguishes ecosystems from other organisational configurations. In particular, business literature identifies complementarity as the primary feature among ecologically networked firms (Jacobides et al., 2018),

characterising ecosystems through collaborative (co-)dependent value creation (Adner, 2017; Jacobides et al., 2018; Moore, 1993; Spigel, 2017).

In other words, for ecosystems, value is an emerging quality of being connected to a web of other “stakeholders,” whose vested interests permit a set of complementarities and sustaining links that make the whole system thrive. This does not mean, however, that all actors equally benefit from network effects. Indeed, business settings are intrinsically marked by disequilibrium and competition (Kapoor & Lee, 2013; Moore, 1993), leaving ecosystems the difficult task of balancing the clashing forces so that all involved participants can flourish (read, pursue their interests). This, for Bogers and colleagues (2019), can be obtained through three modes of interdependence: cooperative, competitive, and coopetitive.

Cooperative interactions do not solely pertain to more linear arrangements, such as the classic customer-supplier dyad (Moore, 1993), but prove critical in early phases of ecosystem development, when the network must still carve its own market niche (Tiwana, 2013). In such cases, firms compete more for attention than for revenues, thereby dampening the barriers that might otherwise prevent them from collaborating, as seen in entrepreneurial ecosystems (Bahrami & Evans, 1995, 2010). At the same time, more mature ecosystems can still be very collaborative when the primary value-making interaction is complementary (Jacobides et al., 2018). Platform sponsors, for example, are actively involved in expanding and governing their network of complementors (i.e., platform governance), who in turn might also take (at least partial) advantage from mutual collaboration in productive processes (Poell et al., 2021).

Competition, by contrast, arises when networked firms battle for revenues, workers, or other resources. Not surprisingly, this is one of the most researched (and expected) phenomena in management and organisational studies, since competition is a core element in the business literature (e.g., Porter, 1980). The classical perspective states that competition (especially between ecosystems) heightens willingness to innovate and, thus, succeed (Moore, 1993). However, increased flows of products and services might also bring internal competition as resources become tighter, the network becomes crowded, and firms’ survival is threatened (Carroll, 1985; Lee & Raghu, 2014; Utterback & Suárez, 1993). In this case, contrasting interests can arise, as sponsors might benefit from complementors’ competition to further increase their revenues. This may ultimately bring, for example, member firms to weigh their participation in a given ecosystem and decide instead to move toward more attractive

networks (Landsman & Stremersch, 2011). Hence, careful governance should be exercised, as excessive competition could lead to the exclusion of potential complementors (J. West, 2003; J. West & O'Mahony, 2008).

The importance of governing internal attritus is even more central for coopetitive relations, which defines a blend of competition and close cooperation characterising interdependent value-creation processes (Kapoor, 2018; Kapoor & Lee, 2013). Some industries, in fact, generate value directly through the participation of direct competitors, requiring a delicate balance of these tensions to thrive (Bogers et al., 2019). Once again, such balancing might be influenced by the development phase of a given ecosystem and evolve as it progresses toward more classical organisational structures (Ranganathan et al., 2018). In particular, coopetitive interdependence denotes, better than other relational modes, the original meaning of applying ecosystemic metaphor to business networks. Indeed, it is precisely the firms' need to be linked to produce value that creates an ecosystem, since without this co-dependency, they will lack other ways to generate revenue and sustain themselves (Ansari et al., 2016; Kapoor & Lee, 2013; Mikołajewska-Zajac et al., 2022). In summary, if coopetition naturalises capitalist extractive relationships between ecosystem leaders and complementors (or even customers), it also undermines the classical view of self-interested actors, introducing ecological motivations and relational intelligence as emerging points of reflection (Márton, 2022; Mikołajewska-Zajac et al., 2022).

Network-like structure

The final component of the business ecosystem definition is its network-like architecture, which again closely relates to its governance. Indeed, explorations in this sense are divided between structural studies, which examine the layout of ecosystemic networks (e.g., Adner, 2017), and organisational studies, which focus on how networks are governed (e.g., Tiwana et al., 2010).

Studying the collective arrangement of interconnected, interdependent actors (Jacobides et al., 2018; McIntyre & Srinivasan, 2017) is vital to understanding how value creation emerges from this organisational structure and to differentiate ecosystems from other distributed architectures (Bogers et al., 2019; Tiwana, 2013). Research focusing on structural aspects took advantage of computational studies to explore network architectures, which can be defined through the peculiar arrangement

of their internal relationships (Adner, 2017). Specifically, ecosystems can be defined as distributed and modular architectures where linear patterns (e.g., seller-buyer relationships; Boudreau, 2010) interact with more complex connections between firms and organisational bodies (e.g., policymakers; Adner & Kapoor, 2016) sustained by embedded technical infrastructures (Adner, 2006; Autio et al., 2014; Tiwana et al., 2010). Attributes like complementarity (Autio et al., 2014; Jacobides et al., 2018), socio-material characteristics (Spigel, 2017; Venkatraman & Lee, 2004), agents' density (Jha et al., 2016; Venkatraman & Lee, 2004), and embeddedness (Venkatraman & Lee, 2004) have been explored to determine differences among ecosystemic arrangements. Again, all these studies underlined the importance that underlying technological infrastructures played in ecosystemic structuring and organising (Hanna et al., 2011; Tiwana et al., 2010), which critically concurred in shaping the networking effects needed to create value (Boudreau & Jeppesen, 2015; Eisenmann et al., 2011). This last facet – i.e., value outcomes – has been linked by authors as directly or indirectly tied to network structure (Adner & Kapoor, 2010; Ceccagnoli et al., 2012), pushing academia to explore phases of ecosystems' development, such as their creation (Dattée et al., 2018), joining or abandonment flows (Tiwana, 2015), and ecosystemic convergence and generativity (Yoo et al., 2012).

Talking about governance, instead, Bogers and colleagues (2019) describe ecosystems as positioned along a control-coordination continuum (Gawer, 2014; Tiwana, 2013). In other words, ecosystems lie between a hierarchical organising of an industrial field and the chaos of “bazaar” markets, here intended as highly distributed environments that lack the guidance of focal operators (Demil & Lecocq, 2006; Felin & Zenger, 2011; Powell, 1990). Indeed, ecosystems are often caught between centralising and decentralising tensions, usually embodied by different actors within the system (Bogers et al., 2019). Sponsors or platform owners have been described as heavily involved in governance and supervision procedures, although mostly obfuscating their efforts behind technical solutions (e.g., APIs and GUIs) and extractive strategies (Gillespie, 2018; Jacobides et al., 2018; Poell et al., 2019). Platforms' modes of control are significantly less visible than classical contractual approaches (Gillespie, 2010; Gorwa, 2019), yet they succeed in creating internal ecosystemic hierarchies and retaining control over the ecosystem's entry (Gillespie, 2018; S. M. West, 2017; Zhang et al., 2022). Additionally, platforms strictly supervise the end-side of their multi-sided

markets through infrastructuring and putting users into production, both in the sense of making themselves products and employing them in production processes (Bruni & Esposito, 2019a; Plantin et al., 2018; Poell et al., 2021; Zuboff, 2019). More distributed and decentralised networks, which lie at the other end of the spectrum, see instead interdependence and collaboration counteracting centripetal forces (Boudreau, 2010; Kilamo et al., 2012; J. West, 2003; J. West & O'Mahony, 2008). Smaller or reticular ecosystems, for example, often revolve around tight, collaborative interactions – e.g., collaborative dyads or triads (Davis, 2016) – or employ dynamic control strategies (Dattée et al., 2018) to balance tensions (Wareham et al., 2014; J. West & Gallagher, 2006). However, the majority of extant research on ecosystemic governance has scarcely explored its effects (Spaeth et al., 2015) or left internal politics unmentioned (except for platform-ised ecosystems), leaving scholarship without the necessary data to comment on its influence on ecosystemic success (J. West, 2014).

Business ecosystems

To summarise, business ecosystems can be described as specifically arranged multi-sided markets comprising interdependent actors, which mostly rely on complementary or otherwise influential links to pursue their interests in a coopetitive manner.

Within such structures, micro-level relations can be either linear, as in classic industrial linkages (e.g., seller-customer dyads), or recursive, forming further bi-directional bonds between actors and increasing the degree of interconnectedness (e.g., platform-complementors networks). In centralised ecosystems, sponsoring firms (i.e., leaders) steer such relationships through explicit or implicit governance. Conversely, on more decentralised networks, agents self-organise collaboratively to maintain the ecosystem active and thriving, often through the work of non-profit entities that embody ruling or coordinating roles.

Finally, all relationships and self-interested pursuits are incarnated by individuals, who materially act in the network of relations in firms' stead. In addition, individuals can be included in the network as productive forces – as happens when customers are transformed into “users,” employed by platforms and other digital ecosystems as both an extractive source and unpaid workers.

2.4. Overarching framework

Systematising the reviewed literature into a viable conceptualisation, we can recognise in both technological and business declinations of ecosystems a three-dimensional understanding of the term, as it includes (or can be studied through) architecture, actors, and activities. Even though some differences persist, such as the lack of governance structures within digital networks due to shared semantics, we can expand the work of Adner (2017) and Hein and colleagues (2020) to outline an overarching framework around these three pillars.

The first block describes what is happening inside an ecosystem, or what discrete actions determine the co-creation of value (Adner, 2017; Hein et al., 2020). For Adner (2017), a focus on activities characterises “ecosystem-as-structure” postures that examine the productive chain of ecosystems to disentangle their composition and relationships. Indeed, focusing on activities helps understand what different actors are doing inside the network, like acting as complementors (Thomas et al., 2024) or bottlenecks (Kapoor, 2018) for the ecosystemic value-creating process. Understanding what is going on inside a network also informs the governance adopted by a given ecosystem and the scoping for limiters or enablers that operate between actors (Boudreau, 2010).

The second entry point for approaching ecosystems is actors (or agents), the entities populating an environment and performing the activities that fashion the ecosystem, which can be described by the actions they enact within the network. For example, complementors are defined as firms that offer accessory products or services to another firm, typically a platform owner (Plantin et al., 2018; Thomas et al., 2024). In more traditional scenarios, classical value chains are composed of firm-supplier-customer arrangements (Boudreau, 2010), even though purely linear relationships are scarce within interdependent networks like ecosystems (though they can appear at the micro-level). For Adner (2017), actors can also be analysed in terms of their positions within a network, which reveal their links and interactions. Such descriptions can then outline typologies of ecosystemic actors, such as platforms, brokers, hubs, and other field-specific descriptors (e.g., client-server distinctions). Such an approach identifies what Adner (2017) called an “ecosystem-as-affiliation” posture, which starts with the actors’ positionings and characteristics to sketch the ecosystem’s

configuration and strategies, as well as the benefits actors get from participating in such an organisational structure.

The last dimension pertains to architecture, which defines the sociotechnical structure containing actors' actions and positions. In other words, architecture describes the kind of links that connect actors and permit them to perform ecosystemic activities. Specifying transfers across actors also entails considering the content of such interactions, including materials, information, influence, and funds (Adner, 2017). Since the adoption of the ecosystem metaphor has been primarily tied to technologies, most of the links explored are computer-mediated or technologically enabled (Hein et al., 2020; Plantin et al., 2018). Additionally, adopting an architectural perspective shifts the focus from focal actors (also referred to as the ecosystem's leaders or sponsors) to the rest of the network, as connections can occur between any actors involved and be specific to each relation. In this sense, Hein and colleagues (2020) took Kapoor's (2018) standpoint to describe how ecosystems can be either platform- or product-based. The former are characterised by centripetal relations between autonomous agents, i.e., complementors, and a core orchestrating ecosystemic interactions and enacting governance-like control (Gillespie, 2017; Tiwana, 2013). Focal actors typically sketch out the structure and rules governing the ecosystem, delineating the "semantics" through which interactions can occur (Gawer & Cusumano, 2014; Gillespie, 2018). Product-based arrangements, on the other hand, entail linear relations, such as single-sided market interactions (e.g., supplier-buyer dyads), that allow firms (and customers) to combine top-down governance mechanisms (i.e., formal, predetermined, one-size-fits-all semantics) with more relational ways of addressing interdependence and mutual trust. Hence, product-based ecosystems are usually decentralised networks where collaboration and interconnection are highly valued (J. West & Wood, 2014).

In a nutshell, ecosystems can be described as networks of interrelated actors that join together to perform activities that could not be enacted separately, whose value proposition relies on the nature of the links that hold the network together. This whole can be disentangled into the three elements: activities (what), actors (who), and architecture (how). Hence, differences in the purpose, functioning, or composition of an analysed ecosystem define its specificity, which can then be compared with other ecosystems and, more importantly, with other organisational arrangements (see Appendix II). Nonetheless, to fruitfully incorporate such elements into a viable

operational construct, we must first add an ecological critique to the current literature, somehow retracing the ecosystem metaphor to its roots. Such a move, as will become clear, will not only help us (re-)integrate the concept with a much-needed reticular, technologically dense, interdependent approach to organising forms, but significantly enhance its heuristic power, especially for those occurrences that defy nearby, more linear and vertical frameworks (see Appendix II).

2.5. An ecological critique: Retracing ecology within digital networks

The previous chapters outlined how IT and organisational scholars have adopted the ecosystem metaphor to enhance their analytical capabilities for complex networks of interdependent actors, while Appendix II provides some valid comparisons with related concepts. However, information systems (IS) research has also significantly reflected on the analytical surplus that ecosystems can give, at least when applied as frameworks describing our digitalised world (Floridi, 2015; van Dijck et al., 2018; Wark, 2007). Hence, the following lines will summarise the contributions made in this field, especially the ecology-inspired proposals by some IS and external thinkers.

Theoretically, the qualitative difference of digital ecosystems relies on their ability to “informate” processes (Zuboff, 1988), that is, digitalising natural and social elements so that they become part of data- or information-processing (organisational) routines (Ens et al., 2023; Kallinikos, Hasselbladh, et al., 2013). Technical characteristics like reprogrammability and modularity, alongside the interoperability and distributedness of interfaces and data (Kallinikos, Aaltonen, et al., 2013; Yoo et al., 2010), give digital ecosystems an organisational generativity and dynamism that defy traditional settings. This, alongside automation and heteromation (Ekbja & Nardi, 2017), bring digital technologies to entangle with their hosting environment (Leonardi et al., 2012; Orlikowski & Scott, 2008), capturing value and exploiting labour like never before (Beverungen et al., 2015; Ens & Márton, 2024).

A qualitative leap forward that has, so far, been particularly explored in complex, large-scale systems (Henfridsson & Bygstad, 2013; Star & Ruhleder, 1996), where technical affordances have significantly accelerated the interactive patterns and co-dependencies within networks (Márton, 2022). Nonetheless, the innovative charge of ecosystemic organising has still to be coherently framed into a unitary framework, as suggested by Attila Márton (2022) in his critique of the concept within IS. Specifically,

the author proposes drawing on Bateson's ecological principles to restructure the ecosystem metaphor, thereby restoring part of its innovative charge (ibid.). Indeed, only a few studies regarding information ecologies have tried this approach so far, but with fruitful results (Davenport & Prusak, 1997; Lyle et al., 2020; Star & Griesemer, 1989; Star & Ruhleder, 1996). Therefore, this section will draw on Márton's proposal to illuminate the powerful impact of a more ecologically-inspired take on the notion of the ecosystem.

2.5.1. Rationale behind the critique

Before starting the propositional part of Márton's critique (2022), we should follow the author into his argument about two crucial "blind spots" that current IS research continues to maintain, even when employing ecosystemic perspectives: 1) the role of emergent, non-local, systemic challenges, and 2) the non-homogeneous, dynamic, patterned relationships characterising a(n ecological) network.

Going in order, the first blind spot is a critique of the tendency, both in IS and organisational studies, to focus mainly on ecosystemic populations, underestimating how self-organisation and self-regulation allow these networks to adapt and accommodate unpredictable environmental jolts, particularly without relying on centralised control (Star & Ruhleder, 1996; Tilson et al., 2010; Wang, 2021). Since the context in which these ecosystems are placed is often framed as a mere "container" (for a counter-argument, see Wilhoit, 2018), these studies miss the opportunity to account for ecosystemic complexity and the systemic ability to counterweight individual shocks as a whole (Márton, 2022; Phillips & Ritala, 2019).

Conversely, the second blind spot critically addresses the homogeneity with which internal ecosystemic relations are usually depicted. Indeed, both business-economic and engineering patterns fail to account for the heterogeneity of links that populate a digital ecosystem, since they are uniform and bound such relationships within a strict domain-related kind (Márton, 2022; Sterman, 2000). Hence, not only do boundary-crossing forces remain excluded from these analyses, but the same studies also fall short in providing a full range of possible alternative relational patterns within the ecosystem: recent (albeit seminal) research, for example, highlighted at least three different kinds of relations between business agents (Yoon et al., 2022).

2.5.2. An alternative paradigm: Batesonian ecology to the rescue

To address the mentioned blind spots, Attila Márton's response seems almost radical, as it suggests retracing the ecosystem's conceptual roots and adopting the ecological epistemology of authors like Guattari (1989), DeLanda (2009), and, most notably, Gregory Bateson (1979). Notably, his proposal tries to keep together reflections stemming from within IS studies – from the famous Star and Ruhleder's work (1996) to second-order cybernetics (Maturana & Varela, 1980; von Foerster, 2003) – and organisational discussions over the nature of socio-technical artefacts (e.g., Leonardi et al., 2012; Orlikowski & Scott, 2008). To accomplish this difficult task, Márton significantly draws on Gregory Bateson's understanding of networked (eco)systems. Albeit complex, Bateson's viewpoint can disentangle the "algebra of relations" underlying order in ecological systems (Harries-Jones, 2016, p. 222), similarly to what cybernetics tried to do at the dawn of digital systems (Mikołajewska-Zajac et al., 2022; Star & Ruhleder, 1996; van den Eede, 2019).

In Bateson's view, ecology is the study of patterned pathways of information across boundaries, organised into "informed" systems called ecosystems (G. Bateson, 2000; Mikołajewska-Zajac et al., 2022). Attila Márton takes on this Batesonian definition to propose, either alone (2022, 2023) or with other colleagues (Kallinikos, Aaltonen, et al., 2013; Mikołajewska-Zajac et al., 2022), an ecological re-reading of digital ecosystems. His reason behind such a proposal is not only for Bateson's proximity with IS studies, but also because his conceptualisation of ecosystems as "thinking" units of heterogeneity (G. Bateson, 2000; Herzogenrath, 2009b; Star, 1995) perfectly answers the pitfalls of a reductionistic, modern approach: first, Bateson's stress on information – also described as "a difference which makes a difference" (G. Bateson, 2000, p. 459) – allows IS research to approach digital ecosystems through an informational approach, hunting down systemic patterns instead of focusing on the populations of networks; secondly, Bateson's standpoint is inherently relational, which enables scholars to move between levels of analysis to trace relations and their transformation into runaway or adaptive dynamics.

To fruitfully apply Bateson's standpoint to digital ecosystems, Márton (2022) proposes three core principles for examining such networks: part-of-ness, systemic wisdom, and information ecology.

Part-of-ness

The notion of “part-of-ness” expounds how every system is always characterised by *Teilsein* (being-part-of) rather than merely *Dasein* (being-in). More explicitly, part-of-ness suggests taking into account relationality at two levels: internal and external.

Internally, Márton (2022) relies again on Bateson’s work to define a system as formed by a pattern of relationships and cybernetic feedback, autonomously self-correcting and self-organising (M. C. Bateson, 2005). Nonetheless, Márton (2022) goes further, drawing also on neo-materialist philosophy (DeLanda, 2016; Harries-Jones, 2002) to claim that “everything exists as part of a relationship and broader system of patterned interaction and communication” (ibid., p. 254). This does not mean conflating a phenomenon with its environment, but instead thinking of elements as *participating* the world (DeLanda, 2009, 2015), in the sense of forming wider networks into which they can play a part. The author takes the example of the difference that it makes between thinking of oneself as “stuck *in* traffic” and the realisation of one’s “*being* the traffic” (Márton, 2022; italics in original).

Hence, Márton suggests that organisation and IS scholars should take into account this intimate part-of-ness when analytically truncating ecosystems into operational parts, appreciating instead the unbounded ecological self-organising loops in which they take part (Introna, 2019; Zundel, 2014). This also means keeping in mind that digital ecosystems are not isolated entities, but part of larger relational systems (Mikołajewska-Zajac et al., 2022). Infrastructural studies have adopted this double-sided move, as they ecologically accounted for large-scale, geographically dispersed systems (Bowker et al., 2009): in the famed work by Star and Ruhleder (1996), it was precisely a Batesonian stance that led the authors to identify double binds as an infrastructural syndrome of incongruent communication.

Systemic wisdom

Márton’s second suggestion, “systemic wisdom,” appears more complex to extricate, as it directly links with the dynamic and processual nature of (Batesonian) ecosystems (G. Bateson, 2000; Zundel et al., 2013).

When dealing with interdependent networks, Bateson suggests following patterns of change as if they were musical rhythms, focusing on their dynamics rather than the actants involved (G. Bateson, 1979). This shift facilitates the recognition of patterned vectors of change, such as the disruptive positive feedback loop that Bateson called

“schismogenesis” (G. Bateson, 2000). In Bateson’s view, such a self-reinforcing loop originates from small-scale actions, such as making a gift or assembling a single bomb (G. Bateson, 2000), but then expands into reiteration and amplification dynamics to become large, runaway dynamics that profoundly impact the ecosystems in which they occur. Building on Bateson’s examples, the effect of a first gift can transform into a circular culture of gift-giving and indebtedness (G. Bateson, 2000; Lampinen, 2021). More dramatically, Bateson’s review of the nuclear race through the lens of schismogenesis eventually explains why such loops might give rise to a progressive erosion of budgets of flexibility and actors’ polarisation that, ultimately, leads to systemic disruption (G. Bateson, 2000; Márton, 2022; Mikołajewska-Zajac et al., 2022).

To survive such drives, a system must adapt and reorganise itself, which is not always possible (Mikołajewska-Zajac et al., 2022). This point is particularly vital when considering digital ecosystems, which are typically designed to maximise efficiency and profit (Baumann, 2022; Sell et al., 2023). To this purpose, IS designers engineer for predictability and stability, mostly resorting to “robustness” as the ability of a system to push back (external) turbulence (Beniger, 1997; Holling & Meffe, 1996). However, more recent studies have proposed alternatives to resistance, such as soft systems methodology (Checkland & Scholes, 2005) and complex adaptive systems theory (Tanriverdi et al., 2010), which incorporate concepts such as responsiveness and adaptability. Arguably, the closest example to Bateson’s standpoint in IS research is system dynamics, which relies on a similar cybernetic vocabulary of positive and negative feedback loops to describe a system’s ability to adapt (Sterman, 2000), albeit focusing more on processual points of intervention rather than on individual actors to operate on (Ruutu et al., 2017).

More poignantly, the notion that should better accompany systemic wisdom, overgoes IS: I am referring here to “resilience,” which, ecosystemically speaking, indicates a system’s ability to adapt via self-organisation. Specifically, this processual response operates through flexibility and adaptation, as resilient systems can overcome (unexpected) turmoil rather than predict it and “bounce back” to previous ways of functioning (Márton, 2023; Mikołajewska-Zajac et al., 2022; Walker, 2020). Such capability is even more important as we transition toward a hyperconnected world, making it impossible to predict every potential shock that may arise (Beck, 1996). Although sharing similarities with the notion of “antifragility” as defined by Taleb (2012),

I draw again from Márton's work (2023) to outline seven moves for enhancing resilience, which, in turn, he adapted from Biggs and colleagues (2012):

- maintain diversity and redundancy;
- manage connectivity;
- manage slow variables and feedback;
- foster systems thinking;
- encourage learning and experimentation;
- broaden participation;
- promote polycentric governance.

Although these points are meant as guiding principles for ecosystem engineers, they can in fact be seen as a pragmatic strategy to reintroduce notions about natural ecosystemic features, such as self-organisation and flexible adaptation, which are increasingly left aside in theorising digital (platform) ecosystems (Ens & Márton, 2024; Márton, 2023). A reintroduction that, in a way, signals that it is precisely the systemic nature of ecosystems – in Márton's (2022) words, the systemic wisdom entailed by them – that detaches them from techno-centric models, such as networks, grids, or stakes (cf. Cristofari, 2024; Krivý, 2023).

Information ecology

The last principle suggested by Márton (2022) pertains to a more ontological level of ecosystemic analysis, which he dubbed “information ecology.” This notion forms a substantive part of Bateson's conception of (eco)systems, since he defines such networks as created and sustained by patterns of connections, organised through systemic feedback loops (G. Bateson, 2000; Márton, 2022).

For Bateson, information establishes a relational pattern through signalling a difference, which transforms an ecosystem from isolated entities into connections in-between them (Cooper, 2005; Harries-Jones, 2005; Zundel, 2014). Notwithstanding the importance of this last, ontological consideration for Márton's rooting within neo-materialistic philosophies (DeLanda, 2009; Kallinikos, Aaltonen, et al., 2013), the crucial tenet of this last principle relies on its stress on relationality, not intended as mere juxtaposition but a more profound interconnectedness as a founding element of ecosystems themselves (Herzogenrath, 2009b; Márton, 2022).

This indeed resonates with studies from IS research, as highlighted by reflections on the distributedness of ecosystemic information management and its impact on sociomateriality (Davenport & Prusak, 1997; Nardi & O'Day, 1999; Orlikowski & Scott, 2008; Schultze et al., 2020; Wang, 2021).

From theory to research: Operationalising the principles

The three pillars outlined by Márton (2022) help build an epistemological critique of digital ecosystems; however, Márton himself displayed concerns about the operationalisation of such principles into viable research objectives and empirical variables, significantly hindering the transition toward a new understanding of ecosystems (Márton, 2022).

This work represents a tentative application of Márton's direction, as it proposes not only an ecological re-reading of the concept of the ecosystem but also applies this updated understanding to the empirical case of esports. Particularly, viewing digital business ecosystems as “network-of-patterns” (Henfridsson et al., 2014) will mean unpacking the architectural, relational, and compositional dimensions of the esports ecosystem to underscore its defiantly undecidable structure, the constantly mutable intricacy of its (internal and external) relationships, and the vitally composite identity of its agents. In other words, the empirical reference will hopefully demonstrate the richness of adopting an ecological standpoint to digital business ecosystems, avoiding the excessive rigidity of current management analyses while opening up to so-far-ignored patterns of relation, influence, and coopetition. Ultimately, this will hopefully beef up the explanatory power of the ecosystem metaphor while sharpening its critical power.

The following chapter will conclude the theoretical section by outlining the state of the art in the literature on the esports ecosystem. In particular, the descriptions made by game researchers (Besombes, 2024; Carrillo Vera & Aguado Terrón, 2019; Carrillo Vera & Antón, 2024; Jenny et al., 2021; Scholz, 2019) will be integrated with views coming from neighbouring fields (Hölzle et al., 2022; M. R. Johnson & Woodcock, 2021; Kanellopoulos & Giossos, 2024; Kunz et al., 2021; Roth et al., 2023) to propose an overarching description of its components and relations. Finally, a small box will summarise the Italian scenario, within which the following empirical chapters will take place.

3. Esports as a digital ecosystem

The ecological critique provided us with the analytical tools to assess complex networks, whose interlacing typologies are difficult to foresee or counterintuitive to classical modelling. However, Márton's critique (2022) proved challenging to operationalise into a systematic research agenda. Notwithstanding, the ecosystemic is widely employed in market and business discourses, as we saw in the metaphor review.

One example of its application is the notion of the "esports ecosystem," which emerged from managerial readings of competitive gaming and its related industry (e.g., Scholz, 2019). More specifically, ecosystemic models have started to take momentum as esports transitioned from a niche phenomenon to a global industry, when game and management scholars profited from IS analyses (e.g., Ke et al., 2022; Werder, 2022) to stress its uniquely digital nature. As underlined by both classical authors of the field (e.g., T. L. Taylor, 2012) and outside commentators (e.g., Wong & Meng-Lewis, 2022), esports sits in-between the fields of entertainment, sports, business, and media (Scholz, 2020); at the same time, esports extend beyond these roots through the affordances of their digitised environment, evolving beyond the traditional meanings associated with those labels (Scholz, 2020). Following Tokbaeva and colleagues (2022), we can define esports as a digitally driven media business, comprising individual (micro-), organisational (meso-), and industrial (macro-level) actors operating across a blend of physical and virtual environments. Ultimately, as Scholz proficiently summarised:

"The eSports industry is [...] born global and born digital, turning analog and local—quite the opposite to every other industry that is generally born local and analog first." (Scholz, 2019, p. 4)

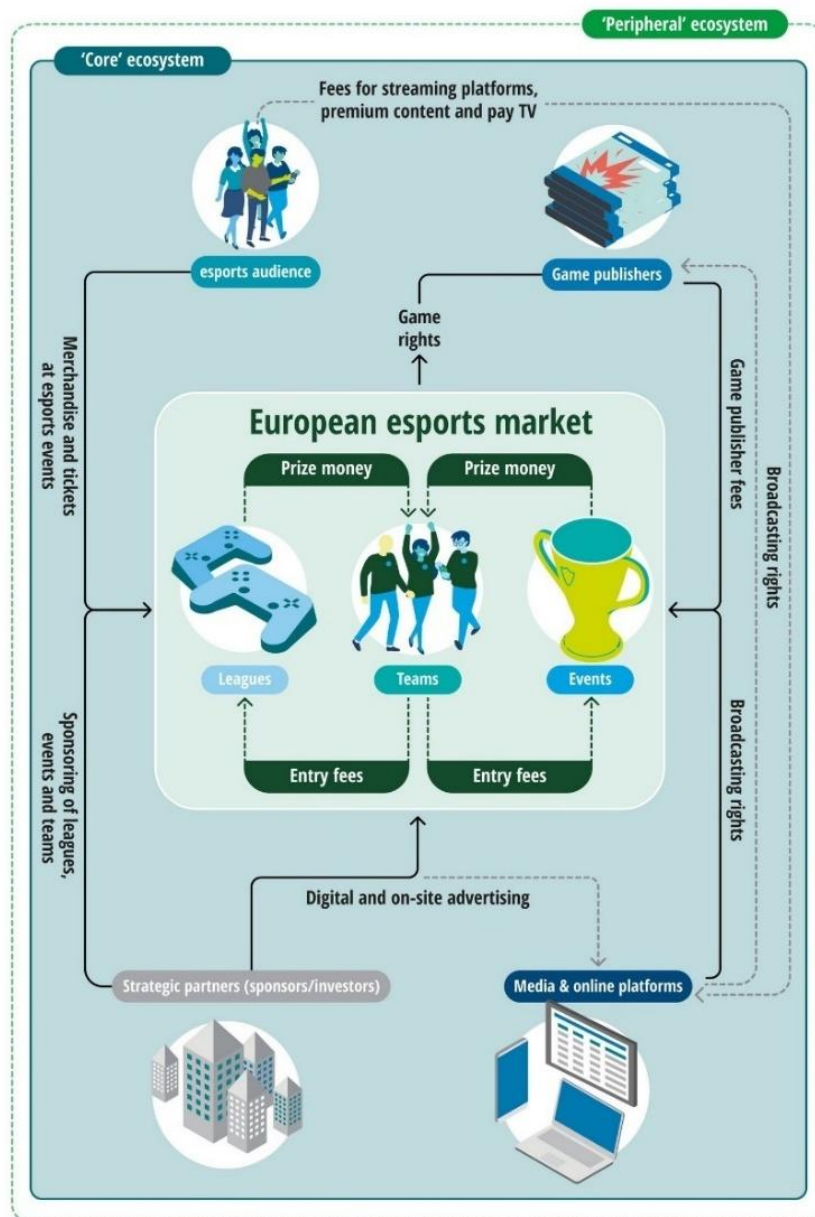
Hence, understanding the esports ecosystem(s) necessarily involves reflecting on the technological components comprised in the network, from streaming platforms to data-driven analytical tools implemented by teams and fans alike.

If these reasons reinforce the power of esports as a primary example of digital business ecosystems, esports ecosystemic models have so far taken only the form of broad-ranging overviews of the core stakeholders, sometimes integrated with local specifications (e.g., Gilardi & Martin, 2023). In other words, studies of esports'

organisational structuring have only scratched the surface of the richness of ecosystemic relationships, which have mostly been overlooked in favour of overt economic exchanges (see Fig. 2). Therefore, the extant treatment of the esports ecosystem paradigmatically represents both blind spots described by Márton (see Chapter 2.5.1), and shared by many discussions over digital (business) ecosystems: first, the excessive focus on individual components, overlooking a more relational depiction of ecosystemic behaviour; second, the emphasis on linear (economic) transactions within agents, neglecting elements such as co-dependencies and roles switching. The resulting static descriptiveness of esports representations suits, almost exclusively, inert sketches of such networks, letting aside or marginalising the importance of (mutual) relationships within the functioning of the net.

The European esports ecosystem

- Revenue streams generated at the intersection of the esports market and adjacent stakeholders
- Revenue streams surrounding the esports market
- Revenue streams generated and remaining within the esports market



Source: Deloitte analysis.

Fig. 2. An example of esports ecosystem portrayal comes from the authoritative Deloitte's "Let's Play!" study (Ludwig & Lachmann, 2024), one of the most cited reports about the European esports market (updated regularly since 2021). Albeit the ecosystem is divided into "core" and "peripheral" areas, the focus remains on the explicit economic exchanges within the central actors: esports scholars and insiders, however, have underlined how this model is barely sustainable and relies on a relentless flow of free labour to survive (M. R. Johnson & Woodcock, 2021).

Hence, although several case studies could have been approached from an ecological standpoint, I decided to apply this ecosystemic definition to esports for two main reasons, or clusters of motives: theoretical and empirical.

First of all, my choice aligns with a growing body of work that describes esports as an ecosystem, either in market-wise descriptions (e.g., Scholz, 2019) or in more structural, IS-related approaches (e.g., Werder, 2022). As a matter of fact, the difficulties that literature about esports encounters when trying to define the phenomenon (Formosa et al., 2022) reflect the choice of the theoretical lens applied to describe its network of stakeholders: if business and sport scholars joined forces with cultural studies to depict esports as an ecosystem of economic actors co-creating value (Kunz et al., 2021), engineers and HCI researchers have focused on the technical features entailed in the esports network, from the micro-level of games' structure (e.g., Clark, 2014) to broader inquiries about innovation patterns (e.g., Hölzle et al., 2022). Secondly, many experts have highlighted the limitations of extant ecosystemic modelling for describing esports, since the field entails specificities (e.g., the role of users) that many graphic depictions of business ecosystems fail to capture (Besombes, 2024; Carrillo Vera & Aguado Terrón, 2019). Moreover, if most literature agrees on classifying esports within digital (business) ecosystems, due to the highly dense technological penetration of the field, it remains poorly underlined how such technological dependency detaches this ecosystem from other sportainment or cultural production networks (Carrillo Vera & Aguado Terrón, 2019; Kanellopoulos & Giossos, 2024).

In order to underline the pitfalls that such an approach may entail, the following subchapters will maintain this focus on internal components, integrating the thorough and widely accepted depiction by Tobias Scholz (2019) with some suggestions from other esports scholars regarding the nature of the field's economic pathways (Besombes, 2024; Pan, 2016). Moreover, insights coming from media and business scholars will clarify the importance that users – i.e., gamers – assume inside the esports ecosystem, which many indicate as the core characteristics detaching it from nearby fields and other digital business ecosystems (Besombes, 2024; Carrillo Vera & Antón, 2024; Scholz, 2019). Indeed, the empirical material gathered during my observations revealed a lush underworld of informal systemic ties that formed the covert scaffolding sustaining the more explicit, revenue-centred interactions among esports stakeholders. This empirical insight resonated with similar, yet classical,

accounts of the esports field (e.g., T. L. Taylor, 2012), as well as more recent critiques about the invisible work offered by (mostly amateur) gamers for the industry, which substantially relies on a critical mass of free labourers to achieve sustainability (M. R. Johnson & Woodcock, 2021).

In this sense, expanding the possible interactive links included in an ecosystemic model could be beneficial for two reasons: on the one hand, it would enrich the current esports literature by offering a model more closely aligned with the network's actual functioning. On the other hand, it would substantiate punctual or case-based critiques (as those embedded in the work by M. R. Johnson & Woodcock, 2021) with more generalisable relational patterns, including those based on exploitative or parasitic stances, alongside those deducted from traditional studies tapping into digital business ecosystems (e.g., Baumann, 2022). Following this double-sided reasoning, the next lines will provide an overview of the current debate on the esports ecosystem, which mainly considers its components by dividing them between primary and secondary stakeholders (Scholz, 2019), here reframed into “core” and “peripheral” actors.

3.1. Core actors: Publishers, users, organisational agents

One of the first steps in delineating an ecosystem, whether informational or business-related, is to identify its core components, then analyse how they relate to one another and to their surroundings. Not surprisingly, many scholars have conducted inquiries to identify all possible actors within local iterations of esports networks, as historical evolution has enabled geographical adaptations and dramatic differences between national scenes.

Still, most authors agree that the two leading actors in this industry are users and game publishers¹. Such centrality is not only due to the fact that, without either of the two, the industry would collapse (or even exist at all), but also because the first group (i.e., users) is the primary basin from which many of the other ecosystemic actors originate from, whereas the latter category (i.e., publishers) plays a critical gatekeeping role,

¹ Even if not always the case, many game publishers correspond to the developers of that same product, or owners of the subsidiary companies working on producing the title. If this further muddles the water of esports ecosystems, putting them directly in connection with industrial ones, it is also one of the most characteristic features of the field, since these actors explicitly “own” the game components needed to compete. Metaphorically, it would be as if the FIFA federation could own the ball or the pitch on which every football game, globally, is played.

whose decisions affect the whole network (Carrillo Vera & Aguado Terrón, 2019; Carrillo Vera & Antón, 2024; Scholz, 2019).

It should be remembered that esports are defined as “an organised and competitive approach to playing computer games” (Witkowski, 2012, p. 350); this means that organisational actors are also present, and their contribution to the ecosystem is so essential that their organisational features define the entire network. However, which organisational actors should be included in the core area of the ecosystem is a much more difficult issue, since local specificities often hinder the identification of a single organisational model and, hence, a conclusive listing of its core actors (see Fig. 3).



Fig. 3. A small box containing the logos of some of the most active esports tournament organisers, taken from a summary of esports stakeholders compiled by Blake Robbins for Ludlow Venture, a venture capital firm with an interest in esports (cited in Besombes, 2024). The American MLG (now owned by Activision Blizzard) and Europe-based ESL and DreamHack (DH) are the most notable examples of independent organisers in this list. However, the latter evolved from a LAN, fan-based organisation to a corporation when Modern Times Group, a Swedish media entertainment powerhouse, acquired it. It finally transformed into a field dominator when it merged with ESL in 2020, becoming part of the esports portfolio of Saudi Arabia’s Public Investment Fund holding, Savvy Games Group (SGG). The full figure, which provides a grand scheme of the 2016 esports scene’s stakeholders, can be seen in Fig. 11.

Still, most authors include in this category (professional) teams – also called esports organisations (a.k.a., orgs) – and esports providers – also named tournament organisers. If esports organisations, usually comprising one or more teams, participate in the events and sustain pro players with staff and resources, it is also true that some

of them are directly involved in organising events, local leagues, and other media products, evolving from the original amateur clan structures to modern-day media ventures (Scholz, 2019). This way, they partially overlap with the user category, as they are made for and by gamers, whether those pursuing a professional career in esports or those forming a fan audience.

Conversely, tournament organisers are too closely aligned with another core actor, as some game publishers have begun directly organising the competitive scene for their products. The most notable example in this sense is certainly Activision-Blizzard, which strictly controls the majority of competitive leagues tied to its products (e.g., *Overwatch*; Blizzard Entertainment, 2016). Another oft-cited example, Riot, has recently adopted a more mixed approach, resulting in a franchise-like structuring of its local leagues (Besombes, 2024). Nonetheless, providers do not always align with publishers, as independent organisers are also involved. Indeed, these organisations are so important that esports scholars cite them as one of the field's pillars, which have sustained the evolution of computer games throughout their crises toward the current expansion as one of the leading entertainment industries of the globe (Scholz, 2019; T. L. Taylor, 2012; Wong & Meng-Lewis, 2022). More poignantly, within providers, we can also find all those service and product suppliers who helped esports leap from a niche hobby to a worldwide industry. Without anticipating too much the following section, we should at least mention the role of streaming platforms here, which allowed esports (and its users) to radically outgrow the gaming dimension, reaching global audiences and opening unexpected yet highly profitable revenue pathways in this new, mixed celebrity-and-sportainment economy.

3.1.1. Game publishers

The gaming industry comprises a thriving assemblage of game developers and complementors, ranking among the leading entertainment industries globally (Newzoo, 2024). As cultural products, video games are the intellectual property of those who hold the copyrights, whether the developers/publishers of the titles or intermediary figures such as subsidiary firms. Any esports title, before becoming a competitive ground for pro players, is a commercial product, so it should not be surprising that those who own these games represent crucial agents in the esports ecosystem (Carrillo Vera & Antón, 2024; Scholz, 2019).

Indeed, they can be positioned “at the heart of the ecosystem,” since they can (potentially) dramatically change the actors' relationship (Carrillo Vera & Antón, 2024). Contrary to what happens in traditional sports ecosystems, where stakeholders are actively trying to make a product out of a common good (the sport discipline *per se*, e.g., rugby), here the core element of the competition is a privately owned creation, upon which the proprietary firm can exert a (nearly) godlike power (Svensson & Pargman, 2024). As summarised by Carrillo Vera and Antón (2024):

A publisher may or may not own a league, but it owns the rights to the game and becomes the owner of the ball, the goals, or even the pitch, figuratively speaking. (Carrillo Vera & Antón, 2024, p. 34)

Even if not all games are eligible as esports titles, many existing products entail a form of competition, which has become the main form of playstyle since the widespread diffusion of internet infrastructures (Castronova, 2006; Scholz, 2019). For a title to be viable as an esports one, some technical elements should be met: competition should be fair and balanced – without bugs or mechanics that could be exploited to gain an unfair advantage – but, most of all, it should be fun to watch. This leads publishers not only to develop games with these characteristics but also to adopt a different mindset, based on continuous development through patches and updates (Scholz, 2019).

A transformation that, at first, some developers overlooked, leaving fans (i.e., modders) to take care of their products through what has been called “playbour” (Kücklich, 2005; Sotamaa, 2007, 2010): Counter Strike (Valve, 2000), for example, born as a multiplayer mod to Valve’s Half-Life (Valve, 1998), being reabsorbed by the publishing company only time later (T. L. Taylor, 2012). Sometimes, developers learned the lessons the hard way, losing control over the esports scene tied to their title, as happened with the hugely successful Blizzard’s RTS game, StarCraft (Blizzard Entertainment, 1998) in South Korea (Reimer, 2011; Scholz, 2019). The ousting of Blizzard from the thriving Korean industry resulted in a significant loss of profit for the publisher, who subsequently tried to regain control by exerting stricter control over the title’s follow-ups (Partin, 2018).

These examples increased awareness of publishers’ power, especially its growing importance through updates and sociotechnical “caring” (Newman, 2012; Scholz, 2019; Švelch, 2019). This way, publishers understood how to extend the lifespan of their products by updating and expanding their titles into esports titles, which could

provide a solid, loyal fan base and, hence, a steady flow of income. This has led to the current esports landscape being dominated by a few publishers, which can rely on long-lasting titles that they update regularly (Del Gallo, 2023; Newman, 2012). Among them, however, different approaches emerged on how to keep (or make) a game a thriving esports title: from imposing franchise leagues to stepping back and leaving local communities to self-organise, what remains constant regarding publishers is their natural position as gatekeepers, which is nowadays a commonly understood role inside the esports value network (Scholz, 2019).

However, being a successful developer does not imply being a proficient tournament organiser, as many publishers discovered at their expense – e.g., Activision Blizzard, which had to acquire the American organisation MLG to enhance its ability to produce esports content. The ownership might imply rule-making duties (Abanazir, 2019), but publishers must also balance making a profit from their audiences with continuing to provide them with an entertaining experience. While an oligopoly-like structure keeps publishers safe from excessive competition and audience cannibalisation, it is still hard to determine which factors make a title an esports mainstay. Taking this difficulty to its extreme, we can observe the arcade or fighting scene, which has failed to achieve long-term dominance by any single title and, consequently, lacks the powerful gatekeepers found in other esports landscapes. There, other stakeholders (i.e., tournament organisers and users) took the opportunity to reinforce their respective roles: without a publisher's dominance, organisers and users can choose from a variety of titles to match their requests and desires, forcing gatekeepers to compete among themselves for the audience (and profit). Also "battle royale" titles, such as Fortnite (Epic Games, 2017) and PlayerUnknown's Battlegrounds (a.k.a., PUBG; PUBG Studios, 2017), display a similar situation in which developers' competition gives other stakeholders the power to undermine their natural gatekeeping rights.

Hence, the gatekeeper logic applies only to environments with little competition (Scholz, 2019); conversely, where competition is fierce and the audience is still conflicted, developers aim to collaborate with as many stakeholders as possible, trying to make their game exciting and build the momentum necessary to turn it into a steady esports title. In the meantime, however, publishers that have built a loyal fan base around their competitive title aim for short-term profit, exploiting their privileged position to increase revenues through lock-in strategies, such as franchise leagues (Scholz, 2019).

Still, the success behind iconic titles, such as LoL, has made the gatekeeper logic (apparently) dominate the field, with a restricted number of publishers pursuing different declinations of this strategy (Scholz, 2019).

The different approaches, with some notable examples, have been brilliantly analysed by Tobias Scholz (2019) and summarised into the following strategies: ignoring, laissez-faire, fate of the niche, regulating, and overregulating (see Fig. 4). Since a small number of game publishers dominate the esports landscape, many of the titles cited as examples are from the same company, often facing varying fortunes within its portfolio.

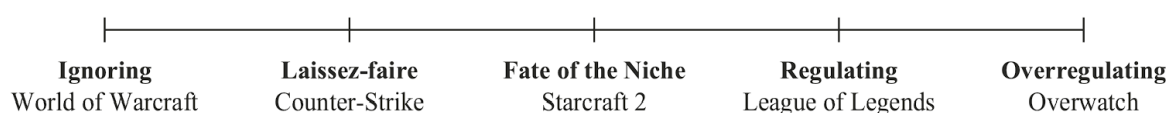


Fig. 4. Spectrum of regulation strategies available to game developers (taken from Scholz, 2019).

Ignoring

Starting from the less regulated end of the spectrum, we can find publishers who, either voluntarily or due to circumstances beyond their control, decided to leave the competitive scene and let themselves organise out of their control.

In this sense, World of Warcraft (Blizzard Entertainment, 2004) serves as an iconic example, as it is one of the longest-standing, most famous, and thriving gaming communities (Chen, 2010, 2012; Corneliusen & Rettberg, 2008; Nardi, 2010). Although Activision Blizzard tried to make WoW a competitive title through player-versus-player (PvP) tournaments, these competitions fell rapidly out of fashion compared to a player-versus-environment (PvE) mechanic, which, instead, encountered the favour of the community: collaborative dungeon raiding (Rapp, 2020; Vesa, 2013; Vesa et al., 2017). Initially introduced through an add-on (i.e., a game expansion), the five-player mythic dungeon raiding has silently risen to one of the most community-loved competitive contents of the game, putting clans against the clock to see who is the best. While this mechanic expanded to other titles (e.g., Destiny; Bungie, 2014) and it is nowadays considered a viable competitive content, Blizzard ignored its potential as an esports-friendly product until some years ago: even after

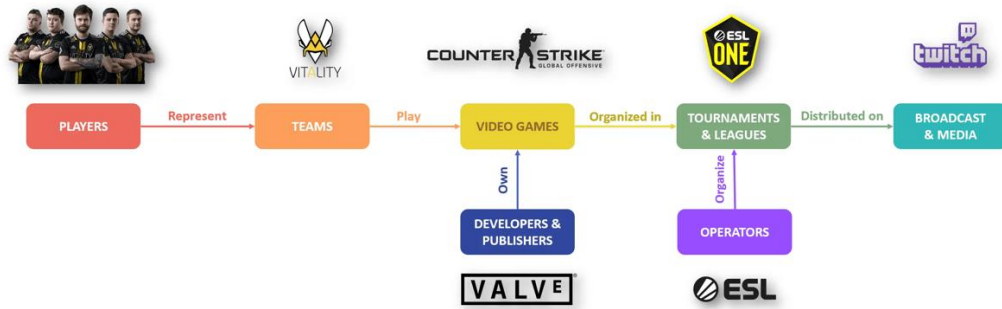
acknowledging the possibility of arranging tournaments around dungeon speedruns, the developer let users take the leading role in organising such competitions, in which anyone can participate (hence, eliminating the professionalising stance typical of other esports titles). Guilds, as organised groups of WoW players are called, swiftly became gatekeepers and rule-makers, without Blizzard protesting, albeit the terrific streaming figures (up to 250'000; McMillan, 2018).

Game publishers might ignore a competitive scene because they lack the funds or interest in transforming it into an esports scene. For example, they often miss the technical team needed to keep the title up to date and smooth, as pro players require. However, this strategy may also help outsource ideas, drawing on the community to identify what works better to keep players engaged, which is ultimately the primary focus of any publisher (Scholz, 2019).

Laissez-faire

On the same side of the spectrum, we can find the laissez-faire strategy, which Tobias Scholz (2019) framed as (slightly) more proactive than simply ignoring the competitive dimension.

This strategy is exemplified by the already tapped publisher Valve, which is backing one of the longest-standing shooter games in the esports landscape, Counter-Strike (Valve, 2000). As I mentioned, this game was born as a mod, i.e., a fan-based expansion of Valve's original title Half-Life (Valve, 1998), but was later repurchased by the publisher and became one of its most compelling hits. Offering a versatile, competitive style that influenced many subsequent team-based shooter games, CS evolved over time and alongside new technologies, benefiting from both modders' add-ons and official patches. Most importantly, a thriving gaming community coalesced around the title, utilising it either as a platform to produce content (e.g., frag movies) or as the selected game to form a team on, with which to compete in all-level competitions. Valve did not ignore the scene, but neither enforced too many regulations nor implemented tournament schemes: by letting everybody potentially participate and create a tournament, the publisher reinforced the role of users and strengthened collaborations with other stakeholders (see Fig. 5 for a summary of Valve's prototypical "decentralised" tournament organisation).



THE ESPORTS ECOSYSTEM

DECENTRALIZED TOURNAMENT MODEL

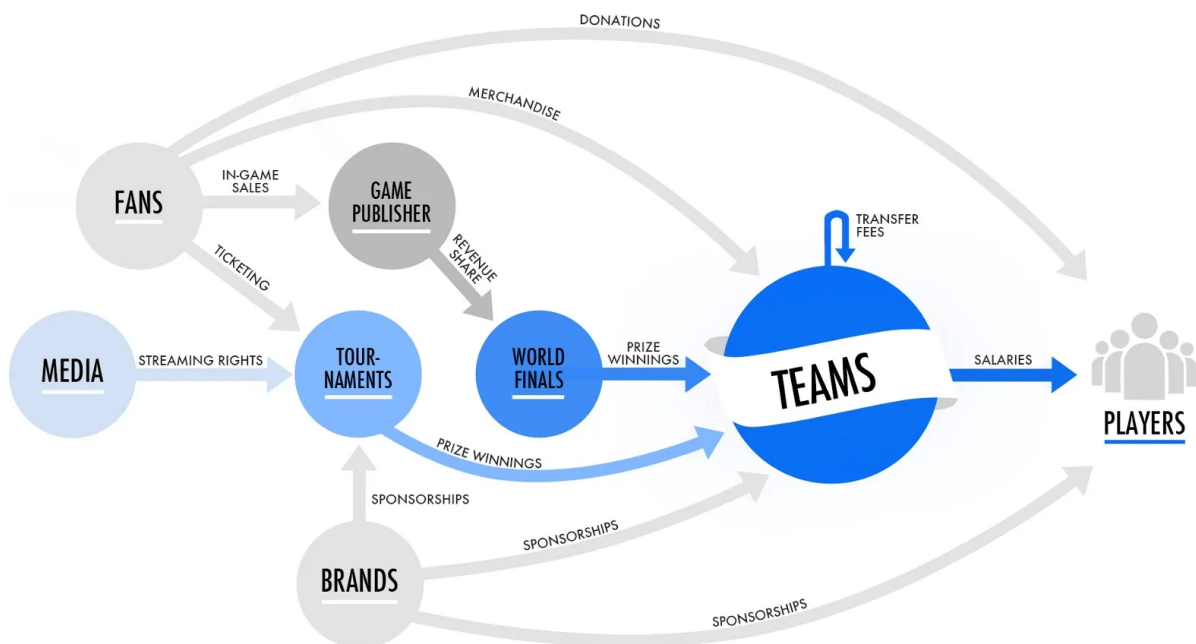


Fig. 5. The two graphics summarise the decentralised model adopted by Valve. The first takes CS as an example and outlines the core actors involved in a tournament or league, namely: players, who gather in teams, which play collectively the publisher's product, which is used by external organisers (i.e., ESL) inside tournaments, broadcasted on one of the major streaming platforms (Twitch). The image below, instead, generalises such a model and highlights the money flows connecting the actors involved in this kind of ecosystem: for example, it becomes clear how publishers and tournament organisers work in parallel and, both of them, contribute to the wealth of esports orgs (a.k.a., teams) through prize winnings and revenue share. (both graphs are taken from Besombes (2024)).

By supporting all those meeting the minimum requirements to host a tournament, Valve demonstrated its title's viability for small- to large-sized events. In particular, CS

became a mainstay in local-level tournaments, a role many other famous titles lack, and it helped progressively build a steady, loyal base of teams and players. In the meantime, Valve continues to perform its primary task as the game's technical maintainer, keeping it updated and fuelled with new content for gamers' enjoyment. Moreover, the publishers sought to establish a top-level series of tournaments, the Major Championship, capped by massive prize pools (up to \$1 million in 2018; Scholz, 2019). Yet, Valve is not the Major Championship organiser, but it allows any organisation to apply for the role. Independent firms, such as FACEIT and ESL, have embarked on this journey over the years.

Summing up, this strategy led to robust self-organisation of the scene and autonomous minimisation of internal competition among organisers, allowing the audience to choose from a range of content and event options. The stability and fan-centred flavour of CS competitions also led players to unionise, affirming their professional rights. Valve maintained its role as the "invisible hand," silently intervening to keep the game enjoyable and to block misuse of its product, without directly enforcing rules or taking the stage in place of the community, which remained grateful and loyal to the publisher. A honeymoon between stakeholders that may have broken in 2023, when the last iteration of the game, CS2, surprisingly came out amid a European split (of the prominent championships): Valve's demand to immediately shift to the new title for official competitions led to a fracture between the stakeholders, with some leagues organisers adhering to the publisher's directives and other keeping their autonomy and deciding to finish the season on the previous title (CS:GO).

Even so, Valve appears to stick to a laissez-faire strategy in its other blockbuster-related scene: in DOTA 2 (Valve, 2013), the publisher became proactive only when enforcing The International tournament. This may be justified by the smaller and less loyal fan base of the latter game (Scholz, 2019), as it must compete for audience against the esports behemoth League of Legends (LoL) (Riot, 2009).

Fate of the niche

A publisher that took a step further in intervening in its competitive scene is Activision Blizzard, a conglomerate uniting one of the oldest and most respected esports developers (Blizzard) and a global publishing powerhouse (Activision). After years of missing out on profits from one of its best-selling titles, StarCraft (Blizzard Entertainment, 1998) – ultimately the title behind South Korea's rise to dominance in

the field – Activision decided to take the lead on its competitive titles (e.g., Call of Duty; Activision, 2003). Even though most of its titles are not global phenomena, Activision might have found an economically sustainable strategy in letting its games carve out a niche, either geographically (e.g., the Asian markets with StarCraft) or type-related (e.g., card games with Hearthstone; Blizzard Entertainment, 2014). This does not mean that this publisher is satisfied with this demotion to small-sized titles, as Activision tried many times to desperately escape the niche (Rizzo, 2018; Scholz, 2019). However, from a business perspective, it represents a viable and safe pathway to secure a steady flow of income with relatively moderate effort.

Indeed, the StarCraft history demonstrated to Activision Blizzard that enforcing regulations on its competitive scene runs the risk of downward spiralling: after boosting the scene with huge investments, the publisher saw the tournament landscape lose interest and collapse under the dominance of South Koreans, who were the original community behind the title and who remained loyal to their passion after the momentary global hype (Partin, 2018; Scholz, 2019). Neither region lock nor other business strategies, such as making the title free-to-play, succeeded in diversifying its audience or launching the game outside the niche.

However, this fate granted Activision Blizzard a stable target audience (Asia) and, conversely, made StarCraft a perfect “filler” for multi-game tournaments, as it grants a small but loyal fan base to pop up when organised. As summarised by Michal Blicharz, vice president of programming at ESL:

“StarCraft II works better at events where it’s not alone. It’s just a perfect blend of everything.” (Blicharz, as quoted in Partin, 2018)

Activision subsequently became proficient at carving out a niche for its games, as exemplified by its cost-effective management of Hearthstone’s and Call of Duty’s competitive landscapes (Blizzard Entertainment, 2014; Activision, 2003). All these titles may not have a big audience, but they are sustainable and profitable: most importantly, they have shown the ability to survive esports crises, something that overregulated titles like Overwatch (OW; Blizzard Entertainment, 2016) may not achieve long-term.

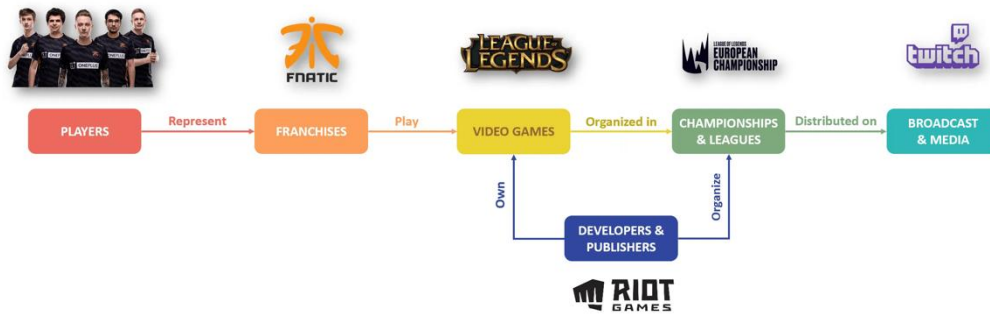
The high risk of failure seems related to the investments needed to gain momentum and, most of all, sustain it enough to build a loyal audience (Scholz, 2019). If giant publishers like Activision struggle, embracing a niche might work well for newcomers

or smaller developers, especially in an ever-growing market like esports (Scholz, 2019).

Regulating

Nonetheless, some publishers succeeded in efficaciously regulating their title-tied landscape, leading to a top-down organisation that granted them a more prominent gatekeeping role.

This is the case of the pinnacle of esports games, League of Legends (Riot, 2009). Riot, the developing and publishing company behind LoL, not only creates new content and fixes bugs but also controls how and what tournaments are played, taking care of details such as players' minimum wage and directly organising the majors (see Fig. 6 for the “centralised” model outline).



THE ESPORTS ECOSYSTEM CENTRAL LEAGUE MODEL

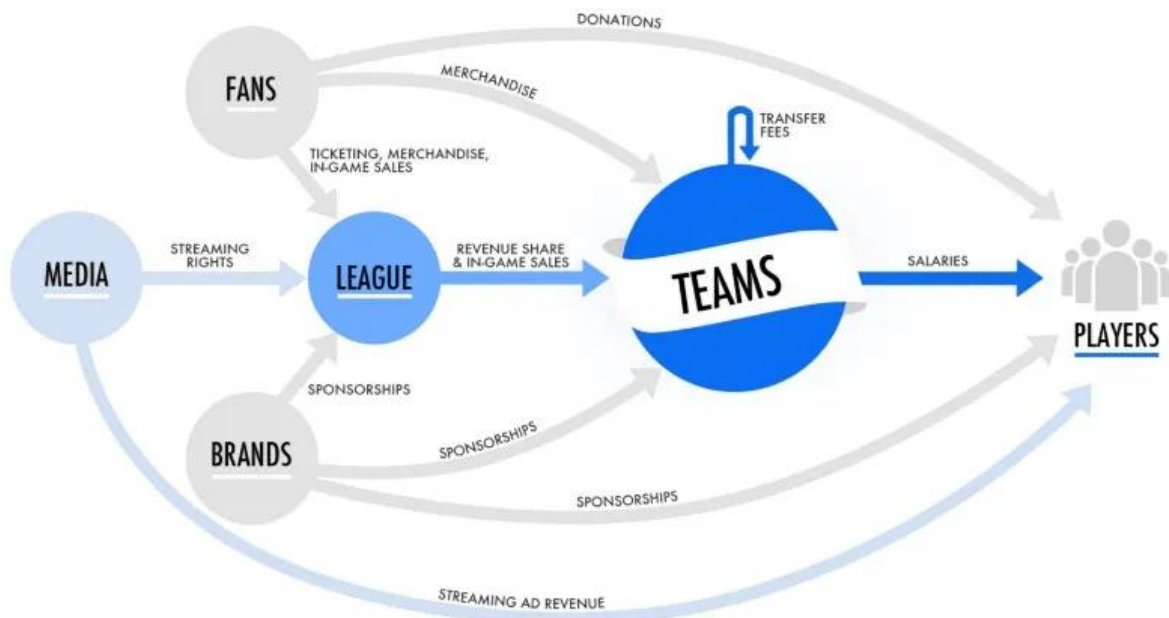


Fig. 6. A summary of the “central league” model adopted by Riot. The first picture takes LoL as an example and outlines the core actors involved in a tournament or league, which reflects those in Fig. 5 but lacks the organising stakeholder: here, instead, is the publisher taking directly the effort of arranging official events (e.g., EMEA); the rest of the chained actors, as can be seen, remains the same (i.e., players, teams, game, publisher, broadcasting channels). The image below, instead, generalises such a model and highlights the money flows connecting the actors involved in this kind of ecosystem: most importantly, it can be seen how the league, which corresponds to the publisher here, directly receives sponsorships and fans’ money, which is then redistributed (unequally) to teams participating in leagues. As a side note, players in both models (see Fig. 5) often remain at the “end” of the value chain, frequently receiving the last crumbs of the industry’s economic revenues. (both graphs are taken from Besombes (2024)).

The massive success of LoL might suggest that this strategy is the best. Still, it was not until Riot adopted a franchise-style model for local leagues that it took the global lead. This way, the publisher secured the commitment of participating teams and tournament organisers to adhere to its rules, binding them through highly priced slots and revenue-sharing arrangements.

However, such a strategy has not yet faced a severe crisis, and only time will tell whether it can withstand major shocks. First insights on the recent “esports winter” (Frizby, 2024; J. Kelly & Fragen, 2022; Maas, 2023), indeed, that the high degree of rigidity associated with this centralised control might undermine the ability to adapt to community requests and market fluctuations. For sure, Riot's natural shift toward a more centralised governance granted short-term profitability; on the other hand, more community-centred landscapes, as the European one (Volkov, 2020), already displayed discomfort with their loss of power, and will certainly react negatively to downsizing imposed by top-down business reasons, as happened historically with other titles (T. L. Taylor, 2012).

Overregulating

The risks of losing one's game audience's loyalty are exemplified by OW's overregulated scene, which is again part of Activision Blizzard's portfolio.

The publisher controls every aspect of the professional environment through its proprietary Overwatch League (OWL) system, which is based on a unique form of franchising: in OWL, organisers (or teams) can purchase a distinct region, thereby directly owning the entire local competitive landscape. This led to weird situations where, for example, a visiting team, London Spitfire, was denied a meet-and-greet session in Seoul by local OWL owners, Seoul Dynasty (Fitch, 2018; as cited in Scholz, 2019). This goes dramatically against the freedom and boundlessness widely deemed vital esports features, for which gaming communities have often praised, and that OWL systematically seems to break.

Another example is its tier system, which leaves no space for promotion outside of financial means – i.e., buying a slot in the top-tier league. A structure that directly impacts pro players' careers, as they desperately fight to be selected among top-level teams to achieve financial stability. In the meantime, players in lower leagues are in surplus and opt for going free agents in the hope of being picked up: if not, “there will be no trouble in finding a new [low-tier] team to join” (Carpenter, 2018a). Hence, low-

tier teams fail to function as talent hubs, as their interest do not align with those of other stakeholders in the system (Scholz, 2019). A demotion of lower leagues worsened through recent downsizing measures applied by Activision, which chaotically tried to mend its faulty organisation by chasing the most active local scenes (e.g., China; Scholz, 2019).

In addition to granting an extremely high profit, in the short term, to the publisher, the overregulating strategy (see Fig. 7) displays the problems arising when trying to apply traditional sports models to esports uncritically, as Activision tried to do by imitating the NCAA-like structure with Overwatch lower leagues (Scholz, 2019; Svensson & Pargman, 2024).

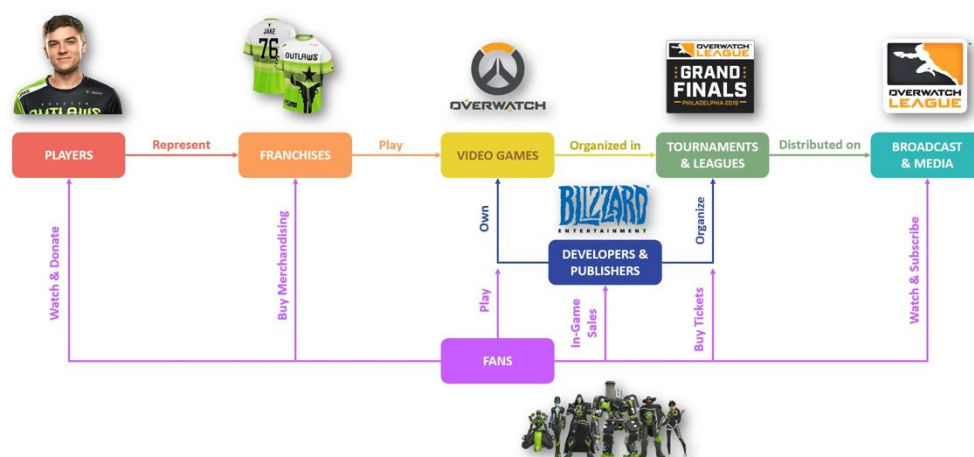


Fig. 7. A visual summary of Activision Blizzard’s organisation of the esports scene with OW. As can be seen, core stakeholders, such as teams, leave space for “franchises,” which represent the organisations owning local iterations of the leagues. These middle actors adhere to regulations issued by the publisher, which also organises events, sets the broadcasting agenda, and thoroughly supervises all economic flows in the ecosystem. As this image brilliantly conveys, the entire value chain appears designed to extract money from fans (i.e., the community) and investors, ultimately benefiting the publisher. (taken from Besombes, 2024)

Despite some interesting varsity (e)sports declarations (Keiper et al., 2017), it might be too early for esports to transition to highly structured, multi-level league systems with centralised operators. Moreover, the question of how the community would take such centralisation remains open (Svensson & Pargman, 2024; T. L. Taylor, 2012). On the other hand, the local freedom afforded by overregulation strategies such as OWL

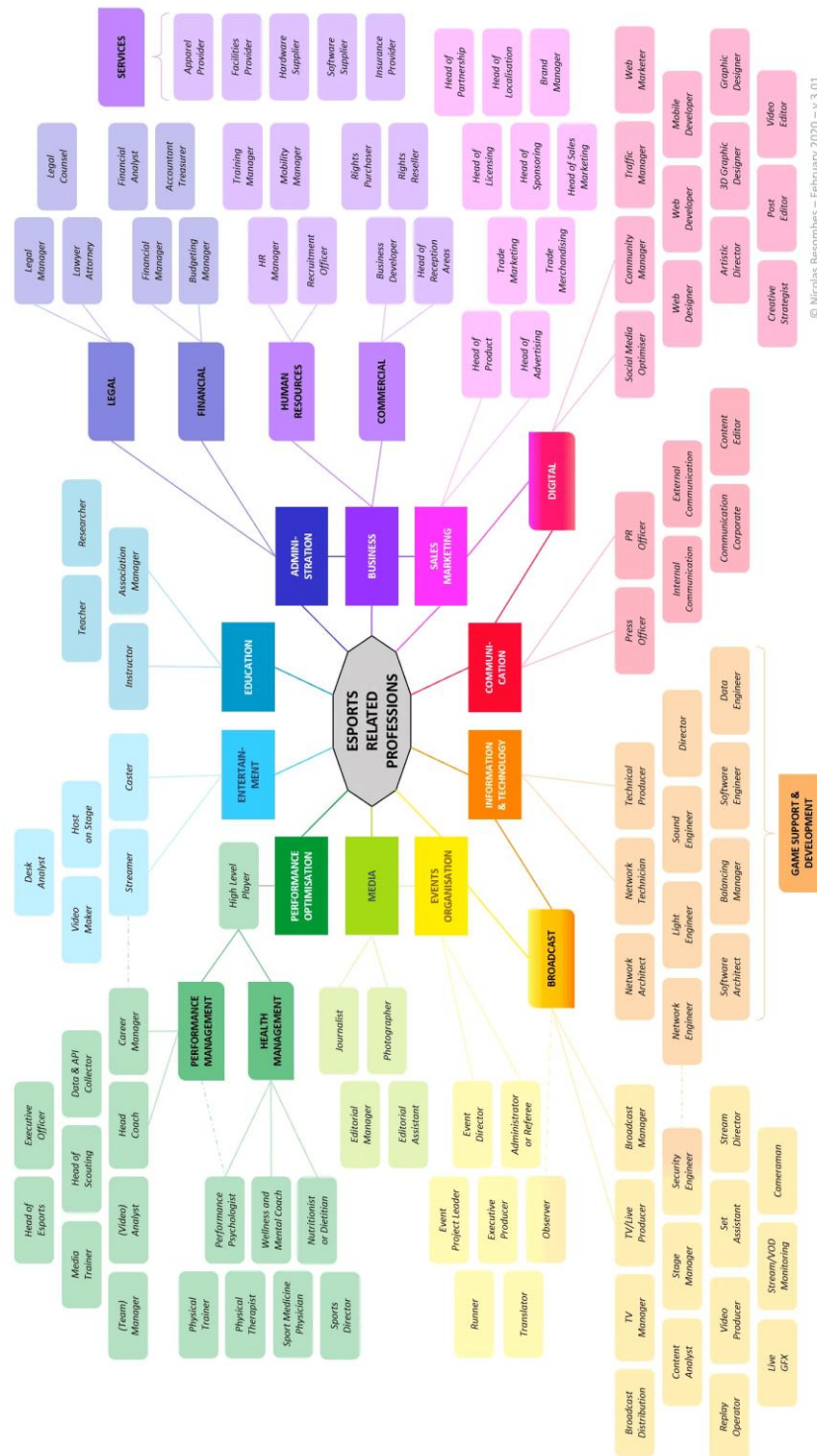
may foster organisers' and teams' local power, thereby boosting local interaction (Scholz, 2019).

To conclude, a multitude of different approaches exist to address the role of publisher/developer, ranging from strict gatekeeping to laissez-faire attitudes, and every shade in between. However, our examples demonstrated that many stakeholders shift among different styles, trying diverse strategies to secure profits from a competitive audience. In the long run, no recipe is a proven magic bullet for granting profit and stability: some publishers have become proficient in navigating market fluctuations and remain powerful agents in the ecosystem, namely Riot and Valve; at the same time, others have struggled to find their place and still require substantial investments or revenues from side industries to survive, such as Activision Blizzard.

3.1.2. Users

The second core stakeholder, on widespread consensus, comprises those directly involved with publishers' products, i.e., game users.

Here, I voluntarily chose the term “users” instead of depicting a specific stakeholder role for two main reasons: first, it makes explicit how nearly all individuals involved in esports take part in the community, i.e., they are avid and passionate gamers; secondly, I wanted to convey how many professional roles are available in the ecosystem, either in the “front line” of teams and pro players or in the “backstage” of organising, broadcasting, and streaming, to give some examples (for an overview, see Fig. 8).



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Fig. 8. A summary of available professional roles in the esports ecosystem. Although many of these require substantial training (e.g., Sport Medicine Physician), most of the positions are filled by avid amateurs who draw on their “out-of-game” experience to find a place within the esports ecosystem. Notably, many of these roles are filled by former professional players who reinvent themselves after their brief competitive careers, allowing them to remain part of the network and utilise their in-game experience effectively. (taken from Besombes, 2024; see also Jenny et al., 2021)

Pro players and streamers

Professional gamers are the first user role that comes to mind when considering the esports ecosystem, since they are the stars around whom the scene has been born, grown, and turned into a proper industry (Carrillo Vera & Antón, 2024; Scholz, 2019). Pro players need to commit almost exclusively to a game in order to reach peak performance, as stepping up from recreational gamers is not as easy as it seems: the working shifts may arrive up to 10-12 hours per day of training and reviewing, getting to know every single game mechanic from simply playing it (Abbott et al., 2022; AFP, 2019; Jurkic, 2019; Nagorsky & Wiemeyer, 2020). Moreover, age is a vital issue for the field, since both insiders and researchers agree that the peak of gamers' careers is reached around 20; this means that most players engage in professional gaming while still in their teenage years, often letting aside education to try to get the most from their first (and only, maybe) years in the industry (Jenny et al., 2017; M. R. Johnson & Woodcock, 2021; Scholz, 2019).

If in the early days, most of these gamers were “lone heroes” (e.g., Jonathan “Fatal1ty” Wendel) fighting their way to success in single-player titles (e.g., Quake; id Software, 1996), the field's evolution towards multiplayer-style competitions has led players to professionalise into teams (e.g., SK Gaming) or other organised forms (e.g., clans). This transition prompted the evolution from autonomously sponsored players to a more intricate structure, with the establishment of professional clubs (Carrillo Vera & Antón, 2024). A structuration that mimics traditional sports, with a professional layer of players detaching from casual or amateur ones in terms of approach, hours, abilities, and salary attached to their gaming performance (Bányai et al., 2020; Bayliss, 2016; Bihari & Pattanaik, 2023; Boldi et al., 2022; Bubna et al., 2023; Pluss et al., 2022).

Even though collegiate esports are currently deemed as a viable solution to extend players' careers and let them focus on out-of-the-game schooling (Jenny et al., 2021; Keiper et al., 2017), there are several issues that hinder a sufficient competitive lifecycle to make pro players a stable professional role: first and foremost, the high abundance of amateurs wishing to step into the ecosystem devalues the bargaining power of professional gamers (Bayliss, 2016; Scholz, 2019), who are also left alone and unprepared to self-manage their esports career (T. L. Taylor, 2012). This scenario, made from relentless flows of new, young, and low-paid talents, matched with a wild west of unregulated contracts and unequal distribution of wealth, not only undermines

the contractual power of pro players, but also puts them into a decidedly fragile situation in which the competition between gamers is made harsher and harsher as the game become popular – which ironically is also the way through which players can hope to get the sponsorship needed to integrate their salary and grant a living (M. R. Johnson & Woodcock, 2021).

Indeed, money is a crucial issue for the field, as economic stability and the systematisation of contracts are far from being achieved: the lack of health insurance, pension plans, and collective rights are just some of the elements that players must struggle with (Holden & Baker, 2019; Scholz, 2019). If the standard of some leagues barely skirts a sustainable living wage (e.g., Italian LoL scene), other tiers tried to enforce minimum salaries (e.g., OW was set to \$50,000 per year; Nanzer, 2018). At the same time, a superstar like Lee “Faker” Sang-hyeok – considered the best player ever in LoL – reportedly earns \$2 million in yearly salary, with offers of up to \$10 million and a total income, counting both sponsorships, winnings, and streaming, that reach \$4.6 million per year, as claimed by the former StarCraft player Hong “YellOw” Jin-Ho (Çakır & Tsiaoussidis, 2023; Scholz, 2019). Of course, Faker represents an outlier, both in terms of fame and salary achieved, but makes the perfect example of the earning inconsistency of the field – and even its hyperboles, as suggested by Johnson and Woodcock (2021).

Some years ago, Tobias Scholz (2019) reported that, on average, pro players rely on salary and, sometimes, sponsorship for up to 50% of their income, 25% on prize money, and around 30% on streaming revenue. The situation might have reversed now, since content creation – i.e., which includes but is not limited to streaming – has risen as one of the most lucrative and aspirational career paths, also outside gaming (Fraser et al., 2019; Hesmondhalgh, 2010; Kaye et al., 2022; McRobbie, 2018). Streaming might not only bring in astonishing figures (Tyler “Ninja” Blevins supposedly makes around \$500'000 per month; Booker, 2018), but also serve as a relief for those uncomfortable with the highly demanding atmosphere of competitive gaming (Madden & Hartevelde, 2021). Still, many pro players maintain an active online profile during their competitive careers, aiming to integrate winnings with streaming income (and maybe gain some fame) and to build an after-retirement plan to stay in esports (Carrillo Vera & Antón, 2024; Scholz, 2019). A situation that allows some streamers to bargain for higher salaries, due to the visibility they can bring to teams signing them, as well as dangerous situations where they are constantly put on stage by their endless

streaming, training, and competing sessions (Hood, 2018; Jurkic, 2019; Monteiro Pereira et al., 2022).

In general, esports displays a high risk of burnout (Melodia et al., 2020; Poulus et al., 2022), which is tightly related to a peculiar attitude diffused in the field: playbour (Foxman, 2021; Kücklich, 2005). This crisis of “play” and “labour” signals a unique tendency in contemporary digital landscapes, where many aspiring professionals blur the separation between work and leisure (T. L. Taylor, 2012). Gaming not only represents an alternative to work, but a hybrid that playfully takes together the possibility of making a living with the joyfulness of pursuing one’s own inclinations (Abend et al., 2021; Castronova, 2006), mimicking what is happening with contemporary Neo-Craft cultures (Brock & Fraser, 2018; Gandini et al., 2025). If this makes every part of a player’s (short) lifecycle geared toward becoming a professional and mastering the game, making esports an extreme instance of work-life blending, the streaming industry does not distance itself so much from the case (T. L. Taylor, 2018; Woodcock & Johnson, 2019b).

In conclusion, players and streamers are core elements, without which no esports scene would exist. However, structural and industrial features make this stakeholder an extremely fragile one, who often yields under the weight of the ecosystem’s crookedness and dyscrasias (M. R. Johnson & Woodcock, 2021; Scholz, 2019). This is why many gamers try to relocate themselves inside the esports ecosystem, exploring alternative roles in the industry. As happens with traditional sports, the brief time frame in which players can compete makes alternative careers particularly salient, as not all players are able to take up these roles and take advantage of the exceptionally high skills developed during competing (Smithies et al., 2020; Witkowski & Manning, 2019).

Supporting roles, entrepreneurs, and content creators

Available alternatives range from team staff roles (e.g., coach, manager, analyst) to side-industry jobs (e.g., event organiser, broadcaster, content creator). Many of these positions require a high level of training (e.g., Sports Psychologist) and, simultaneously, a deep knowledge of how gaming works, both in terms of in-game mechanics and ecosystemic functioning (Scholz, 2019; T. L. Taylor, 2012).

In a scenario where professional careers must pay off to avoid being seen as a waste of time, it is (still) often a matter of luck to find a stable job in esports (Scholz, 2019).

Nevertheless, prominent actors have proven able to explore innovative pathways, as exemplified by Matthew “NaDeSHoT” Haag, founder of the org 100 Thieves, who has evolved it into a lifestyle brand (Carrillo Vera & Antón, 2024). Alternatively, one can choose to remain in the field “sideways,” that is, covering side-jobs that build up to the global strategies of the esports ecosystem. More specifically, I am referring to individual actors that “accompany” the competitive dimension made by pro players: roles such as “casters” (or “shoutcasters,” i.e., live commentators), (freelance) journalists, community admins, moderators, and the like. These profiles often form part of the network since early days, being widely ingrained within gamer culture (Dovey & Kennedy, 2006). Definitely based on a “prosumer” posture, i.e., blending “consumer” and “producer” roles (Fuchs, 2014; Ritzer & Jurgenson, 2010; Toffler, 1980), content creation represents a middle actor between players and viewers, who too often are relegated to the passive spectrum of the ecosystem (Carrillo Vera & Antón, 2024; Sjöblom & Hamari, 2017).

Research in the field, however, has demonstrated how esports fans are also actively and directly supporting their favourite players (e.g., through streaming subscriptions) and teams (e.g., buying merchandise). Indeed, the esports audience represents a unique example of a highly engaged community, with users keeping links also with organisational stakeholders: an element that binds the ecosystem together, creating that sense of belonging and sharedness that lies under the birth and resistance of the esports culture (Steinkuehler, 2005; Young, 2021). Hence, models positioning fans and viewers at the end of the long chain of individuals involved in esports are undoubtedly right, as they are the end consumers of esports titles and content; at the same time, they materially fuel the majority of other roles through their unwavering dedication (and economic support). Ultimately, this is what keeps the ecosystem (economically) afloat, as the interest and passion that users – from end ones to semi-professional – put in the industry is what appeals also those (non-)endemic investors looking for young, loyal user bases (Carrillo Vera & Antón, 2024; Scholz, 2019).

3.1.3. Organisational agents

The last category of agents that form the heart of the esports ecosystem comprises the core organisational actors, without whom competitive gaming would not function as it does. Once again, I decided on a label encompassing a variety of organisational

bodies to summarise the structured social systems that pursue specific goals within the esports landscape. In this category, we will find groups of users – i.e., teams and esports organisations – as well as other industrial actors – e.g., event organisers and other crucial esports providers.

From teams to orgs

Continuing the discussion initiated with pro players, we must acknowledge how esports competitions have historically evolved toward team-based playstyles, forcing a transition from individual stakeholders (i.e., stars of single-player games) to collective bodies participating as a whole: in other words, teams (Scholz, 2019; T. L. Taylor, 2012).

If some authors trace back teams' organisational flavour to other, more informally structured groups of actors (i.e., clans and guilds; Scholz, 2019; T. L. Taylor, 2012), the current configuration of these groups of players resembles more that of traditional sports teams than that of a large, loosely coupled group of gamers: contracts are spreading as the best practice, as well as professionalisation in both teams' support and management (Carrillo Vera & Antón, 2024; Scholz, 2019; Svensson & Pargman, 2024). Nevertheless, amateur teams remain a fundamental component of the ecosystem, as they serve as the foundation from which professionalised teams develop their talent. In other words, the amateur level functions, as explained by Johnson and Woodcock (2021), both as a peculiar feature of the field, sustaining the dream that everyone could become a pro, and as a “dumping” mechanism, undermining contracted players' bargaining power and professional lifecycle. For the authors, this continued flow of talented youngsters is what makes the esports ecosystem both sustainable and exploitative (M. R. Johnson & Woodcock, 2021).

The thriving but unregulated scenario in which esports evolved forced teams and clans to find ways to survive (B. Yu, 2021), which prompted such groups not only to look at (non-)endemic sponsorships (to pay players and staff) and recruitment strategies (to secure a continuous flow of talented gamers, either as players or staff) but also to transition toward another emerging economy to achieve viability: content creation. This way, teams transitioned from mere “containers” of players to what Carrillo Vera and Antón described as “huge multimedia companies or agencies expanding their boundaries and components well beyond the strict esports competition orientation” (Carrillo Vera & Antón, 2024, p. 34). As the industry matured, more sophisticated

organisational structures emerged, prompting esports organisations to develop their own legal and business frameworks (Holden et al., 2017; Scholz, 2019; Zetino, 2020). In fact, esports organisations exist in a legal limbo (in most Countries) that permits them to emulate a manifold of other firm models: digital companies, event management firms, communication and talent agencies, traditional sports clubs, and so on (Carrillo Vera & Antón, 2024; Svensson & Pargman, 2024). Such absence of regulation also allows esports organisations to adapt their business models, focusing on what offers them greater opportunities to achieve economic sustainability and income (Carrillo Vera & Antón, 2024; Scholz, 2019).

This makes it sometimes challenging to identify a single archetype that describes the function of esports organisations, as they both share similarities with other organisational actors and may differ significantly from one another (Carrillo Vera & Antón, 2024; Scholz, 2019). Additionally, most organisations invest in multiple ventures, sustaining at once a multitude of teams, single players, and creators under the same moniker (Scholz et al., 2021; Svensson & Pargman, 2024; Werder, 2022). Tobias Scholz (2019) helps us disentangle this complicated scenario by describing a four-tiered generational layer (see Fig. 9).

	North America	Europe	South Korea	China
Up to 2000	Evil Geniuses	SK Gaming	KT Rolster	
2004–2005	CompLexity	Fnatic	SK Telecom T1	Team WE
2009–2011	Cloud9	Na’Vi	Jin Air Green Wings	Invictus Gaming
From 2015	Echo Fox	BIG	Gen.G	Royal Never Give Up

Fig. 9. Example of teams according to founding time and region. (taken from Scholz, 2019)

The examples brought by Scholz (2019) give us a sense of why the industry is evolving away from a stable organisational form, as it shows how earlier organisations survived the extremely high fluctuation of esports teams to become the industry’s powerhouses by focusing only on a two-fold strategy: finding sponsorships and keeping the business up through winnings and (top) players’ monetisation (i.e., relying on merchandise and content). This involves striking a balance between short-term dynamics (e.g., significant team roster churn) and long-term profitability, while pursuing both business consolidation and diversification by leveraging strong teams alongside online celebrities (Scholz, 2019). Teams like SK Gaming, founded in 1997, were beacons for

the age of esports, able to sustain their changing teams through the sociotechnical evolution of gaming as they found a way to take advantage of their supporting community and fame obtained through the years to attract sponsorships and remain in the field (Scholz, 2019). Their ability to survive this industry's volatility was both a testament to the sustainability of this emerging ecosystem and an indicator of the importance of retaining the best players, while identifying and training new talents.

However, it was the second generation that gave birth to some of the most successful organisations, as these late arrivals seem to be more focused on long-term profitability (Scholz, 2019). Two examples, here, display how this aim could be achieved differently: on the one hand, orgs like Fnatic (2004) pursued economic survivability through independence, detaching gradually from external investors and monetising their brand through merchandise (e.g., their 2015 debut in branded gaming peripherals) and side-business activities (e.g., their London-based store and watch party hub). On the other hand, orgs like T1 (2002)² focused on building long-lasting partnerships with either endemic or non-endemic sponsoring firms – to the point of some of these firms even buying the team, as SK Telecom did. This fuelled the field with money and hype, especially because sponsoring companies saw their figures steeply rise among younger generations and online audiences (Scholz, 2019).

The third generation, though, took advantage of Twitch's massive and unexpected surge to achieve numbers never before seen. The considerable expansion of popularity granted by video-sharing media, combined with their innovative monetisation strategies, brought esports directly into the platform economy (Burroughs & Rama, 2015; Srnicek, 2017). Not surprisingly, teams like Cloud9 capitalised on the moment, rapidly building a strong track record of success and generating steady revenue from sponsorships, merchandise, and their online presence. This generation also benefited from the emergence of League of Legends (Riot, 2009), which quickly became the pinnacle of esports and one of the most renowned titles ever (Agha, 2015; Ferrari, 2013). The smooth compatibility of this title with streaming technologies (e.g., internal automated clip-making tools) further prompted the growth of esports organisations investing in platform-related business

² Formerly known as SK Telecom T1 (from its main sponsor since 2004), its founder, Lim "BoxeR" Yo-hwan, originally named it Team Orion and, in 2003, 4 Union. Nowadays, it is a joint venture of the South Korean communication operator SK Telecom and the US-based entertainment company Comcast Spectacor.

strategies, while also bringing players' supporting staff to include agent managers and marketing specialists (M. R. Johnson et al., 2019; Scholz, 2019).

The mixture of maturity and new market opportunities, represented respectively by earlier teams and more recent media-focused organisations, boosted the hype for the industry among external stakeholders, which poured into esports either by joining existing organisations (through sponsoring or acquisition) or by creating new teams, as some traditional sports organisations and players did (e.g., FC Schalke 04 and Agüero's KRÜ Esports). The resulting scenario was a fragmentation of existing business models, as external stakeholders pursued different aims when entering the field – e.g., venture capitalists behind Immortals sought to maximise earnings, while orgs like Gullit Esports were more dedicated to the community (Scholz, 2019).

Nevertheless, some authors spotted in this hype bubble a risk of overflowing the field with investments, especially because most of the money poured into esports in the fourth generation of teams is coming from non-endemic stakeholders: this brings organisations to loosen their ties with the original esports community, which instead was what made esports survive throughout its previous crises (Scholz, 2019; T. L. Taylor, 2012). Indeed, this detachment from the user base proved deadly to many organisations when the last “esports winter” arrived (Frizby, 2024; Maas, 2023), making most fragile organisations close or undergo severe layoffs (Carpenter, 2018b). Moreover, some teams openly stated that such a surge in investments led them to abandon their focus on sustainability and long-term vision, as they achieved viability despite business models that were far from profitable (Cocke, 2018).

As stated by Tobias Scholz (2019), based on insider insights, the influx of capital appears to have led professional teams to disregard the importance of a solid business model and sustainable growth. A scenario made even harsher by the steep increase in participation fees and players' salaries, for example, in LoL franchise leagues, where teams like H2K Gaming (2003-2018) stated that they operated with annual losses of up to \$1 million (Scholz, 2019). Not surprisingly, some teams are seeking to please their investors by blindly launching themselves into new endeavours: OpTic Gaming (2006), for example, expanded to India in search of short-term growth, despite the country's notable lack of online and gaming infrastructure (and a loyal audience, too). If such comments highlight the current risks inside the esports ecosystem, the fourth generation also gave birth to visionary organisations like 100 Thieves (2017), which combined the strategic agility of older esports organisations (e.g., KT Rolster,

CompLexity, Na'Vi, etc.) with modernised business models and innovative market vision (e.g., Jenny et al., 2018).

Summing up, the steadier flows of resources are still sponsorship deals and event-related money (e.g., prize winnings and ticket revenues' sharing), on top of some alternative, but more individual, sources of income (e.g., streaming) and innovative business ventures (e.g., commercially focused organisations like the Spanish org, Team Heretics).

Tournament and event organisers

The second group of organisational stakeholders is “organisers,” which includes independent companies running tournaments and leagues for a wide variety of games (Carrillo Vera & Antón, 2024; Scholz, 2019). These may sometimes take the form of publishers directly involved in event administration or teams buying regional slots and administering the local leagues in place of other regulating bodies (Scholz, 2019). Nevertheless, organisers occupy a core position because of their ability to:

“influence, require services and products from, and connect with dozens of additional stakeholders and activities that are essential parts of the engine to produce and manage any kind of esports competition.” (Carrillo Vera & Antón, 2024, p. 35)

Historically, independent organisers have played a key role in driving the esports ecosystem, bridging the communities of gamers with publishers and other industry actors (Carrillo Vera & Antón, 2024; Scholz, 2019).

From the primordial arcade organisers, such as Twin Galaxies, the functions of organisers have shifted from scorekeeping to more complex organisational efforts, including administering local events and online leagues (Carrillo Vera & Antón, 2024; Scholz, 2019). This function was critical, as many publishers of the first esports titles neglected the competitive side of their products, as was the case with Blizzard's oversight of the StarCraft scene (Scholz, 2019). Hence, event organisers stood as the sole fillers of this gap, answering the competitive stance rising from the gamers' community and turning entertainment titles into (e)sports products by establishing the necessary rules and maintaining fair environments (Scholz, 2019; T. L. Taylor, 2012). Tournament operators kept their efforts despite the intimate and small audiences that characterised the first years, taking up the faith of visionary players who believed that,

someday, esports would become a global phenomenon: indeed, they were right, but surviving those critical moments was not easy, economically speaking (T. L. Taylor, 2012). Nevertheless, the importance of these stakeholders is evident in the fact that some of the most significant tournament organisers still exist today, such as the Cyberathlete Professional League (CPL), World Cyber Games (WCG), DreamHack (DH), and Deutsche Clan Liga (later becoming ESL)³. Even today, emerging titles still depend almost entirely on these independent organisers to boost their competitive scenes (Scholz, 2019). If well-established environments display an increasing expulsion of tournament organisers in favour of publishers – who consolidate their position by tying teams together through franchise-like tournament structures (Scholz, 2019) – most competitive landscapes still see a collaborative stance prevail, with developers and established organisers working together to promote sustainable growth. More structured landscapes indeed see competition spread not only between teams, but organisers too: in games like CS, for example, there are a bunch of tournament operators (e.g., Blast, ELEAGUE, ESL, FACEIT, PGL, StarSeries) available to the publisher (Valve), which picks the one that suits best its interests (and community's requests, hopefully). Even in-house leagues, as those of Activision Blizzard and Riot, benefited from this healthy and competitive environment among third-party organisers, since the former needed to acquire MLG (at the time, the most important organisers in North America) to create their OWL, whereas the latter collaborated for years with ESL before becoming independent (Scholz, 2019). Even when this collaboration is absent, tournament organisers may, in fact, regain power through a forced diversification of their service portfolio to achieve economic profitability (Scholz, 2019). Notably, many organisers became proficient at scouting new titles that could become competitive, or at identifying low-covered areas to invest in (e.g., mobile gaming; Scholz, 2019). Moreover, the appearance of streaming platforms allowed organisers to evolve their business model, concentrating, for example, on online audiences during “seasons,” or “splits,” and, instead, on arena-hosted competitions during live events, where they capitalise on the media following gathered through online outlets (Scholz, 2019; Sjöblom & Hamari, 2017).

³ Here we spot again a rooting in the “clan” culture of early online gaming (Nardi, 2010; T. L. Taylor, 2009a).

To sum up, the vital function of tournament organisers is to connect developers with their respective audiences and continue working to improve the interconnection between stakeholders – including secondary ones – as the ecosystem becomes increasingly complex (Carrillo Vera & Antón, 2024; Scholz, 2019). Indeed, a reliable and professional structure attracts more organisations and sponsors, drawn to the stability it can offer. This, in turn, strengthens operators' capabilities, knowledge, and competencies⁴, which further reinforces professionalism (Scholz, 2019).

Providers

Diversification and proficiency are also achieved through professional esports providers, which have often proven fundamental to the rest of the ecosystem by providing the tools other stakeholders need to perform their roles (e.g., supplying gaming hardware). Like third-party tournament operators, esports providers are not one-trick ponies, meaning that they can work with various titles and, most importantly, adapt to emerging and unexpected games (e.g., Battle Royales). Even though such versatility may weaken their power against the omnipotent enforcement of publishers, the esports ecosystem's historical volatility suggests this might be a vital feature for long-term survival (Scholz, 2019). Indeed, notable authors have described esports as not merely an industry with a few games, as it may appear at first sight, but rather an industry with an ever-increasing number of titles (Besombes, 2018; Scholz, 2019). Consequently, diversification strategies and a constant expansion of titles and partnerships enable these independent firms to create a sustainable business model within a volatile market, proactively anticipate new directions, and quickly adapt to the field's changes (Scholz, 2019).

Following Tobias Scholz (2019), esports providers are supporting the primary activities of esports – i.e., creating a game (publishers), playing (users), and making it a competitive feat (teams and organisers) – with necessary complements like taking care of the digital infrastructures and hardware needed to compete, both online and during events, or enabling community to participate more effectively to the scene – thus making the whole industry sustainable by broadening audience and monetisation (Scholz, 2019).

⁴ For a direct and deeper account of what it takes to proficiently organise a tournament, see the interview of Tobias Scholz with Chris Flato, Senior Communications Manager of ESL Global (Scholz, 2019, pp. 60–62).

Not all providers can be positioned at the heart of the ecosystem, since they may constitute only market partnerships and pertain to other professional fields. Leaving aside more maintenance-like jobs⁵, I frame as core enablers those organisations involved in more complex (and significant for the ecosystem) activities, such as operating a livestreaming platform on the scale of Twitch. Indeed, this firm is a prime example of this category, in addition to being one of the actors that have changed the ecosystem more dramatically (Burroughs & Rama, 2015; Sjöblom & Hamari, 2017). If in the early 2000s following (and participating in) matches required mostly exclusively a physical travel to the esports venue of choice (T. L. Taylor, 2012), the current livestreaming infrastructure is poised to reach an audience never seen before, floating around tens of millions of viewers (Esports Charts, 2025a; Newzoo, 2024). Twitch not only expanded the potential for streaming actors, as anyone can open an account and start streaming, but also opened new revenue streams, significantly contributing to making the ecosystem sustainable for other stakeholders (Burroughs & Rama, 2015; Carrillo Vera & Antón, 2024; Hölzle et al., 2022).

Currently, we can spot at least three stakeholders operating as content creators: 1) players, who employ streamed trainings and other social media to achieve popularity and grant themselves income from personal sponsorships and donors (M. R. Johnson et al., 2019; Kaytoue et al., 2012; Witkowski & Manning, 2019); 2) teams and organisations, who make the official matches available to their audiences and employ the derived data to expand their brand value (Gawrysiak et al., 2020; Richelieu, 2021; Seo, 2016); finally, 3) event organisers actively distribute their product on livestreaming platforms, also employing professional broadcasters to spur engagement and capitalise on the figures through spots, banners, and other advertising strategies (Jang et al., 2020, 2024; Jenny et al., 2018).

For a long time, Twitch was the sole provider of such a service, but today other firms have entered the market, either with variations of their own products (e.g., YouTube, Facebook) or as alternative platforms built explicitly for this purpose (e.g., Azubu, 2Watch). This creates competition and, consequently, a potential impetus to

⁵ Like setting up the cables needed to transform a bare exhibition ground into a streamlined esports arena. An example taken directly from my observational data, as I witnessed the preparation phase of one of the biggest Italian events (i.e., Napoli Comicon 2023) through joining the work of backstage operators setting up one of the main stages (i.e., Qlash Kingdom, the stage hosting LoL's Circuito Tormenta official matches).

continuously improve the viewing experience, as evidenced by existing research (Hamilton et al., 2014; Kriglstein et al., 2020).

Indeed, streaming providers have introduced novel revenue strategies over the years, both to “hook” audiences onto their platforms and to capitalise on joint ventures (e.g., with distributors like Steam or publishers like Activision; Gawrysiak et al., 2020; Roth et al., 2023). An example, in this sense, might be the “drop” system by Twitch, which rewards viewers with in-game objects or currency (see titles like OW, LoL, and Fortnite; Carrillo Vera & Antón, 2024). This might explain why livestreaming services are regarded, by both insiders and scholars, as one of the crucial actors of the esports ecosystem: although not strictly bound to the rest of the ecosystemic agents, they opened up innovative business pathways, granted worldwide coverage, and contributed to reaching massive figures (Hölzle et al., 2022; Newzoo, 2024; Scholz, 2019; T. L. Taylor, 2012). If this brought content platforms to share significant vested interests with esports, it also profoundly shaped it toward a sportainment phenomenon and global industry (Burroughs & Rama, 2015; M. R. Johnson et al., 2019; Scholz, 2019; T. L. Taylor, 2018).

Much more tied to the esports ecosystem, instead, we can find firms offering spaces for grassroots competitions, such as esports cafés and dedicated arenas (Jenny et al., 2018). Historically stemming from a mixture of LAN parties’ venues (Jansz & Martens, 2005; T. L. Taylor & Witkowski, 2010) and Korean PC bangs (Lee, 2007; Stewart & Choi, 2003), esports “hardwired” spaces are nowadays much more complex (N. Taylor, 2022), as they can range from training facilities (e.g., Sacco, 2019), to bar-like spots (e.g., MOBA Network, 2017), to multi-purpose buildings hosting a manifold of different activities. For example, the Italian Esports Palace comprises many gaming spaces alongside social areas, watch party theatres, and training spaces dedicated to the Samsung Morning Stars team (Samsung Newsroom Italia, 2018).

If esports scholars highlight the increasing economic potential of these spaces (e.g., Jenny et al., 2018), hardwiring spaces and setting up the gaming stations (and streaming infrastructures) needs an inescapable component: gaming hardware. Indeed, esports insiders have longly praised the virtues of having efficient hardware for competing at a professional level, let alone in official events (Kim et al., 2019; Watson & McNulty, 2023; Wong & Meng-Lewis, 2022). For this reason, hardware providers are essential both as enablers – facilitating the highest technical level possible for pro players – and as “collectors”, since they cash in on the employment

the esports industry provides for their products (Scholz, 2019). In fact, esports requires specialised equipment (internal hardware like GPUs, peripherals like high-DPI mice, etc.), which is often provided as tokenised sponsorship to teams and pro players (and also streamers). Companies like HyperX, SteelSeries, and Razer directly target competitive gamers, becoming popular and profitable brands among pro players and more casual gamers who fancy top-tier equipment (Scholz, 2019). Also more mainstream brands, such as Logitech and Intel, have established dedicated esports departments due to their long-standing participation in the field as endemic sponsors (Scholz, 2019). Similar to traditional sports companies (e.g., Nike), these companies have seen their figures rise due to notable players' use of branded hardware (Gurdus, 2018; Scholz, 2019). Consequently, sponsoring becomes a means of investing (and a route to higher returns) in research and development to create better equipment that enhances players' performance and, subsequently, introduces new products for the audience to purchase (Gawrysiak et al., 2020; Scholz, 2019).

Finally, community enablers are the last facet of esports providers to be mentioned: acting as fan cluster(er)s and fostering interaction between audiences and professionals, these enablers often rely on self-organisation and maintain the grassroots flavour of early esports days (Scholz, 2019). A salient example, here, is curiously coming from an esports organisation, Fnatic, which emerged as an extraordinary magnet for local esports audiences through their famous watch parties (or viewing parties; Fnatic, n.d.). This phenomenon became popular during the early days of the StarCraft scene, with BarCraft arising globally to follow online matches and often taking place in local cafés (see Fig. 10). As already mentioned, when dealing with spaces dedicated to esports, the thriving business of dedicated esports bars (e.g., Meltdown) is one of the rising side-markets for the field (Jenny et al., 2018), which seems to be increasingly interested in the material and physical side of the game (Apperley & Jayemane, 2012; H. Lin, 2008).

JP esports landscape March 2019

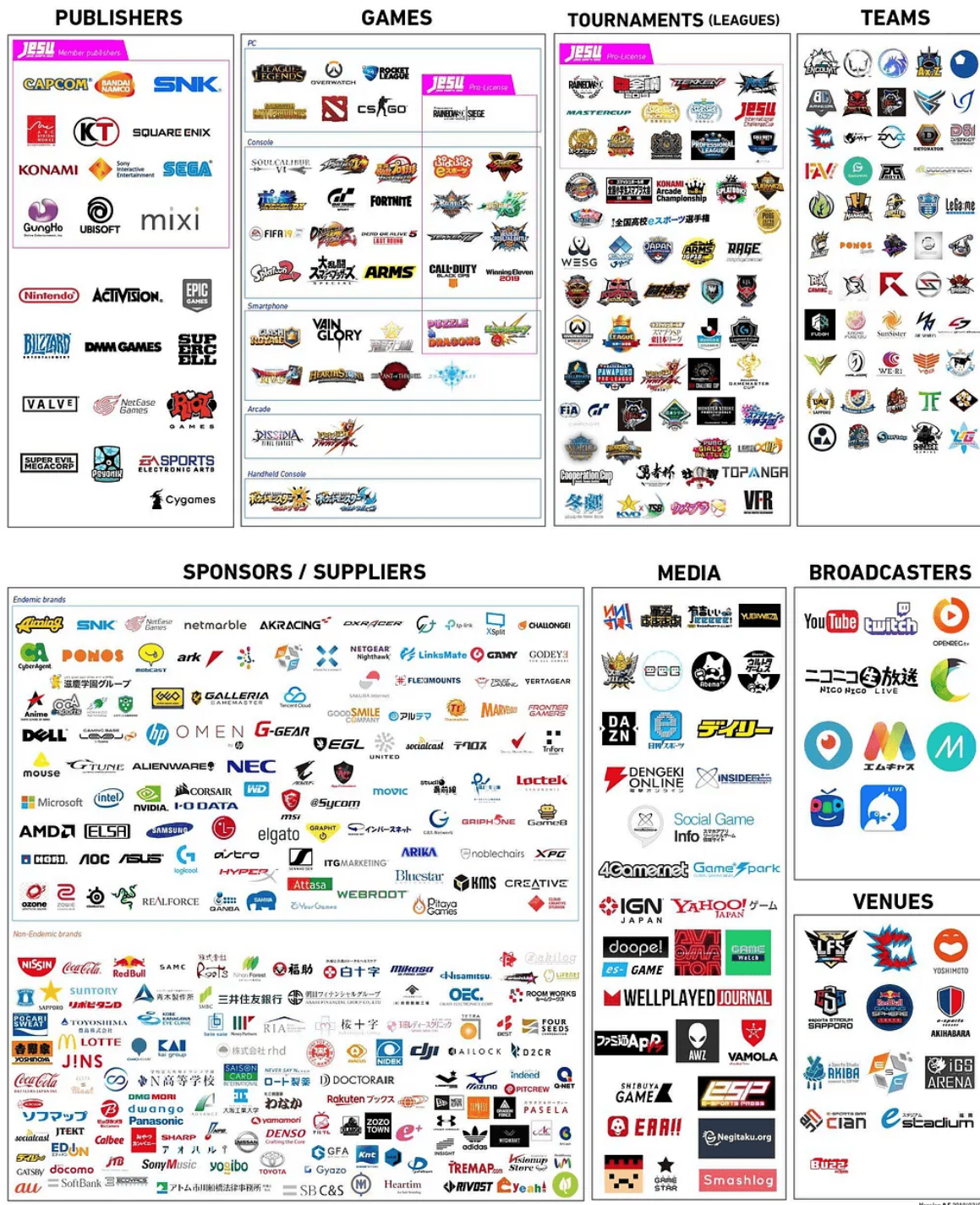


Fig. 10. This schematic representation of the Japanese esports landscape groups stakeholders by their roles within the competitive ecosystem. In particular, the lower-right box contains companies that operate field-specific venues, representing a growing market across many esports landscapes. Interestingly, an updated version of this image also includes esports “schools” as part of the landscape. (taken from Okayasu, 2019; as cited in Besombes, 2024)

To conclude the section on core stakeholders, we must remember that these actors are fundamental to maintaining audience engagement, fostering an exciting and thriving competitive scene, and contributing to a healthy business model for the entire ecosystem (Carrillo Vera & Antón, 2024; Scholz, 2019). On the other hand, any of these stakeholders is required, since their interweaving is so deep that we can speak of a mutual co-dependence. The ecosystem is predicated on the simultaneous co-presence of all of these core actors, whose absence may result in a critical collapse of the entire landscape: organisers need developers to produce esports titles, which must be played and watched inside fair competitive environments to be professionalised; this, in turn, prompts ancillary services to step in, fuelling a specialisation in a field that is sustained by monetisation strategies and sponsorships linked to endemic firms, like hardware. The whole mechanism is then scaffolded by supporting stakeholders, such as content platforms, which do not depend on esports to survive but instead boost esports figures, moving it closer to economic sustainability (Scholz, 2019).

3.2. Peripheral actors: enablers, institutional entities, non-endemic sponsors

Alongside core actors, the esports ecosystem hosts a range of side actors, which joined the network over the years and added value to the industry (see Fig. 11). Following Ludwig and Lachmann's analysis (2024), I dub these secondary stakeholders as "peripheral" actors, since their contribution to the esports ecosystem is significant but not fundamental to its (or their) existence. In fact, if these stakeholders do not appear as necessary to the performance of competitive gaming, it is also true that they complement the efforts of core actors in a way that has led to the current shape of the esports ecosystem, complementing core actors with an articulated set of ancillary services, like field-specific platforms (e.g., Liquipedia, OP Guides, etc.).

ESPORTS LANDSCAPE JULY 2016

KEY PLAYERS

PUBLISHERS	GAMES	MAJOR FRANCHISES	DISTRIBUTION

SPONSORS

ENDEMIC	NON-ENDEMIC

PROFESSIONAL GAMING - PLATFORMS & INFRASTRUCTURE

ORGANIZERS	PLATFORMS	INFRASTRUCTURE	BROADCASTING	COMMUNICATION

ASPIRING PRO GAMER & FAN RESOURCES

NEWS	STATS/GUIDES	TRAINING/COACH	SCHEDULE

LIVE-STREAMING RESOURCES

STREAMING SITES	MOBILE STREAMING	GAME HIGHLIGHTS	STREAMING TOOLS	ANALYTICS

BETTING & ITEM MARKETPLACES

SKILL BASED WAGERING (MONEY & ITEMS)	FANTASY/BETTING	MARKETPLACES

@blakeir
LUDLOW
VENTURES

79

3.2.1. Enablers

Starting from more traditional service providers, we must acknowledge how these external enablers also got professionalised during the esports evolution toward a global sportainment phenomenon (Richelieu, 2021), since online and offline audiences are now provided with the quality of top-tier sports events, especially majors such as CS's Internationals (i.e., ESL One series).

This means involving a wide range of firms concerned with event organisation, from site operators to media-related activities, like advertising (Nieborg, 2016). Trivially, esports organisers may hire handypersons to set up the stage needed for an offline event, as specifically-built esports arenas are not so widespread and available spaces need refurbishing (Jenny et al., 2018). Taking care of such re-wiring of third-party spaces also means owning the technical artefacts needed for the purposes and, if not, retrieving such technologies on site (Carrillo Vera & Antón, 2024; Scholz, 2019). Of course, board and lodging must be another primary focus during offline events (Scholz, 2019), both for competitors – who have to decide whether to move or commute to the venue (e.g., AFP, 2019) – and fans spectating – who boosted a specific tourism market (Hlee & Lee, 2023; Thompson et al., 2022). For example, the ESL case clarifies how offline organising must count on sub-routines – e.g., catering and transportation – that may not align with the organiser's capabilities (Scholz, 2019). In fact, it was not until the acquisition by Modern Times Group (MTG) that ESL could internalise a variety of providers, which helped it transfer necessary equipment between local venues and procure the local resources needed to efficiently operate the event (Scholz, 2019).

The acquisition also meant the ability to manage worldwide collaborations with other traditional media outlets, as happened with their "Esports in Cinema" project – which allowed fans to spectate events from local movie theatres (Barker, 2015), but also explore new markets, as they developed proprietary anti-cheating software (Lahti, 2015a) and expanding their tournament technology through Wargaming's "Battle API" (ESL, 2015; Will, 2016). This last feature explored by ESL after MTG's acquisition functions as another example of the variety of esports enablers: in 2015 the tournament operator took advantage of its own API system to develop a matchmaking software (ESL Matchmaking; Grubb, 2015; Higgins, 2017), which was then integrated into Microsoft's Xbox ecosystem by directly collaborating with the Redmond's giant

(Nunneley-Jackson, 2016). Indeed, gaming software is not entirely a matter of developers, since these core stakeholders also often rely on black-boxed “voodoo software” (Whitson, 2018) by third-party companies to complete their product, but also integrates external technologies (e.g., matchmaking services and anti-cheating software) once the title becomes a viable competitive ground (Hölzle et al., 2022; Werder, 2022).

On the other hand, tech behemoths such as Microsoft, Sony, Samsung, and Nvidia are actively participating in the esports industry, as many of their products (e.g., consoles) are integral to esports (Hölzle et al., 2022; Scholz, 2019). Their technological services span well beyond gaming hardware, as many of these firms operate the servers and cloud services (e.g., Amazon’s AWS) needed for online gaming (Chandola et al., 2024; Hölzle et al., 2022; Portillo, 2019). Indeed, sociotechnical development is a sensitive topic for the field, which HCI and engineering scholars regard as one of the most innovative in computer science (Hölzle et al., 2022; Kriglstein et al., 2021). Livestreaming services, as mentioned, are always looking for new features that could enhance interaction among pro players and their audience (e.g., Kriglstein et al., 2020), prompting a continuous refinement (and adaptations) of gaming technologies.

On the other hand, technical advancements are not the only way to foster global and regional growth, as gaming communities also request more traditional features related to competitive landscapes. A primary example in this sense is journalistic coverage, which keeps fans and insiders informed about the latest news from the field. Platforms like Dot Esports and ESPN’s dedicated section (ESPN Esports; Smith, 2021), for example, explicitly emulate traditional sports journalism, granting the esports environment with investigative reportages, transfer rumours, and other insights, often from privileged actors (Wolf & Cote, 2024). On the same line, media outlets have started to specialise in specific sectors: for example, the Esports Observer frequently handle business topics, whereas the Esports Insider often delves into analytics and academic insights.

Analytics is also the focus of external consulting agencies such as Newzoo and Deloitte, which typically dissect data for other stakeholders but sometimes publish public reports on the market (e.g., Ludwig & Lachmann, 2024; Newzoo, 2024). However, in-game data can also be the subject of thorough analysis, whether to study opponents or learn new in-game tactics, as well as to promote external services (e.g.,

winning predictors) and generate marketing insights (e.g., when to place an advertisement during a game). Such internal data is increasingly handled through technical software that produces easily readable insights from complex algorithmic calculations (e.g., Hodge et al., 2021; Kriglstein et al., 2021). Curiously, an increasing number of esports organisations (OutPlayed, Team Liquid, etc.) are taking the route of developing analytical apps for professionals and, most prominently, amateurs, translating their game expertise into technical tools to expand their income potential⁶. Returning to more traditional activities, the last category of third-party companies serving the esports ecosystem comprises agencies that handle legal matters (e.g., contracts) or talent management (e.g., Evolved), often acting as stakeholder intermediaries. Indeed, both pro players and streamers have now risen to the level of internet celebrities (M. R. Johnson et al., 2019), needing specialised professionals to manage their career opportunities (see Fig. 12). Like traditional sports stars, gaming idols function as traction for expanding an organisation or event audience and as catalysts for alternative occupational trajectories (Scholz, 2019). On a closer look, the management of these starlets is comparable to that of influencers and media creators (Burroughs & Rama, 2015; Craig et al., 2021; Fraser et al., 2019), as most of their off-game activities are concentrated on producing content for these platforms (Sotamaa et al., 2021). This might be why talent agencies are so actively involved in the esports ecosystem, even directly setting up branded exhibition spaces at gaming events. Here, fans and partners can “meet & greet” their champions, as it is commonly framed when fans pay (even extremely high sums) to meet their favourite gamer⁷.

Notwithstanding, talent agencies operate in a legislative void that has been repeatedly addressed as one of the major issues inside the esports ecosystem, as it leaves many stakeholders (in primis, players) without the necessary safety measures in case of scams and fraud (M. R. Johnson & Woodcock, 2021; Scholz, 2019). Indeed, a wide-ranging typology of scandals has punctuated esports history (e.g., Lahti, 2015a; Sinclair, 2015), prompting the need for the upcoming group of peripheral stakeholders to step in – i.e., public and private bodies aimed at institutionalising and providing legal

⁶ Once again, I witnessed such explorations of novel market opportunities by esports orgs through my observations, with 2 of the observed sites being actively involved in app development and maintenance (OP and Qlash).

⁷ A peek at any important gaming event map, such as the Milan Games Week (MGW), will reveal the presence of branded areas where agencies showcase their “roster” of talents (<https://mgwcmx.fieramilano.it/page/espositori>).

frameworks to both vested companies and esports communities (Abanazir, 2019; M. R. Johnson & Woodcock, 2021; Krell, 2019).

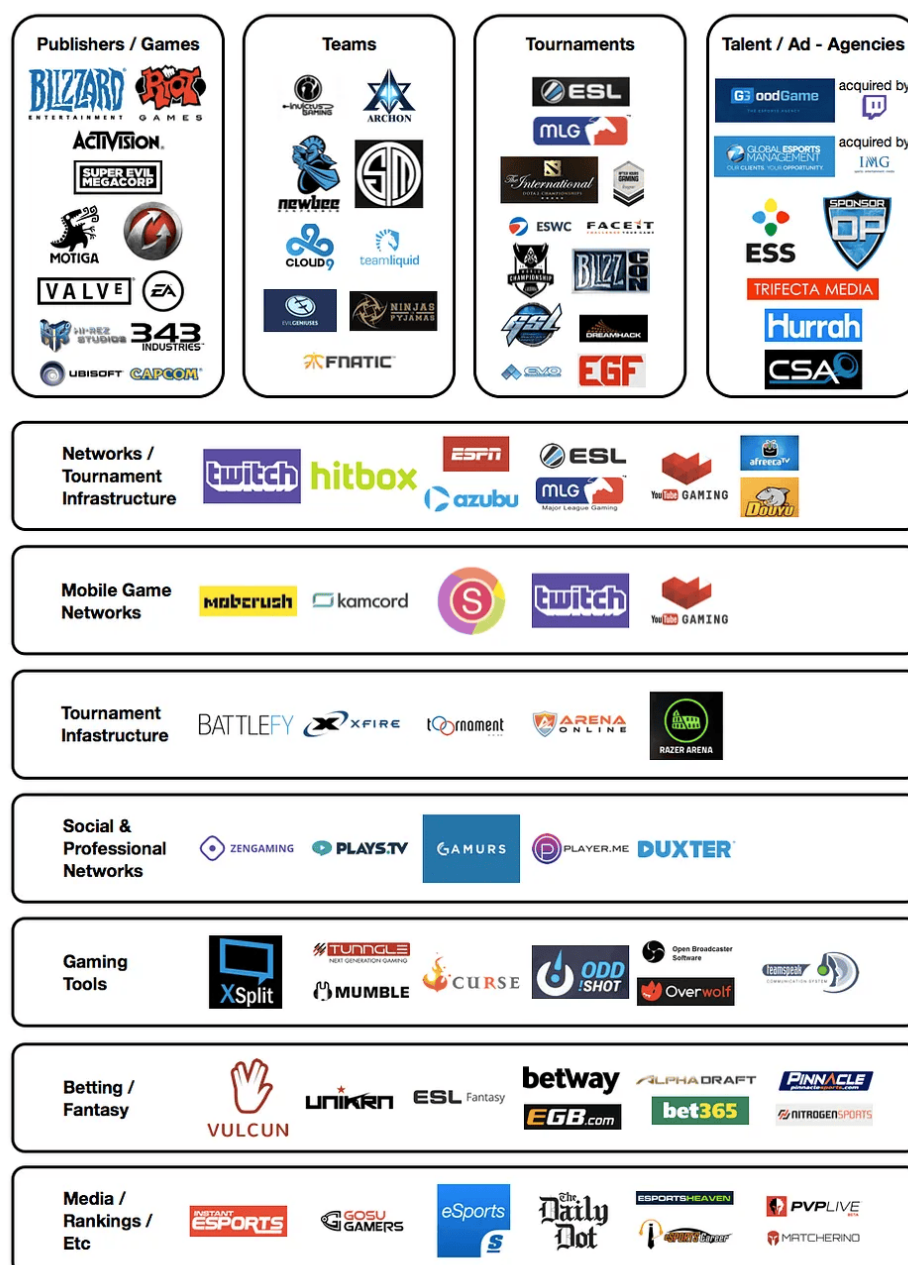


Fig. 12. Another representation of the esports ecosystem. As seen in the upper-right box, talent agencies play a vital role for many users (both professional players and streamers), and some authors have even placed such companies at the core of the ecosystem. However, I decided to keep in central positions only those ecosystemic actors who are deeply intertwined with competitive gaming (i.e., without which esports would not exist and vice versa). The image also displays betting companies (Chapter 3.2.3) and gaming tools, which I partially covered in the section on technological tools. (taken from McCann, 2015; as cited in Besombes, 2024)

3.2.2. Institutional entities

One of the hottest topics inside esports studies and insider comments is the issue of governance, either claiming its lack in the competitive gaming landscape or stating that international consensus has yet to be achieved (Chao, 2017; Holden et al., 2017; Hollist, 2015; Postma et al., 2022). Even though a fortunate summary of the theme claimed esports to be a “Wild West” (B. Yu, 2021), the industry has worked to obviate the problem by nurturing bottom-up organisations elaborating consensually accepted frameworks (T. L. Taylor, 2012) or, in turn, trying to be accepted under the umbrella of traditional sports institutions, like national and international federations (Svensson & Pargman, 2024). Indeed, esports history is fond of quests for structuration by grassroots organisations, like the Australian eSports Association (AeSA; Witkowski, 2023). More specifically, historical turning points, such as the emergence of associationalism during the “second wave” of esports, marked a path toward the institutionalisation and formalisation of grassroots-emerged regulations into widely accepted codes of conduct (T. L. Taylor, 2012; see also Witkowski, 2023). A process further reinforced with the “third wave” of esports, which saw its transformation from a niche pastime activity to a media entertainment product with sports-like features, mainly achieved through a progressive regulation of its competitive environments (Z. Lin & Zhao, 2021; T. L. Taylor, 2012; Witkowski, 2023).

The transition from amateur to (semi- or wannabe) professional events took a long journey to establish fairer conditions and often did that at the expense of countless hours of unpaid work by those committed to creating a governing body for their regional scene (Witkowski, 2023; see also M. R. Johnson & Woodcock, 2021; T. L. Taylor, 2012). Yet, many local esports ecosystems (see Fig. 13) still need to achieve the necessary structuring to display federation-like organisations, languishing in a limbo state where a multitude of organisations vie for leadership, balancing bottom-up representation and corporate-led initiatives (Witkowski, 2023). An example in this sense is the Italian scene, which is populated by at least five major organisational agents: Italian eSports Association (ITeSPA), Federazione Italiana E-Sports (Italian Federation of E-Sports; FIES), Federazione Italiana Discipline Elettroniche (Italian Federation of Electronic Disciplines; FIDE), Associazione Italiana eSports (Italian eSports Association; AleSP), Giochi Elettronici Competitivi (Competitive Electronic Games; GES), to which should be added the more industry-related Osservatorio

Fig. 13. An overview of some of the most influential esports federations worldwide, including some regional and international bodies (e.g., IeSF). The image also highlights that the esports



Fig. 13. An overview of some of the most influential esports federations worldwide, including some regional and international bodies (e.g., IeSF). The image also highlights that the esports

ecosystem still has to witness the rise of a single, overarching organisation capable of balancing public and private interests across the field. Still, many of these federations have been, or are in the process of being, recognised as governing bodies regulating their local competitions and obtaining State funding for this purpose. (taken from Besombes, 2020)

A pioneering counter-example, instead, is the South Korean eSports Association (KeSPA), which became one of the first officially recognised governance organisations in esports (Svensson & Pargman, 2024; Witkowski, 2023). Since the early days of competitive gaming, KeSPA took advantage of governmental and corporate attention toward Korea's "national pastime" (Mozur, 2014) to become a peak regulating body, making it one of the most respected and a beacon for all other federations globally (Scholz, 2019; T. L. Taylor, 2012; Witkowski, 2023). However, South Korea also serves as an example for other countries because it hosts one of the first overarching federal organs, the International eSports Federation (IeSF). Actively involved in grouping all core stakeholders and imposing a set of international standards, both as a regulatory stance for more advanced local landscapes and a boosting scaffolding for those still in their infancy (Scholz, 2019; Witkowski, 2023), the IeSF must fight for primacy against other field-specific organisations, such as the industry-driven World Esports Association (WESA), and traditional sports bodies, e.g., the Global Association of International Sports Federations (GAISF).

The recent involvement of the International Olympic Committee in the esports scene (IOC, 2022; Bieler, 2021) does confirm the sportification trend displayed by the field (Svensson & Pargman, 2024). Even though the inclusion among Olympic disciplines ultimately underlies the message that esports should mimic traditional sports (even emerging ones, like breakdance), for Tobias Scholz (2019), the envisioned top-down governance requested by the IOC clashes with the very structure of the esports ecosystem, where the fragmentation of titles hinders a final integration of all stakeholders under a unified federal body (an opinion also shared by Svensson & Pargman, 2024). Curiously, many international institutions in traditional sports failed to achieve an overarching governance structure, excluding some disciplines or not recognising specific federations⁸ (Scholz, 2019).

⁸ IOC recently withdrew recognition of the International Boxing Association (IBA; see IOC, 2023).

Nonetheless, the quest for institutionalisation and regulation is not solely a response to requests coming from traditional governance structures – e.g., national ministries of sports – but also a need expressed by ecosystemic stakeholders (Svensson & Pargman, 2024). If non-endemic ones often short-sightedly demand a single governing body as an easier way to enter the esports market, more central actors are aware of the difficulties involved in achieving sufficient legitimacy to establish an esports federation, and thus remain more open to working with multiple bodies (Scholz, 2019).

Such an approach allows them to manage local issues in a manner similar to “lifestyle” or youth sports, granting high degrees of independence, but also highlights the lack of consensus on what governing esports should entail (Scholz, 2019). Indeed, Scholz underscores how the scholarly conception of governance, as a process of organisation and coordination without dictating norms and regulations (Bevir, 2012), clearly collides with the apparent unilateral understanding that the field displays of it, summarised by the author as the presence of “some entity having the power and legitimacy to decide the norms and regulations of eSports [sic]” (Scholz, 2019, p. 75). Nevertheless, we should also follow Scholz in recognising how the esports ecosystem progressively refined a bottom-up consensus on those rules and social norms considered necessary for its survival, an approach that the author links to a stakeholder-driven approach to (corporate) governance (T. C. W. Lin, 2011). Lacking actors powerful enough to enforce top-down structures of regulations, the esports ecosystem focused on stakeholders’ rights and interests, sharing responsibility, ensuring integrity and ethical behaviour, and enforcing transparency to create a thriving environment (cf. OECD, n.d.). These principles led to several examples of self-organised governance, such as the Counter-Strike Professional Players Association (CSPPA), which unionised pro gamers of Valve’s title to improve working conditions and increase their contractual power (Patel, 2019; Scholz, 2019). However, such a proposal gained momentum only as a reaction to the “brutal schedule” to which players were subjected (C. Campbell, 2016) and, most importantly, in a European context, something that may have drawn attention to work conditions that other regions lack (Scholz, 2019).

Indeed, more global initiatives have emerged in recent years, such as the Esports Integrity Coalition (ESIC), often in response to incidents like doping scandals and match-fixing scandals (Scholz, 2019). Alongside other stakeholders, these intermediary bodies spearheaded the development of third-party structures, focusing

on regulatory frameworks and enforcement, as well as drafting codes of ethics and conduct approved by most of the involved actors (Scholz, 2019). Still, this grassroots-style governance does not resonate with traditional sports institutions and stakeholders, prompting many of them to harshly criticise esports on this point and fueling ongoing discussions about whether to include video game competitions within the sports category (Scholz, 2019).

A fight that might be resolved by the independent choice of sponsoring stakeholders, which react to the “greying” of traditional sports by turning heavily toward esports (Ashton, 2018; J. Lombardo & Broughton, 2017), with rising investments and increased legitimization of its governance structure (Scholz, 2019). If investors continue to support this style of self-organised governance, there may even be the possibility of creating institutional bodies sufficiently robust to counterbalance the excessive influence of game publishers, as the collaborative examples of battle royale titles demonstrate (Scholz, 2019). As a side effect, however, sponsorship overflows may hinder stakeholders from finding sustainable business models, which are essential to the field’s long-term continuation. Since every stakeholder is free to explore strategies to realise its economic aims, the focus will be on how this fragmentation will evolve into coopetition, fostering awareness of the co-destiny and convergence of interests, as seen in other emerging industries (Scholz, 2019).

To conclude, the struggle for legitimisation characterising the esports landscape reflects both the undecidability of esports’ nature, whether a sport or a media product (Scholz, 2019; Summerley, 2021; T. L. Taylor, 2012; Witkowski, 2023), and the lack of regulation, as few actors have succeeded in establishing themselves as independent regulatory agents so far (Scholz, 2019). This has already led to a series of highly deplorable incidents, but has also fuelled the emergence of actor-driven strategies for self-governance: a decentralised approach that represents a peculiar feature and reflects other “late sports” involved in sportification trajectories (Summerley, 2020, 2021; T. L. Taylor, 2012), as well as emerging industries trying to legitimise themselves (Scholz, 2019; Suchman, 1995). Indeed, institutional entities often represent the public face of esports, alongside media figures such as star-level pro players and organisations. However, esports’ history also highlights how the emergence of these institutional bodies is much more a point of arrival than a point of departure (T. L. Taylor, 2012; Witkowski, 2023), leaving such stakeholders slightly outside the pulsating heart of its digital ecosystem.

3.2.3. Non-endemic sponsors: traditional sports organisations and other sponsoring entities

Institutional entities are part of an ongoing process, known as sportification, which traverses esports and aims to transform competitive gaming into a more traditional sports-like format (Ingham, 2004; Pargman & Svensson, 2019; Svensson & Oppenheim, 2018; Svensson & Pargman, 2024; van Delden et al., 2022; Witkowski, 2023). However, Tobias Scholz and colleagues (2021) employed this term also to describe another phenomenon: traditional sports organisations entering the field of esports. This type of sportification relates to our last category of peripheral authors, which explores non-endemic sponsors entering the competitive gaming ecosystem for a wide range of motives, but mainly because of its definitive turn toward a sportainment phenomenon (Lipsyte, 1996; Richelieu, 2021). Still, other actors populate this area, such as non-endemic sponsoring firms, gambling companies, and institutional actors. For the sake of readability, I will leave aside the treatment of the latter (i.e., bookmakers and institutional entities), keeping them for Appendix III. Yet, the presence of sports organisations and non-endemic firms in the empirical section suggests a deeper understanding of their role within the esports ecosystem.

Traditional sports organisations

Starting with sports organisations, we can rely on the thorough analysis by Tobias Scholz and colleagues (2021) to describe the most prevalent relationships between traditional sports businesses and esports stakeholders. Indeed, esports has tickled the interest not only of industrial partners (e.g., Intel) or firms looking for brand-expanding strategies (e.g., McDonald's), but also traditional sports companies aiming to get a foothold inside this emerging phenomenon, maybe with the hope of consolidating their business models into new digital markets (Scholz et al., 2021).

Esports may significantly benefit from the competencies gathered by more established sports entertainment industries, like the European football ecosystem or the NFL system, especially regarding more immature sectors of the field: for example, if top esports organisations are mastering marketing and merchandise, there still much to be done regarding training regimes and equipment, which lacks the scientific support that can be found in traditional sports programmes (Nagorsky & Wiemeyer, 2020; Scholz, 2019; Scholz et al., 2021). Nevertheless, traditional sports can also benefit

from the knowledge that esports practitioners have accumulated about digital(ised) ecosystems, since competitive gaming firmly retains its “digital mindset” and follows its own rules (Scholz, 2019; Scholz et al., 2021).

According to Scholz and colleagues (2021), traditional sports businesses seeking to transition into the esports ecosystem must comprehend its inner workings to thrive in the field (Mom et al., 2015). Their entrance might result in a competitive advantage within their industry, primarily due to the ageing displayed by traditional sports audiences (J. Lombardo & Broughton, 2017; Scholz et al., 2021). As traditional sports transition into Sports 2.0 (Miah, 2017), an increasing number of digital competencies will be required to maintain a viable market position against younger audiences, with esports emerging as one of the most effective routes to accessing this sector (Gawrysiak et al., 2020; Scholz et al., 2021). Specifically, Scholz and colleagues identified 8 ways in which a traditional sports business may enter the esports ecosystem:

1. Individual (esports) players for the digital version of the core business.
2. Esports teams for a variety of games.
3. Esports teams for a variety of games in different countries.
4. Joint ventures with an existing esports team and creating a new brand.
5. Temporarily withdrawing from esports.
6. Creating a dedicated league.
7. Buying a franchise team.
8. Individual investors.

In their dataset, the first typology was also the most common, with most traditional sports teams seeking to create “parallel teams” to compete virtually in their own discipline. This is the case, for example, of many European football teams investing in professional players or small teams⁹ representing their brand within virtual leagues like the eSerieA or the Virtual Bundesliga (making this typology strictly tied with the 6th). Most of the time, gamers representing the team wear official jerseys and are equated to traditional players – e.g., being depicted as footballers training “virtually” (see, for instance, Ferrazzoli, 2021). This move is praised as a viable legitimising strategy that imbues esports with the competencies of traditional sports organisations;

⁹ This is due to the structural restrictions of competitions inside football simulation games (e.g., EA Sports FC series; EA Sports, 1993), which mainly allow only 1v1 or 2v2 matches.

however, many esports commentators still view it as a basic way of entering the field, based on the alleged equation of the virtual discipline with its traditional counterpart (Scholz et al., 2021). Since many authors have demonstrated that this equation is oversimplistic, the effects of the first typology as a viable entry point for traditional sports companies into esports may be minimal or even economically harmful (Scholz, 2019; Scholz et al., 2021).

Alternatively, traditional sports organisations may be interested in entering esports more broadly, as seen with sports firms sponsoring teams across different titles, not necessarily aligning with their original business areas. This is the case of FC Schalke 04, a German football team that has steadily established a foothold in the LEC scene by owning a namesake team, even achieving a place in the World Finals in 2018 (Scholz et al., 2021). According to the team's vision, synergistically integrating its football and esports divisions under the same moniker will bring together sports and esports fans, thereby enhancing the brand's perception among various market sectors (Elsam, 2018; Gawrysiak et al., 2020; Scholz et al., 2021). Still, if this merging of audiences will work in the long run has yet to be proven (Schmidt & Holzmayer, 2018). However, FC Schalke has positioned itself as an early adopter, potentially taking advantage of the gained experience when other teams enter the field similarly (Scholz et al., 2021).

The third type is a rare pick, as it is unclear how buying or partnering with a foreign team might enhance one's brand capabilities. However, there are cases of traditional sports companies, such as Olympique Lyon, acquiring a Chinese esports team as part of an internationalisation strategy (Cooke, 2017; Scholz et al., 2021). The benefits arising from this move may be particularly convenient for smaller teams seeking to establish a foothold in distant markets, such as the Asian market for European football teams, where only industry behemoths like Manchester United and FC Barcelona have established a presence so far.

Type 4 refers to traditional sports companies that have invested in esports by creating new brands, thereby exploring less direct synergies. This strategy has been adopted by many companies interested in esports but wary of the potential side effects of being associated with distant or controversial endeavours (Scholz et al., 2021), such as shooting games (e.g., CS:GO) or MOBA games (e.g., LoL). One example of this strategy is the CS team North, backed by FC Copenhagen, which, over the years, evolved into an esports regional powerhouse (Scholz et al., 2021). Although some

insiders might also include North American teams like Dignitas and compLexity in this category, the partnership typology does not include the acquisition by traditional sports teams to gain a spot in a franchise league (type 7). This category, instead, represents a safer entry into the esports ecosystem, as the sports firm does not need to invest heavily in forming a new team or buying an existing one, which can cost up to millions of dollars (e.g., Wolf, 2019). One of the esports organisations that we will meet in the empirical part, Qlash, brilliantly depicts how established esports companies might represent a safe anchor for traditional sport firms wanting to invest in the field, as it partnered with AC Milan to create AQM (or AC Milan Qlash), a virtual eSerieA team (AC Milan, 2020) successively expanding also to Brawl Stars (Supercell, 2018). Similarly, another Italian football giant entered the field by joining the skyrocketing esports company Dsyre, creating “Juventus DSYRE” (Juventus, 2022), which is both part of eSerieA and the national Rocket League (Psyonix, 2015) competitions. Whether this partnership will affect traditional sports brands remains unclear, but this typology remains crucial for esports organisations, as the legitimising power of such sponsorships provides a significant boost to expand activities into more established industries, such as European football entertainment (Scholz, 2019; Scholz et al., 2021).

The fifth typology is actually a withdrawal strategy, since Scholz and colleagues (2021) noted that economic crises and structural issues led many sports companies to abandon their investments over time. Even though such dismissals can be temporary, as seen with the French football team Paris Saint-Germain (PSG), which eventually returned to the field through a partnership with the Chinese team LDG, it is interesting to explore the motivations behind this decision. Scholz and colleagues (2021) primarily attribute withdrawals to esports’ structural problems, such as the lack of regulations. For example, many German teams struggled to turn professional due to the absence of a legal framework for administering contracts of professional players. This was the case that led the first traditional sports team to enter esports, SSV Lehnitz, to leave after just three years (Scholz, 2019). This small German football team entered the CS scene in 2003, pioneering the sports-esports discussion before any other, and even attempting to legitimise what was then considered a “killer game” by framing it within its sports business activities (Scholz et al., 2021; Vermesse, 2003). The success of this venture made it rapidly a powerhouse in the field, competing in all major events (e.g., 2003’s World Cyber Games and 2005’s CPL Brazil), voluntarily maintaining an

international stance by signing players from Austria and Sweden, but also a multi-title strategy with teams in Warcraft 3 (Blizzard Entertainment, 2004) and Battlefield (Electronic Arts, 2002). However, SSV Lehnitz international and young reach, as well as their increasing sponsorship revenues, were harshly cut by the impossibility of continuing their activity within the German legal framework, as summarised by its board member Norbert “roofman” Skrobek:

“The main problem arising at the moment is that we’re not able to form contracts with players, since we are a non-profit organization. Also, we have to heed the many obligations of the German legal framework, that are counterproductive for our endeavors.” (as cited in Hiltcher, 2005)

The sixth typology, specific league creation, is one of the most intriguing ways in which esports becomes sportified. Indeed, this category includes scenarios in which not only individual teams, as mentioned so far, join the esports ecosystem, but an entire league is created, mirroring its traditional sports counterpart. The league operator is often at the base of such endeavours, as seen with the German Virtual Bundesliga and the Italian eSerieA and eSerieB, which consist of voluntary teams representing their traditional equivalents from the 1st and 2nd-tier national leagues in a chosen virtual scenario – in the last years, either EA Sports FC (formerly known as FIFA; EA Sports, 1993) or eFootball (also known as PES in Europe and Winning Eleven in Japan; Konami, 1995). However, there are also more grassroots initiatives, such as the LND eSports league¹⁰, which comprises representatives from the Italian Lega Nazionale Dilettanti¹¹ but remains open to amateurs and actively promotes sports values through its courses and mixed events. The LND eSports league particularly emphasises the parallelism between the physical and virtual dimensions, as it takes place within the Pro Club modality of EA Sports FC, which allows two 11-player teams to face off, as in regular football matches. However, LND’s case is also fascinating because it prompted the widespread dissemination of esports teams backed by their traditional counterparts, a phenomenon that another football league, the Japanese J.League, has also managed to achieve (Scholz et al., 2021). Indeed, the league operator partnered with Konami and compelled all its 40 J1 and J2 clubs to participate in a

¹⁰ For more information, please visit: <https://www.lnd.it/it/esport>.

¹¹ The LND, or National Amateur League, is a parent institutional body of the FIGC (Italian Football Federation), governing the last (4th) Italian semi-professional football tier (Serie D) and many other amateur competitions, including the Regional Leagues and the Futsal League.

virtual league (i.e., eJ.League), thereby boosting investments in the local esports scene by traditional teams (Konami, 2019).

The introduction of franchise-style leagues, such as OWL and LCS, prompted American sports groups to invest in what Scholz and colleagues identified as the seventh typology of esports sportification strategy: buying a franchise slot by acquiring a pre-existing team. Indeed, many North American sports groups are looking to competitive gaming as a means to diversify their business activities, a move made easier by their familiarity with the franchise-like structure (e.g., the NBA and NFL share similar organisational features). For example, the acquisition of the Los Angeles Gladiators, an American Overwatch team, by Kroenke Sports and Entertainment has added them to a rich portfolio that already includes Arsenal London, the Colorado Avalanche, the Colorado Rapids, the Denver Nuggets, and the Los Angeles Rams (Scholz et al., 2021). Another OW example is the Philadelphia Fusion, which was acquired by the group behind the Philadelphia Flyers, Comcast Corporation. In LoL, instead, we can find the Golden State Warriors, which bought the Golden Guardians (Scholz et al., 2021). Ultimately, even partial acquisitions, such as the Dallas Cowboys' acquisition of compLexity, trigger strategic and administrative synergies, as the parent team shares its training facilities and staff with its digital counterparts (Scholz, 2019; Scholz et al., 2021). Conversely, this strategy often requires significant investments by the acquiring company, which means increased attention to cost-benefit analyses of the operation and the effects that a deficit in this regard could have (Scholz et al., 2021).

Finally, the eighth and last category comprises sport-related individual investors, i.e., mainly players who capitalise on their earnings by creating, purchasing, or sponsoring esports teams. This is the case of people like Stephen Curry, an NBA player, who invested a significant sum in TSM alongside other personalities (Perez, 2018a), and Christian Fuchs, a German football player, who even built a team from scratch (i.e., NFG; Carp, 2019). This trend gained momentum in recent years, when the legitimisation of competitive gaming, prompted by Covid-19, brought many sports players to go public with their passion for video games (Fakazli, 2020). This, paired with the steep rise of esports from 2019 to 2021 (cf. Newzoo, 2021), also led global sports celebrities like Michael Jordan to diversify their fortunes by investing in esports (Perez, 2018b). Another NBA star, Earvin “Magic” Johnson, followed soon later, becoming a shareholder of one of the most famous esports companies, Team Liquid,

by investing his money into its proprietary firm, aXiomatic, which also holds shares of the Golden State Warriors, Los Angeles Dodgers, Los Angeles Sparks, and Los Angeles Football Club (E. Johnson, n.d.). Correspondingly, other sports stars have created teams from scratch, such as Rick Fox with Echo Fox or David Beckham with his Guild Esports (Seck, 2020). Overall, this money flow has led many esports organisations to launch investment campaigns, including initial public offerings (IPOs) and other financial crowdfunding strategies. An example in this sense comes from the Italian esports organisation Mkers, which attracted interest from national football celebrities such as De Rossi and Florenzi (Ferrazzoli, 2021). Finally, one of the observed teams, Qlash, also launched a public angel investment campaign to transform into a proper media company, raising more than €2.6 million (Calgaro, 2022b). Among the investors are Marvin Vettori (UFC fighter), Francesca Piccinini (former volleyball player), Victor Camarasa (Spanish football player), as well as many entertainment personalities and poker players like Phil Hellmuth, Daniel Negreanu, Jeff Gross, and Daniel Cates. All in all, this strategy benefits from the legitimisation and resources offered by famous sports stars to promote innovation and sustainable business models, without exposing either party to excessive risks associated with brand mergers or the failure of high-risk enterprises, as many traditional investors view esports.

To sum up, traditional sports organisations and players form a consistent part of non-endemic sponsoring entities, which imbue esports not only with financial resources but also with a whole set of sports-related competencies, knowledge, and legitimation (Scholz et al., 2021). Research up to date demonstrates that the links between the two domains are tight, yet the results of this intertwining between the sports and esports industries are still to be fully grasped (Svensson & Pargman, 2024). Indeed, esports still has to confirm itself as a viable path to expand brand visibility and/or reach specific audiences (Gawrysiak et al., 2020; Scholz et al., 2021). However, many sports companies and personalities continue to believe in esports as the next sportainment phenomenon, making them steady components in most esports landscapes.

Other non-endemic sponsoring entities

Last but not least, we should tap into non-endemic sponsors within the esports ecosystem. As with endemic ones, sponsorships are a driving force in the field, as confirmed by market reports on the topic. Notably, a 2018 PwC study claimed that the

esports economy relies on sponsorships for a third of its value, whereas another sector agency reported that nearly 60% of esports revenues derive from sponsorships and advertising (PwC, 2018; Superdata, 2018).

Albeit esports revenue data may be complex to verify, and industry reports should be regarded with caution, there is no doubt that the majority of esports business models involve some form of sponsorship as the primary revenue-generating mechanism (Scholz, 2019). This is due to structural factors, such as the limited viability of esports merchandising and other monetisation strategies, or the lack of market-friendly metrics to share with potential backers (Scholz, 2019). Still, it was not only the unpredictability of investment returns that kept out non-endemic sponsors, but also the relatively niche size and community-driven atmosphere of the esports industry (Scholz, 2019; T. L. Taylor, 2012). Indeed, endemic companies were the sole ones taking an interest in competitive gaming in the first years, being the only ones able to understand their inner logics (Gawrysiak et al., 2020; Nordmark, 2018). We have already mentioned how endemic sponsors, such as Intel and Nvidia, are still considered vital for the field, demonstrating themselves as the most loyal and committed financiers for esports stakeholders, while also reaping significant benefits from gaming synergies (Scholz, 2019).

Nevertheless, non-endemic partners are on the rise, with some, such as energy drink brands (e.g., Red Bull) or bookmaking agencies (see Appendix III), being part of the esports ecosystem for years (Frias, 2022; Wall Tweedie, 2022). The mainstream success that esports has gained recently has prompted many other industry leaders to take an interest, fearing they might miss out on the opportunity to join one of the fastest-growing entertainment industries (Collis et al., 2017; Gawrysiak et al., 2020; Ludwig & Lachmann, 2024; Scholz, 2019). For example, the automotive giant Mercedes-Benz has launched partnerships with a variety of esports core stakeholders, from game publishers (Riot; Nordland, 2022) to teams (Mkers; Forbes BrandVoice, 2021).

On the same page, unexpected sponsors such as Deloitte and Mastercard have shown interest in backing major tournament leagues, respectively linking their brands to the ESL Dutch Championship and the LoL World Championship (Frascarelli, 2022; Scholz, 2019). Even the shipping goliath DHL has entered the field, becoming the official logistics partner of ESL FACEIT Group (EFG; DHL, n.d.). These brands view esports as a means to reach new target groups, particularly younger generations and

tech-savvy customers. A market strategy that usually defies traditional advertising methods and heavily relies on new media, such as social and streaming platforms, but also makes big brands hesitant. Nike, for instance, remained outside competitive gaming for a long time. However, the rising interest in Asian markets, such as China, intertwines with esports in prompting companies to utilise it as a gateway for those target groups. Indeed, even Nike opted for a cost-effective sponsorship of Chinese esports superstar Jian “Uzi” Zihao to boost brand awareness in the Red Dragon (Carp, 2018).

Overall, the rising figures in esports and the fact that the industry is still in its infancy leave significant space for new investors willing to take the risk, such as insurance and mortgage companies (e.g., DBusiness Daily News, 2018). However, it may not be sufficient to provide the chosen stakeholder with money or launch traditional advertising campaigns to achieve a return, as sector studies already document numerous failed attempts in esports sponsorship. The example of Sennheiser, a long-time esports enthusiast, illustrates why this could happen: even though it backed the prestigious SK Gaming in the early 2000s and recently supported the varsity league in Germany (UniLiga), the brand is often ignored by the audience in market surveys (Scholz, 2019). For Tobias Scholz (2019), what prevents Sennheiser from monetising its sponsorship is the lack of perceived authenticity within the esports community (see also Huettermann et al., 2023). Indeed, creating authenticity within a community-led industry like competitive gaming can be challenging, since aspects such as nurturing passion and resisting economic pressures must be considered. Most importantly, non-endemic brands must learn to “speak the language”, sounding appropriate to enclaved esports members without giving the idea of superficially imitating the jargon, but also be willing to give up control and listen to insiders’ advice (Gawrysiak et al., 2020; Huettermann et al., 2023; Scholz, 2019; Schultz, 2017). Somehow paradoxically, non-endemic sponsors are often “tested” for their sincere interest in esports, being asked to keep in the loop even without immediate returns (Scholz, 2019).

Nonetheless, many brands are managing to take a seat on the esports bandwagon (see Fig. 14), as they have demonstrated sufficient openness to primary stakeholders’ support in building authentic partnerships and respect the specificities of the esports audience. It should also be noted, however, that esports maintains considerable space for innovation, providing sponsoring firms with numerous, excitingly inventive branding and marketing opportunities (Mitchell, 2018; Scholz, 2019).



Fig. 14. An overview of the brands involved in the 2017 LoL World Finals. Even though years (and pandemics) have passed since this photograph was taken, most of the brands remain heavily present in the esports ecosystem, having been integrated into the industry's core revenue-generating mechanisms. (taken from Besombes, 2024)

As a final remark, we should consider the role of non-endemic sponsors in co-creating value in the esports ecosystem more thoroughly. For endemic companies, the industrial chain remains relatively simple: they produce goods and services necessary for competitive gaming to take place, in exchange for compensation and visibility (Gawrysiak et al., 2020; Scholz, 2019). In other words, these internal sponsors co-create value alongside esports organisations through the production, consumption, and use of their (actual) goods and services, mostly during competitions (Pizzo & Hedlund, 2024). In contrast, non-endemic firms must rely on creative brand integration to extract value, as exemplified by the digital integration of automotive brands in racing games through in-game elements such as skins or branded events (Pizzo & Hedlund, 2024). In fact, such partnerships result in a win-win situation, as companies achieve their objectives (by exploring new and younger audiences), and the competitive gaming experience gets enhanced by these unique, interactive elements (Gawrysiak et al., 2020; Pizzo & Hedlund, 2024).

As mentioned above, these innovative collaborations and direct support can lead to continued partnerships and public endorsements, provided the sponsoring firm successfully aligns the strategic objectives of esports stakeholders (Pizzo & Hedlund, 2024; Scholz, 2019). However, it is undeniable that esports represents a tasty target, since its ever-growing expansion into new geographic areas, previously underrepresented demographics, and unexplored markets (Pizzo & Hedlund, 2024). For example, the tight synergy between competitive gaming and livestreaming platforms makes the field attractive to companies willing to raise awareness among the so-called “cord-cutters” and “cord-nevers”: young, digitally native, global audiences primarily composed of Millennials and Gen Z (Singer & Chi, 2019)¹². On the other hand, esports physical events have equally attracted the attention of non-endemic sponsors, given the opportunity they provide to connect directly with new consumers and simultaneously gain global exposure (Pizzo & Hedlund, 2024). Surprisingly, this potential has led less tech-centric brands to outstrip endemic firms in the number of sponsorship deals (Lopez et al., 2021; Singer & Chi, 2019).

Despite the challenges, the emergence of more successful sponsorship ventures between non-endemic brands and esports organisations signals both the stabilisation of the industry and an increasing understanding by external firms of the competitive gaming values (Pizzo & Hedlund, 2024). This alignment fosters the esports community’s engagement, leading to positive co-creation synergies (see Fig. 15). As an example, Team Liquid’s partnerships with popular franchises, such as Marvel and Naruto, led the organisation to expand its side-activities from esports services (e.g., Liquipedia) to merchandise, obtaining technical support from SAP (software company) and Verizon (internet service provider; ISP) to damp its expenses (McMahon, 2022). These initiatives directly (e.g., reducing costs) or indirectly (e.g., showcasing partners’ products) benefit all stakeholders, including fans – who can take advantage of a more professional, smoother range of goods/services.

¹² Cord-cutters are individuals who have cancelled their cable or satellite television subscriptions. In contrast, cord-nevers are individuals who have never subscribed and are unlikely to do so in the future (Pizzo et al., 2018, 2022). Hence, the power of livestreaming and video-sharing platforms as an advertising space becomes clearly vital for interested brands.

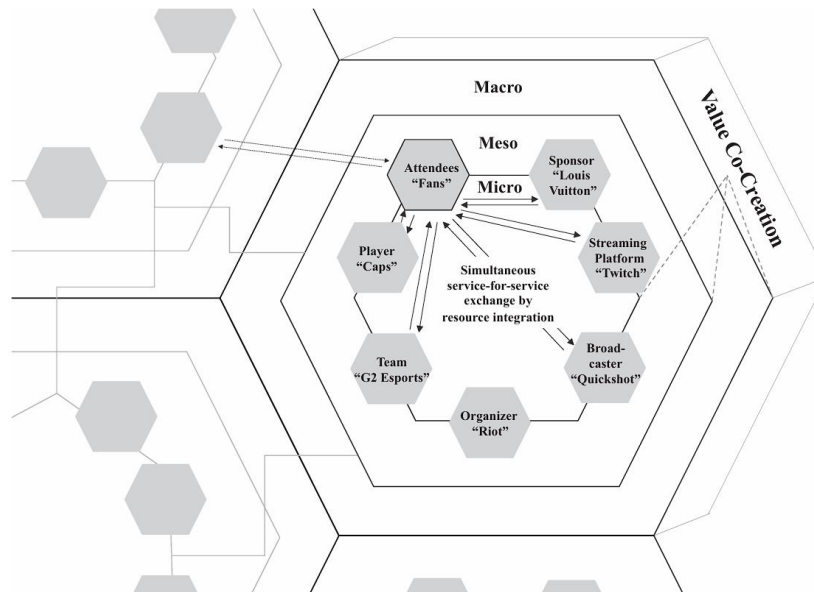
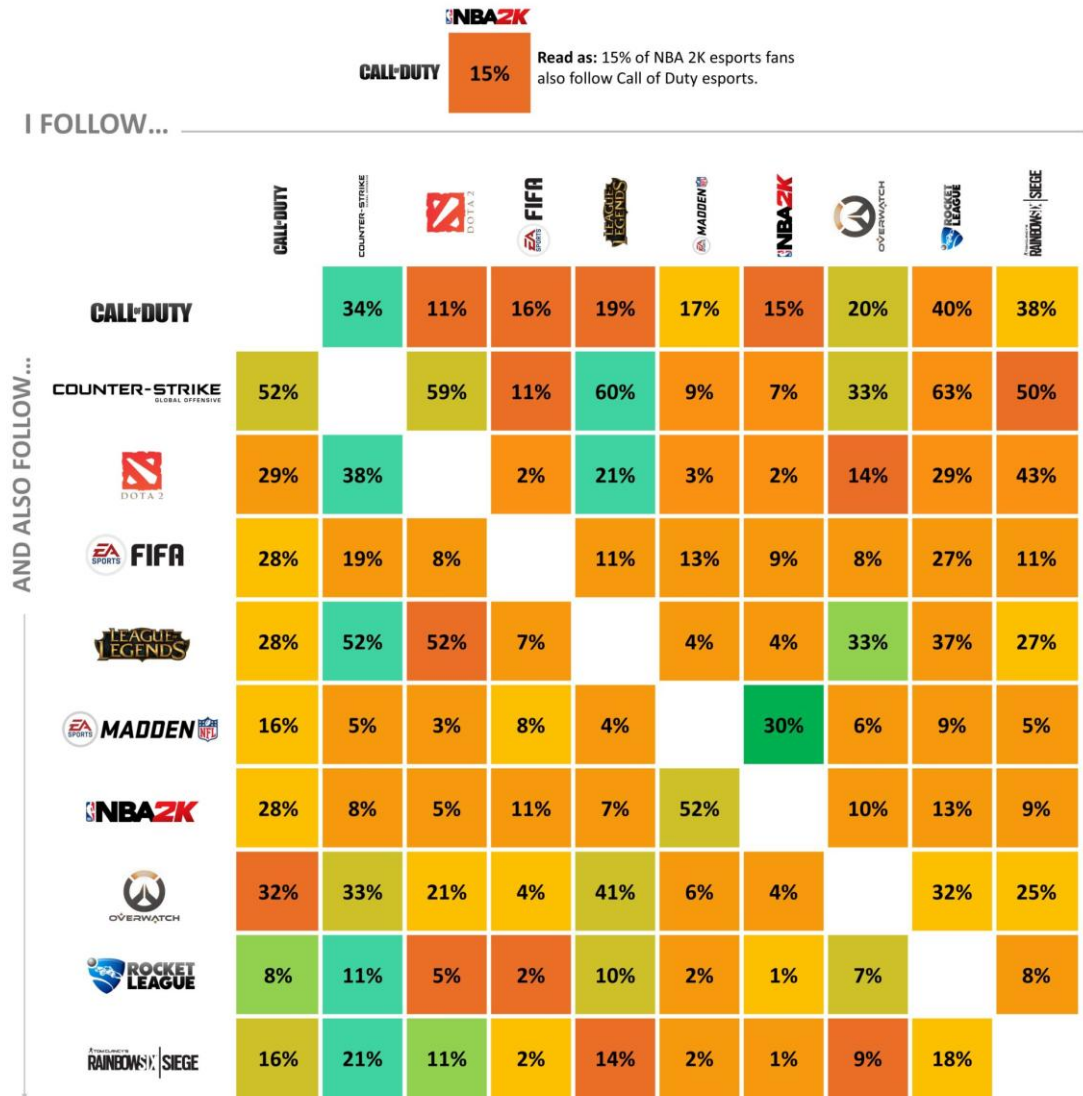


Fig. 15. Graphical representation of a prototypical value co-creation environment, taking the example of the 2019 LoL World Championship Finals, held in Paris. The image illustrates how stakeholders are interconnected in various and simultaneous ways, creating a multi-layered scenario in which synergies facilitate multiple resource integrations and revenue opportunities. (taken from Kunz et al., 2021)

Finally, the interdependence with other ecosystemic actors, such as technical providers and data analysts, enabled esports to provide newcomers, non-endemic sponsors with nuanced descriptions of their user audiences, average engagement rates, and so on (see Fig. 16; Esports Group, 2020; Pizzo & Hedlund, 2024). This allows companies to “pick” their preferred scene from the esports portfolio, communicating more effectively with their targets and further aligning their objectives with those of the selected title’s user base. For instance, “mature” games like LoL and CS:GO do display a preference for self-optimising, sports cars, e-commerce, and business themes (Pizzo & Hedlund, 2024). Conversely, fans of sports simulators (e.g., EA Sports FC) are more likely to prioritise personal health (Allenstein et al., 2020, p. 14), whereas younger audiences interested in music and fashion can be reached through titles like Fortnite and Fall Guys (Epic Games, 2020).

Esports Audience Overlap

Understand how many esports fans two game titles share



Source: Social data of 80,000+ English-speaking esports fans

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Powered by **SPORTS IQ**

Fig. 16. A table showing the audience overlap between the most prevalent esports titles, as derived from social media data and elaborated by the Esports Group, a specialised analytics agency. As the colours indicate, the overlap between the gaming audiences is nearly null, except for some logical overlaps (e.g., Madden NFL and NBA 2K, both games derived from popular U.S. sports). (taken from Esports Group, 2020)

3.3. Wrap-up

This Chapter has summarised the state-of-the-art literature to present a deep dive into the current arrangement of the esports ecosystem. Although scholarship explicitly approaching esports as a digital business ecosystem is still limited, I could utilise the growing body of studies on esports management (e.g., Gentile, 2024) – which also forms the basis of the numerous esports curricula emerging in universities (cf. Jenny et al., 2021) – as well as the valuable insights from insiders and esports journalists. An analysis that, on the one hand, gave me a glimpse of the current size of the esports industry, while, on the other, allowed me to grasp the underlying structure of this digital business ecosystem. Hence, before moving to the structural recap of the esports ecosystem, it may be helpful to briefly recap the current figures of the esports ecosystem, given that its historical journey (see the Introduction and Chapter 5) brought it from a grassroots activity to a worldwide industry (Scholz, 2019). Indeed, if this also transformed esports from a loose network of enthusiasts into a proper digital business ecosystem, it is because of the progressive inclusion (and organisation) of individual, organisational, and institutional actors (Scholz, 2019; T. L. Taylor, 2012) inside an interdependent network of co-evolving agents.

3.3.1. Esports' current size and viewership

When dealing with competitive gaming, market sizing often varies widely across sources. This is due to the definition of esports considered, which, as I mentioned (e.g., Chapter 3.2.3), remains debated. Nonetheless, most reports include only the “professional” scene, treating competitive gaming both as a paid activity and as a monetised asset. On the contrary, this leaves aside the amateur play, which may seem somewhat controversial, since we saw how the esports ecosystem is predicated upon this un- or low-paid mass of passionate gamers (M. R. Johnson & Woodcock, 2021). Nonetheless, this approach is also shared by the leading consulting agency on esports, Newzoo, which leaves us without a picture of the “grey” economy surrounding competitive gaming.

Still, the current figures for esports remain remarkable: the global esports market was estimated at around \$1.38 billion in revenue in 2022, with a projection of nearly \$2 billion for 2025 (precisely, \$1.86 billion; Newzoo, 2022). In the current data, sponsorship remains the dominant revenue stream, with an estimated \$800 million in

2022, accounting for nearly 60% of total revenues. On the other hand, these numbers do not tell the entirety of the picture, since the ecosystem goes well beyond the simple revenue estimates: in fact, it should also include adjacent markets (e.g., the streaming economy) and the amateur-ish level of local leagues (e.g., the second-tier of the Italian LoL scene), ending up in a dramatically larger total. Hence, we can frame esports as a multi-billion-dollar industry, in line with reports indicating that the broader gaming industry generated around \$190 billion in revenue in 2025 (Newzoo, 2025). Hence, esports form a small yet remarkable part of the broader games economy, with nearly 3.6 billion players worldwide (ibid.).

The last data launch us directly into the second theme regarding the size of the esports ecosystem, i.e., its user base. Again, professional players constitute only a small portion of the total number of individuals involved in esports, with esports-specific sites estimating around 85 thousand pro players worldwide (Esports Charts, 2025b). A tiny portion compared to the 3.6 billion gamers worldwide (Newzoo, 2025), which potentially may end up involved in competitive and multiplayer domains. Not surprisingly, the esports audience is much larger, reaching around 640 million by the end of 2025, split into ~318 million enthusiasts and ~322 million occasional viewers (ibid.). This is in line with data on the Italian market (see Box 2), which states that those “regularly following esports” account for 3.3 million in the Peninsula alone (IIDEA, 2024).

Finally, we can also estimate the size of the livestreaming market, which is closely linked to that of esports and shares its user base with that of gaming, broadly defined. Here, we can count on more precise data, due to the proprietary analyses by industry goliaths like Twitch, further refined by consulting agencies through APIs. The most common way to depict the fluctuating population of “esports viewers” is to examine viewership metrics for major events, such as the LoL Worlds. Specifically, the 2024 edition of this event reached nearly 7 million peak viewers, with the caveat that such a figure excludes Chinese streaming platforms, which are inaccessible to most analysts. Using more scholarly sources that correct data for possible gaps, we can find that the 2018 LoL Worlds peaked at 43.4 million viewers: a comparable viewership to that year’s NBA Finals, which stopped at 17.7 million (W. Campbell et al., 2021). This means that esports can produce mass-event peaks comparable to major sports fixtures, which partially explains the rising interest in this discipline as a viable sportainment product. On the other hand, it also shows how esports data remains

dramatically platform-fragmented and asynchronous, which (partially) accounts for the fluctuations in figures.

In sum, we can say that:

- Professional esports economy sits at around \$2 billion;
- the professional(ised) population is estimated at around 85 thousand players;
- the esports viewership reaches 640 million, equally divided between regular and occasional viewers;
- viewership concentrates in tentpole events, with documented peaks surpassing 40 million viewers.

Box 2. An Italian job: The Italian esports ecosystem between geo-technical constraints and lack of regulation.

Coherently with the historical depiction of Box 1, Italian gaming leapt forward thanks to the emergence of the first, stable core actors in the 2010s, when both the global scenario (e.g., arrival of esports mainstays like LoL) and the local environment (e.g., nascent internal influencer economy) joined forces to create a steady interest toward national competitions and content. The consolidation of a national audience – sustained also by media content and streaming – and the progressive abandonment of LAN-styled events – in favour of more nation-wide events – allowed core actors to develop and stabilise, aligning with the broader European economy. Even so, the Italian ecosystem has emerged as a distinctive constellation, due to the Country's fragile technical infrastructure and uneven institutional support, which delayed the development of professionalised competition compared to Northern Europe or East Asia. Consequently, some exceptions apply to the core actors forming the Italian esports ecosystem, which evolved in adaptation to its peculiar hosting environment (as displayed by many other local networks; Scholz, 2019). The following lines will then provide a detailed summary of these specificities, depicting the background scenario in which the observations in Chapter 5 occurred. As a disclaimer, this Box will mostly concentrate on core actors, due to both empirical and business-size reasons: indeed, the lack of institutionalisation of the Italian ecosystems hinders the access to data on the involved stakeholders, significantly limiting the overall appraisal of the local industry's volume; on the other hand, such difficulty is also

related to the relatively small-sized market sector that esports still represent in Italy, mainly in term of cultural relevance and regulation.

Core actors

The most-played titles in Italy are not produced within Italian borders, which hosts only small hubs of independent (a.k.a., indie) game developers (IIDEA, 2024). Although a peculiar passion for football-themed games exists, Italy imported most of its gaming titles (see Fig. 17). Hence, global publishers began taking an interest in the Italian market by opening local branches only after the market outbreak during the 2010s.

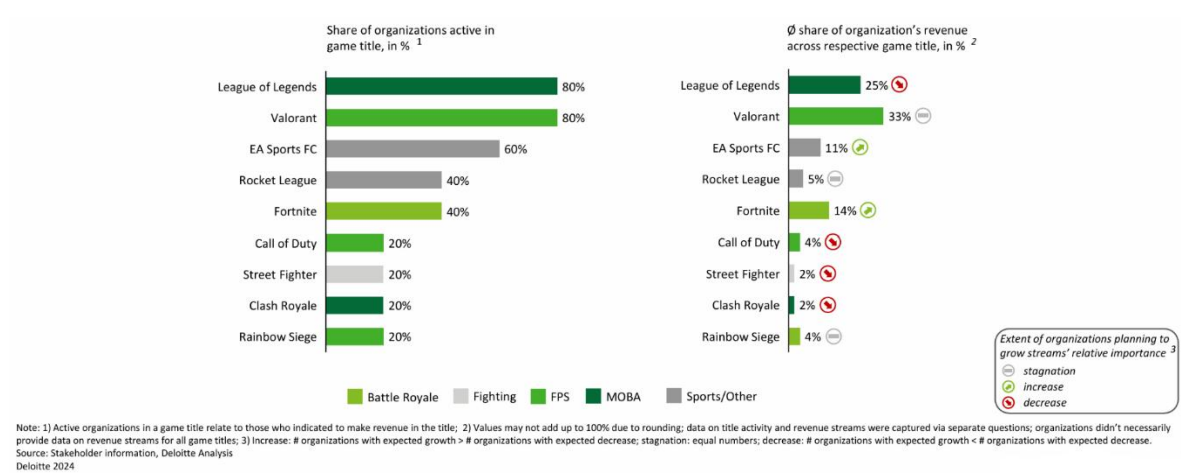


Fig. 17. Involvement of “Italian esports stakeholders” in selected game titles, as published in Deloitte’s and IIDEA’s most recent market report (2024). As can be noted, the Italian market is dominated by Riot’s products (LoL and Valorant; Riot, 2009, 2020), which also represent the most profitable ones for involved actors. Nonetheless, a local specificity is represented by the football-themed EA FC, elsewhere less linked to esports, which is becoming increasingly profitable in the Italian scenario. (taken from Deloitte & IIDEA, 2024)

Most importantly, industrial stakeholders began appointing local tournament organisers to orchestrate the seminal domestic leagues, as part of a strategy to expand their titles and, in the long run, to include Italy within the already rich regional competitions. Among other competitors, the Milan-based company Personal Gamer, now PG Esports, established itself as a key intermediary between global publishers and local audiences, professionalising production standards and linking Italy to the European competitive calendar. Notably, PG Esports rapidly became the central hub

for all nationwide competitive circuits (e.g., LoL and CS:GO) and the designated intermediary for local streams and media outlets. Leveraging the migration of Italian esports from subcultural participation toward an increasingly managed cultural economy, PG Esports proved particularly adept at building key synergies with other ecosystem actors, significantly contributing to the institutionalisation of esports within the Peninsula. Indeed, PG Esports currently collaborates as an organisational intermediary with all major competitive leagues, from the arrangement of physical stages during gaming expos (in particular, the Milan Games Week and Lucca Comics and Games) to the legal and administrative coordination of Italian official leagues (especially the semi-franchised PG Nationals tournaments in LoL, Valorant, and R6). In other words, PG Esports and other local tournament organisers anchored esports within national and international media infrastructures, transforming competitions into staged and monetisable events.

On the other hand, the success of companies like PG Esports would not have been possible without a tangible engagement by gaming communities. When discussing esports, we must never forget that the esports sector remains a niche within the broader audience interested in digital games. In fact, recent estimates placed esports viewers at about 20% of the global audience consuming gaming content online (Deloitte & IIDEA, 2024). Nonetheless, the size of the Italian ecosystem is on the rise, as confirmed by the cited report (ibid., see also Fig. 18).

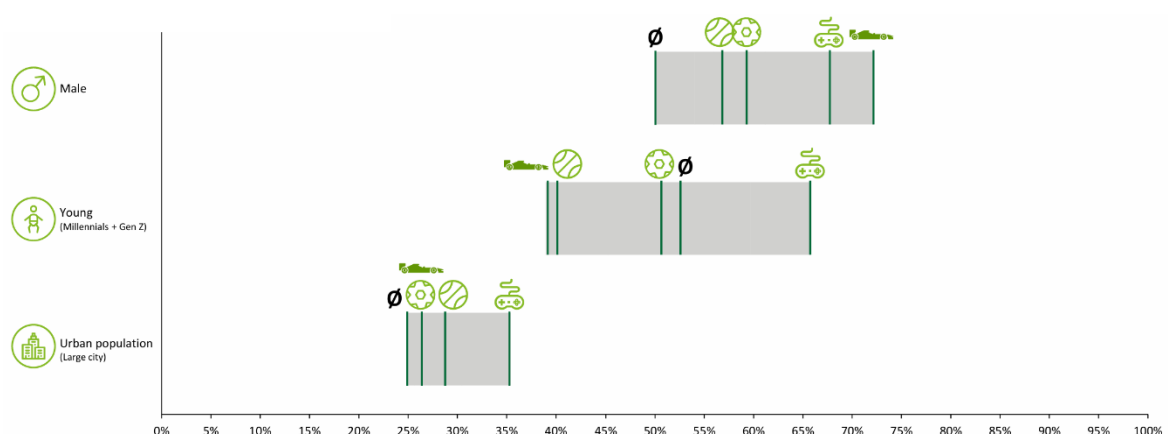


Fig. 18. The demographic distribution of different sports audiences in Italy, based on data from respondents in a Deloitte analysis of the previous 6 months. Taking the first distribution in the graph, the symbols represent: the overall sample average, the value of tennis fans

among male respondents, the percentage of football viewers, the percentage of esports fans, and, finally, those watching motorsports (such as Formula 1). (taken from Deloitte & IIDEA, 2024)

Translating percentages into numbers, Deloitte's and IIDEA's experts state that about 7,3 million Italians follow esports content, with 3,3 million watching weekly (ibid.). The figure seems consistent with previous reports stating that 1 in 3 Italians plays games, with a total of 14 million gamers, on the rise (IIDEA, 2024). Similar to other local ecosystems, the Italian audience is predominantly male and concentrated between Gen Z and Millennials (Deloitte & IIDEA, 2024). Most interestingly, the report also signals a remarkably high tolerance among the esports audience for advertising and brand integration compared with non-esports viewers, which significantly sparks the interest of (non-)endemic stakeholders (ibid.). An interest that strengthens when data highlights how Italian fans are also particularly keen to spend money on esports products, with heavy (7-10 hours a week, 15% of esports fans) and hardcore viewers (more than 10 hours a week, 20% of esports fans) peaking above a hundred euros per week in esports-related spending over the last 6 months. If these data remain partial, mostly estimates, and poorly confirmed by other consulting agencies, they certainly explain why Italy is regarded as one of the most interesting "rising markets" for esports stakeholders, after Switzerland and Saudi Arabia (see Fig. 19).

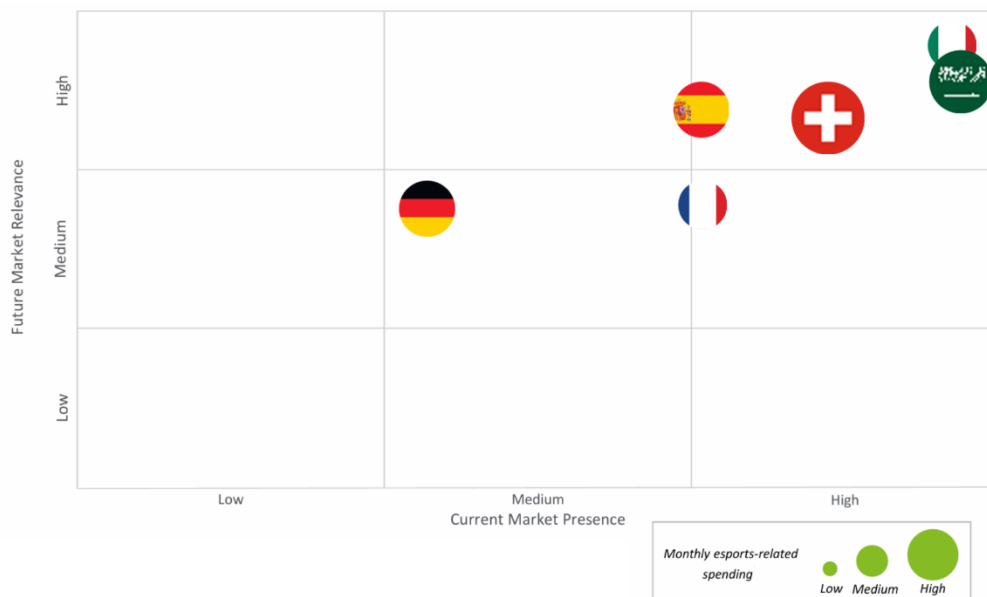


Fig. 19. Current and future relevance of selected esports markets, as signalled by stakeholders included in the 2022 Deloitte Esports Study (as cited in Deloitte & IIDEA, 2024). (taken from Deloitte & IIDEA, 2024)

The attractiveness of the Italian market explains why competition among organisational stakeholders remains intense within national borders. If we mentioned the importance of PG Esports, they are not the sole “media company” interested in an intermediary role within local esports perimeters. Organisations like Qlash and OutPlayed, for example, are currently covering hybrid roles, operating between “orgs” and proper organisers (e.g., Qlash hosts its own stage at many Italian gaming expos). Looking again at the Deloitte and IIDEA (2024) market report, we can see that the profitability of Italian esports remains low, which may explain why so many esports orgs linger on hybrid roles. Indeed, the report suggests that Italian orgs prioritise sporting success over economic success, hence imitating sports organisations. On the other hand, this also brings a significant imbalance between expenses and revenues, generally leading to low or no profitability in the strictly business sense (Deloitte & IIDEA, 2024). Not surprisingly, organisational stakeholders identify the core revenue streams in advertising, sponsorship, and content creation, which together account for more than 60% of total income (ibid.). Such figures illustrate both the vitality and the precarity of the sector, as profitability depends less on competitive success than on maintaining visibility within a volatile

attention economy. This means that their esports appearance is subsidised by external support from sponsoring firms, thereby dramatically linking success and participation in events to survivability. Thus, while most orgs rely on visibility to get their businesses off the ground, it should not surprise, then, that some of these tried to branch more thoroughly into tournament organising and influencer marketing (from content to merchandise), even if not strictly related to esports. Still, most of their activities remain predicated upon the low- or un-paid labour of Italian esports aficionados, barely achieving proper sustainability for all the actors involved.

Peripheral actors

While research explored emotional identification and participatory aspirations as drivers of engagement in Italian esports, one of the seminal contributions to this local ecosystem highlighted the ecosystem's fragile regulatory system and a vague legal framework. However, before delving into the complexities of the current Italian esports legislation, we should note that the first batch of peripheral ecosystemic actors, i.e., enablers, remains mainly unmapped in academic and business analyses. Indeed, major local events showcase the presence of indigenous firms, such as talent agencies (e.g., aNc Media) and tournament operators (e.g., ProGaming Italia), but also accompany them alongside global industry goliaths, from streaming services (e.g., Twitch) to sponsoring firms (e.g., Gillette). Nevertheless, my empirical observations revealed a much more complex scenario, in which many of these firms often overlap or fulfil hybrid roles. Once again, we can take as an example Qlash, which sits comfortably among both core actors – as an esports org, a competitive team, and a tournament operator – and among peripheral ones – since it offers consulting services to both endemic and non-endemic collaborators, provides the material arrangement for on-site events, and entails some part of talent agencing for its players. In line with the broader configuration of the Italian economy, the local esports industry encompasses a full range of medium- to small-sized companies as satellite activities, often without direct interests in gaming (e.g., tech stores). This rich substrate of loosely related firms, then, collaborates with bigger industrial actors, such as multinationals, gaining them local operability while avoiding direct investment. This is the case of the media area around the Sky Italia offices, where OutPlayed also decided to locate its headquarters: a decision made also

because of the possibility to share with the media goliath the ancillary services in loco, the same that Riot actively engaged with when operating in Italy. Ultimately, the lack of authoritative mapping or dominant sector spokespersons hinders the possibility of a detailed tracing of all the actors involved, unlike in other, more institutionalised markets (e.g., Japan; see Fig. 9).

On the other hand, the Italian esports ecosystem is also a peculiar example of this sector's tension between commercial enthusiasm and structural fragility. As we saw, local esports organisations have been described as mimicking their sports counterparts, relying primarily on (e)sporting success to secure revenues from sponsorships and advertising. At the same time, market data suggest that the Italian esports industry sits at approximately \$62 million in 2024 (GlobalData, 2025), thus representing a vital and flourishing sector of the Peninsula's digital economy. Yet, the regulatory and institutional ambiguities persist: Italy has still to grant esports formal recognition as a sporting discipline (at least within the CONI framework), leaving players and teams without the protections or fiscal regimes available to athletes in traditional sports (Ceruso, 2024). Since the foundational review by Rizzi and colleagues (2019), Italian esports have yet to find their "regulatory soul," remaining trapped in a definitional debate that seems detached from current academic perspectives on the topic (Svensson & Pargman, 2024). A scenario further complicated by the deluge of institutional bodies that have arisen in recent years (see Chapter 3.2.2). While some of them seem to have achieved partial recognition within sporting frameworks (e.g., FIDE), the more industry-related still lack the lobbying power needed to influence the definitory debate, leaving Italian law undecided whether esports should be treated as sports, entertainment, or a new hybrid domain requiring *sui generis* regulation. Although some institutional consolidation followed the AESVI's rebranding as IIDEA in 2020, which integrated the interests of developers, publishers, and competitive gaming actors, this has not stopped regulators from dramatically impacting the local industry. Indeed, the regulatory debate over esports regained momentum with the publication of the 2018 "Decreto Dignità" (translatable as "Dignity Decree"), which prohibits gambling advertising. Such law significantly complicated sponsorship opportunities, as esports competitions were seen as online gambling outlets (see also Appendix III) and gaming houses as betting places – with a somewhat terrible confusion between

gaming peripherals and slot machines. Even more recently, the local antitrust authority for communications (i.e., AGCOM) has enforced similar limitations on social media platforms, tackling betting-related content (AGCOM, 2024; Biondi & Fotina, 2025). An enforcement that significantly impacted not only streamed events, but also the esports' ancillary economy of influencers and content creators, which already saw their lives hit by the misapplication of Law 93/2023 – originally aimed at combating piracy of sports broadcasts. Currently, Italian esports have received verbal promises of recognition from government representatives, but still await official inclusion within sports federations (and legislative frameworks).

Wrap-up

Despite its regulatory limitations, the Italian ecosystem benefits from a robust general gaming market, which IIDEA (2024) estimates at around EUR 2,4 billion. If this economic substrate indirectly nourishes esports, the Italian infrastructural gaps remain: training facilities are limited, regional disparities persist, and collaboration between public institutions and private organisers is sporadic. As noted through both (the scarce) literature and observational data, the sector operates through a patchwork of micro-enterprises and informal networks rather than through a coherent national strategy (see also Penello, 2024). In this sense, Italian esports can be read as an emergent, yet precarious assemblage, whose coherence depends on relational improvisation rather than top-down design (cf. Star, 1999). If the oft-criticised regulatory vagueness also allows experimental configurations of governance, sponsorship, and creative labour, it also hides dangerous patterns of exploitation, economic fragility, and absence of protective rights. As such, the interplay between grassroots enthusiasm and corporate mediation produces a dynamic but unstable ecology, significantly hindering the achievement of sustainable standards within the Italian local industry. Albeit this is not solely an Italian problem, its previous infrastructural and economic fragilities might not allow this local ecosystem to survive upcoming crises without resorting to cross-border collaborations, particularly with steadier networks (e.g., Germany) or more governmentally-backed, rising markets (e.g., Saudi Arabia).

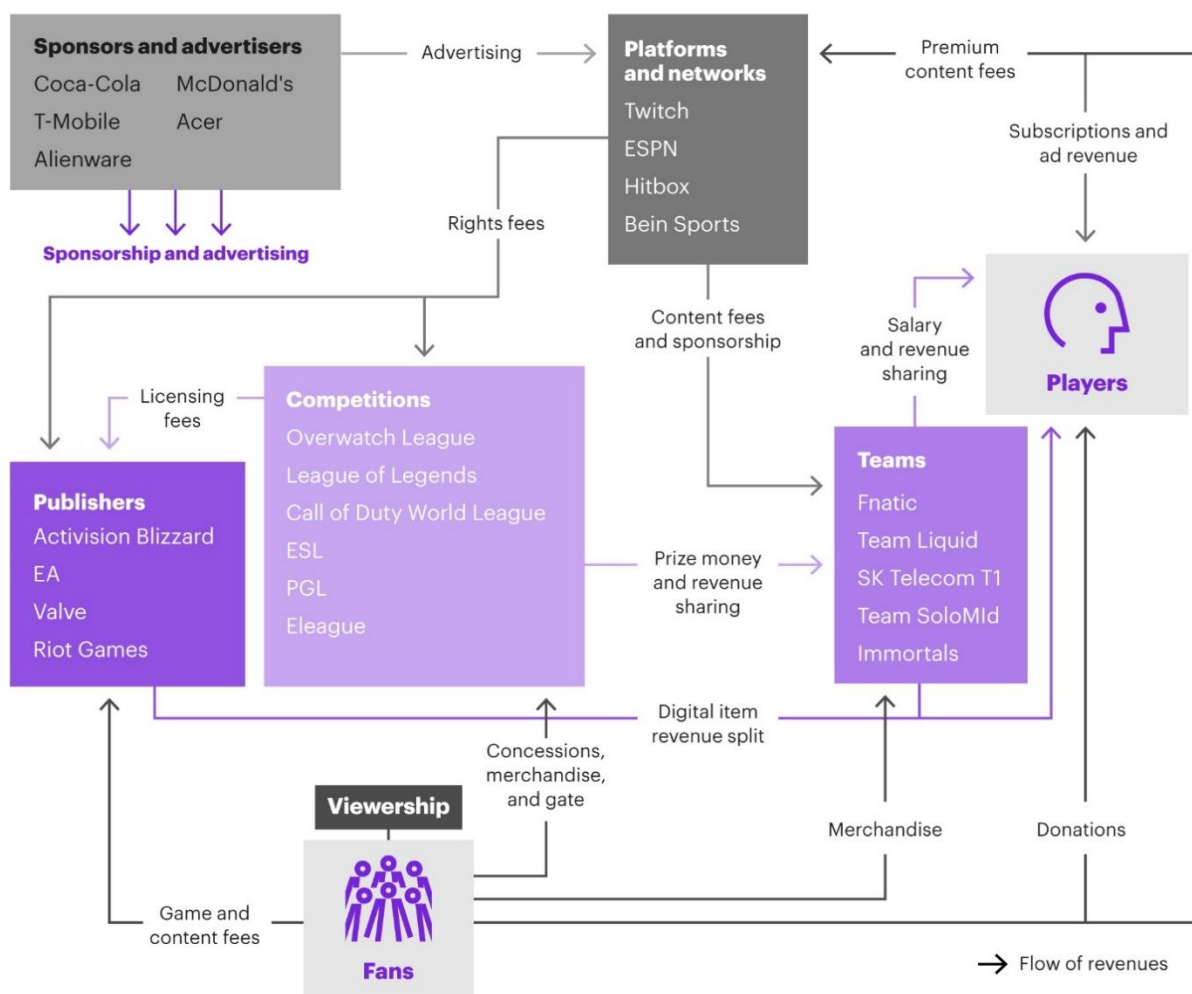
3.3.2. The esports ecosystem's structure, in short

Most authors agree on depicting esports as a layered, or concentric, environment, with core actors forming the heart of such a system (Ludwig & Lachmann, 2024; Scholz, 2019; Werder, 2022). There, we can observe a significantly higher exchange of goods and services between stakeholders, with some fulfilling vital functions for the entire ecosystem. Conversely, competitive gaming mirrors other digital business ecosystems (e.g., platforms; Thomas et al., 2024) in displaying the presence of numerous complementors, thereby expanding the network's industrial and market magnitude through their ancillary role. These companies enter the esports landscape either in the hope of carving out a share by jumping on the bandwagon, or to capitalise on the expanding demand that competitive gaming generates (Ludwig & Lachmann, 2024; Scholz, 2019). Peripheral actors do not serve as fundamental to the ecosystem, but do offer important complements to the core productive relationships found at its centre. The review of its components leads us to consider more thoroughly how value is created inside the esports scenario. Given the ecosystemic arrangement of the esports industry, most research confirms that the field is predicated on co-creation (see Fig. 22) and joint forms of production (Carrillo Vera & Aguado Terrón, 2019; Carrillo Vera & Antón, 2024; Roth et al., 2023; Scholz, 2019; Werder, 2022). Some of the reviewed studies compare esports' business models with the traditional sport(ainment) industry, suggesting that there may be similar monetisation strategies (Carrillo Vera & Aguado Terrón, 2019). Although centralised and decentralised league structures (see Figs. 4 and 5) illustrate how the esports industry is structured around publishers, absent actors in sports scenarios, these studies equate gaming's income circulation with that of traditional sports markets. For Carrillo Vera and Aguado Terrón (2019), game publishers' role mimics those of franchise league owners in the NFL and NBA, as they form the central axis of the esports business and are (directly or indirectly) involved in the majority of market flows: media and streaming platforms pay them for broadcasting and visibility rights, brands sponsor them for exposure, whereas followers acquire in-game elements, physical merchandise, and publisher-organised events' tickets (Carrillo Vera & Aguado Terrón, 2019; Carrillo Vera & Antón, 2024). From this initial phase, the rest of the commercial exchanges, such as remuneration from organisers to broadcasting companies, follow a relatively traditional arrangement within the sports entertainment industry (Fig. 20), as the rising importance of gambling

firms illustrates (see Appendix III; Carrillo Vera & Aguado Terrón, 2019). Esports teams and players, in turn, obtain revenue from advertising investments and other brand partnerships, as well as from their own merchandise sales and prize pools, and a share of tournament income – as in franchised leagues (Carrillo Vera & Aguado Terrón, 2019; Scholz, 2019). In this view, players (especially amateurs) constitute the last party involved in esports business revenue streams, earning salaries or competition prizes as the most reliable form of income. Media platforms do enable them to integrate such income with fan subscriptions, donations, and, when they gain fame, even direct sponsorships (Carrillo Vera & Aguado Terrón, 2019; Scholz, 2019; Werder, 2022). However, streaming requires significant effort to be performed (Ruberg & Lark, 2021; T. L. Taylor, 2018; Woodcock & Johnson, 2019b), often leading well-earning players to abandon their professional careers to pursue internet celebrity (Burroughs & Rama, 2015; M. R. Johnson et al., 2019). Notably, some of these players (e.g. Matthew “NaDeSHoT” Haag) took advantage of their newfound popularity to subsequently establish their own team and remain in the esports ecosystem with renewed roles (Carrillo Vera & Aguado Terrón, 2019; Scholz, 2019).

As illustrated by the arrows’ direction, players represent a receiving stakeholder, but they are in fact left with the crumbs compared to the exchanges at the core of the network, where fees, advertising, and sponsorships generate the big numbers. Moreover, players often overlap with the actor identified as “viewership”, thus representing a depleted resource and contributing to the income of other stakeholders. Nonetheless, esports scholars underscore that, if we take an ecosystemic rather than a business-oriented perspective, the focus shifts to users (Carrillo Vera & Antón, 2024; Scholz, 2019; Werder, 2022). Indeed, gamers constitute the essential component of esports, not only historically – as they were able to sustain the movement in its early days and funnel it toward becoming an industry with head-spinning figures (Scholz, 2019; T. L. Taylor, 2012) – but also in terms of the function they cover within the network of stakeholders.

Overview of the esports ecosystem



Note: CPM is cost per thousand views (what the platform pays the player for the viewership they generate).
Sources: Catalyst Sports; Kearney analysis

Fig. 20. A visual summary of income and monetisation flows that constitute the business dimension of the esports ecosystem. (taken from Firth et al., 2022)

As we covered in Chapter 3.1.2., the range of positions available to players wishing to turn professional is broad, and treating them as mere consumers of video gaming products would underestimate their contribution to the field (Carrillo Vera & Aguado Terrón, 2019). Although research warned about the dramatic gender imbalance affecting users' demographics, especially in professional roles (e.g., Eduardo, 2023), we can draw upon the recent work by Carrillo Vera and Antón (2024) to re-design a visual depiction of the esports ecosystem (Fig. 21), able to account for the participatory and convergent role of esports users (Jenkins, 2006; Kaytoue et al., 2012; T. L. Taylor, 2012).

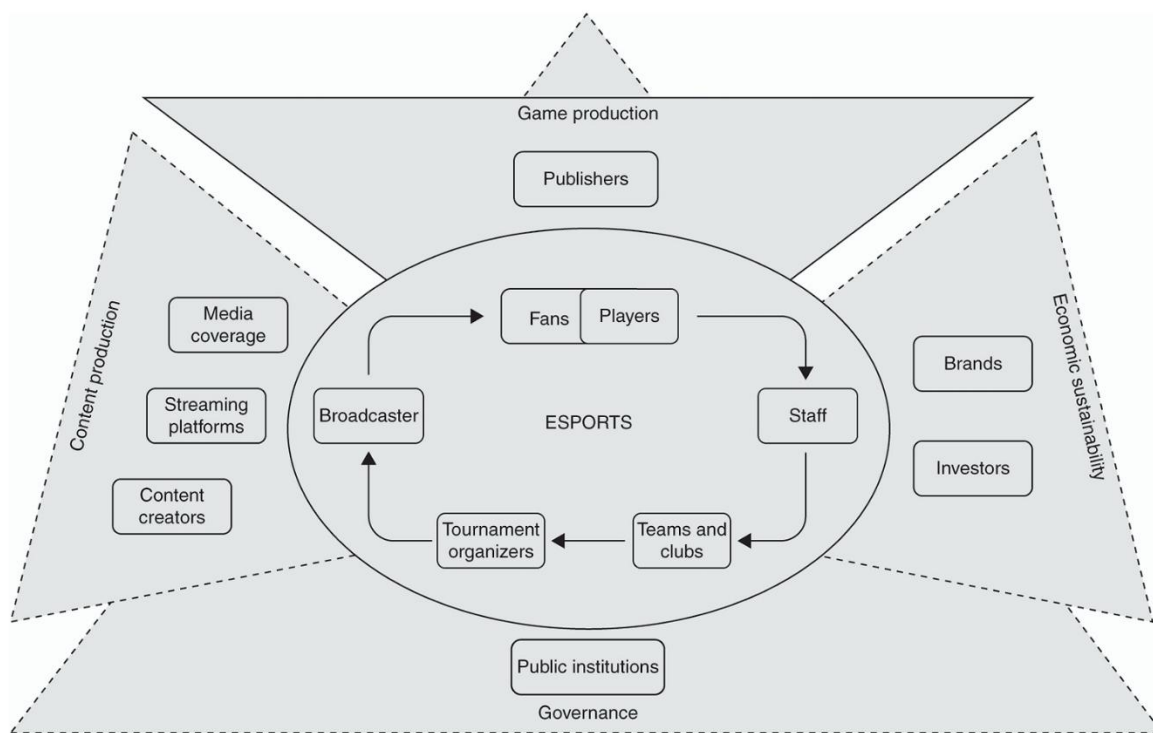


Fig. 21. The “crosswise esports ecosystem model” drafted by Carrillo Vera and Antón (2024), which keeps users at the centre of the network and underscores the intersection of the ecosystem’s different dimensions, such as the interweaving of governance levels (e.g., varsity esports) with platform economies. Discontinued outlines in triangles represent a diminishing degree of influence towards the centre of the ecosystem. (taken from Carrillo Vera & Antón, 2024)

Claiming to draw upon Tobias Scholz’s (2019, 2020) concentric model, the authors propose a reprise of it through the addition of cross-sectional evolution and non-hierarchical distribution of elements. The result is an ecosystem predicated upon the hybrid and complex nature of competitive gaming, overcoming previous attempts to describe it in terms of either a sports or media phenomenon, to present a comprehensive framework accounting for both dimensions, to which also governance and public institutions’ involvement are added (Carrillo Vera & Antón, 2024). Hence, the authors decided to illustrate esports through three layers describing its main areas: 1) creation-production-publishing, which comprises the more industry-driven part of the network and sees the overruling power of publishers on their products; 2) delivery-distribution-access, which instead revolves around media platforms and their increasingly dominating revenue models; 3) use-consumption-interaction, where lies

users and their vital exchanges as the activities sustaining esports and making it what it is – e.g., amateurs fuelling pro players ranks, broadcaster spreading the knowledge on the games, staff making esports organisations achieve important goals, from sponsorships to prizes.

I praise this model particularly for its ability to reconnect game literature about playbour, which underlines the hybrid role of players as both consumers and producers (Brock, 2017; Costa, 2020; Kücklich, 2005; Törhönen et al., 2019), with those coming from organisation and media studies about “users’ production” (Hyysalo et al., 2016) and “prosuming” (Fuchs, 2014; Ritzer & Jurgenson, 2010). This link is of particular importance, since it constitutes a double-sided move: on the one hand, it recognises the power of publishers as leading stakeholders, since they own the product through which esports is predicated and have the right to steer both competition regulations and monetisation flows in the direction they prefer; on the other hand, though, framing pro players’ efforts as playbour makes a unique move in stating that, without users’ endeavours, the industry would collapse (Besombes, 2024; Carrillo Vera & Antón, 2024; Scholz, 2019). Indeed, organisations (e.g., tournament organisers, teams, etc.) and companies (e.g., publishers, sponsors, etc.) do construct an environment that prompts gamers to turn professional: for example, developers produce a game that gives gamers the affordances to play online, side-industry firms like Discord give the tools to build stable teams and communities, whereas esports organisations offer the know-how needed to amateurs to grow into proper players, also paying them a salary to train and compete. The moves “produce” users, in the sense that these stakeholders put gamers into production by entailing them within their revenue-generating practices (e.g., fostering streamers’ success reflects platforms’ capitalisation on traffic size). Conversely, users contribute a significant amount of labour, mostly unpaid (M. R. Johnson & Woodcock, 2021). As T. L. Taylor (2012) puts it, even the audience – supposedly the most “passive” actor in the network – is actively involved with countless hours of passionate work:

“[T]hey devote hours upon hours to mastering it, endlessly fascinated by the intricacies of the system, its characters, its weapons, its properties.” (T. L. Taylor, 2012, p. 89)

In fact, players represent a critical mass that can sustain competitive gaming through their activities, such as attending events and watching streams, whose figures can

then be leveraged by non-endemic sponsors to raise interest (Gawrysiak et al., 2020; Jenny et al., 2018; Scholz, 2019). In other words, by playing their favourite titles, gamers are both showcasing their prowess as astonishing experts in their field and transforming such products (and industry) into global phenomena (Costa, 2020; Kaytoue et al., 2012; T. L. Taylor, 2012).

This also led Tobias Scholz (2019) to consider users as the core of all stakeholders. However, he framed this central role differently, emphasising the primacy of the audience in the esports ecosystem. He not only claimed that every industrial stakeholder in the network aims to monetise from the esports audience, but also underscored how gamers are actively participating in the scene (Scholz, 2019). Reinforcing our previous point on convergence culture and playbour, Scholz depicted esports' audience as broadly aligned with the gaming, or gamer, culture (Franke, 2015; Jonasson & Thiborg, 2010; A. Shaw, 2010). Hence, this audience shares a "self-professed passion for video games" (Weststar, 2015, p. 1244), which tears down every distinct boundary among stakeholders. Simply speaking, being part of the audience, or viewership (see Fig. 23), can also mean being part of a professional team, a streamer, or involved in tournament organising. It can even be possible that you are an external actor, such as Sergio "Kun" Agüero (former footballer) or Luca Pagano (former poker player), wishing to enter the field because of an enduring passion for games (Calgaro & Cozzi, 2021; Mattei, 2021). This allows esports to show a dynamic and continuing transition between the audience and productive roles (T. L. Taylor, 2012), as well as content (and income) creating ones (Scholz, 2019).

Such integration leads us to the question that all depictions of the esports ecosystem leave open: what makes links between stakeholders so peculiar? Indeed, the intensity of network effects shown by esports actors is considerably higher with respect to any other cultural or sports-related phenomenon (Scholz, 2019). As summarised by Randhawa (2015), even the ecosystemic members seem to perceive such uniqueness:

"Altogether, professional gamers, audience members, and commentators present a dynamic understanding [of] video games as a performative medium." (Randhawa, 2015, p. 16)

Henceforth, esports actors appear as inherently interdependent, confirming the ecosystemic perspective applied so far. Nonetheless, a thorough analysis of the nature

of these connections is still lacking, as no studies to date have attempted to disentangle the esports dynamics of interaction by labelling the direction, typology, and effects of such links. For Tobias Scholz (2019, 2020), a deeper understanding of these interconnections would be of significant importance to the industry, enhancing its coopetitive capacities and making all stakeholders, even peripheral ones, more effective in finding sustainable business models, turning short-term profits into long-lasting viability.

To conclude, I will leave readers with the esports ecosystem depiction drafted by Nico Besombes and Seth Jenny, which I regard as the most comprehensive and balanced in showing each stakeholder's connections and weight within the network (Fig. 22). The network evolves from the linear link at the centre, connecting users to media channels (as in classic sportainment depictions), while also acknowledging material actants (e.g., games) and institutional agents (e.g., NGOs). Moreover, it provides insightful specifications on the possible roles of some core actors, actually forming them into clusters rather than punctual entities. Finally, it gives a first glimpse into the directionality of connections, while maintaining the non-hierarchical and circular approach adopted by other researchers (cf. Carrillo Vera & Aguado Terrón, 2019; Carrillo Vera & Antón, 2024; Scholz, 2019, 2020).

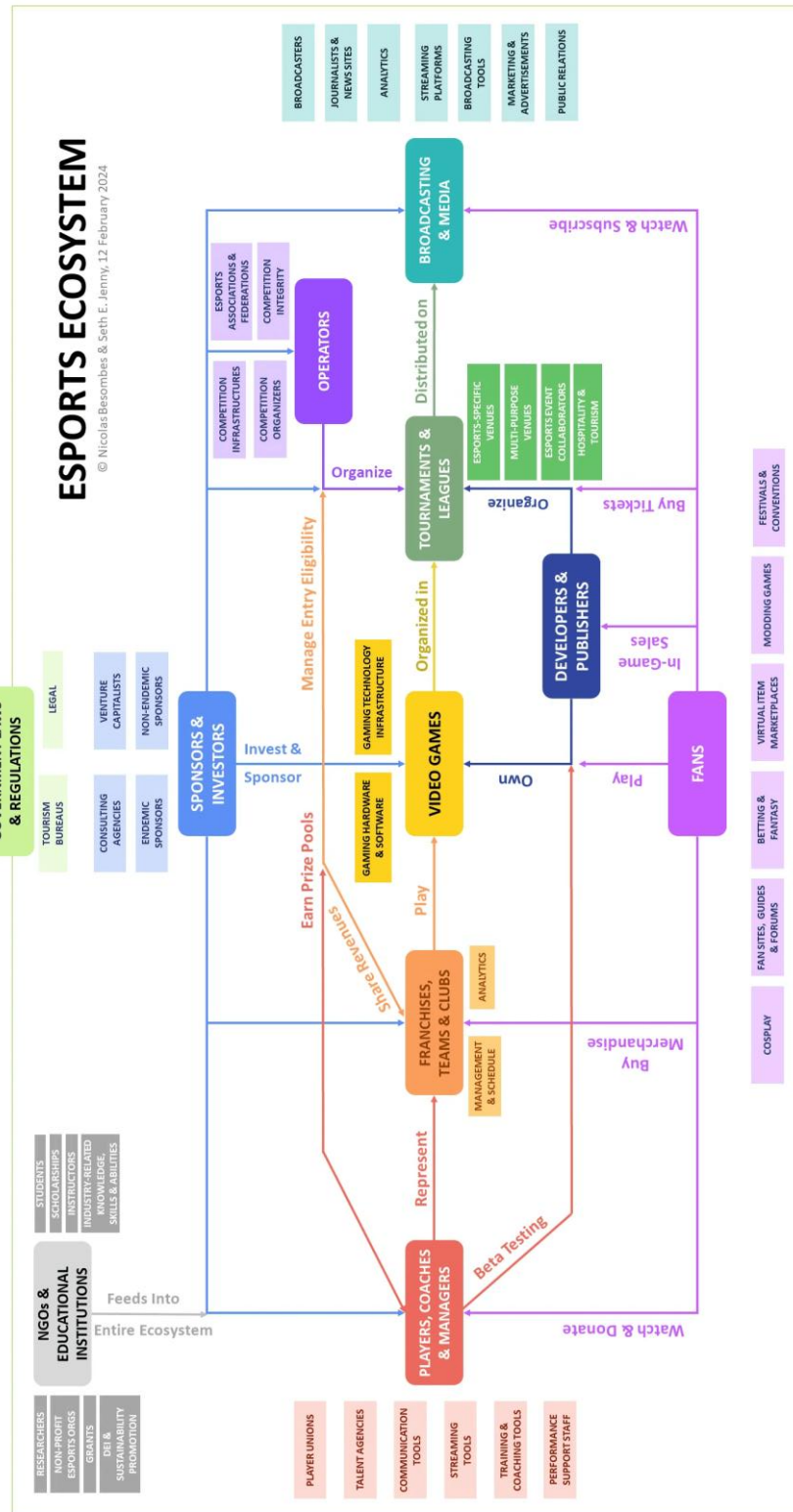


Fig. 22. The esports ecosystem, as depicted by Besombes and Jenny in 2024. The graph illustrates the multiple connections between stakeholders, underscoring their mutual interdependence and, where possible, specifying the activities underlying these links. Such specification is of particular importance, since it constitutes the basis for a more detailed inquiry into the nature of the link between stakeholders. (taken from Besombes, 2024)

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4. Methodology: Dirty methods for quirky fields

Springboarding from a significantly unorthodox literature review, this section will move to a more detailed description of the short-term ethnographic approach I adopted. This set of techniques enabled me to transform the physical enclaves of gaming houses into a keyhole (cf. Cumming et al., 2022) through which to observe broader relational links within the Italian and European esports ecosystem.

4.1. Research rationale

Overall, the extant literature on esports and competitive gaming lacks a clear-cut theoretical and methodological framework to be approached with, as it still relies on theories and techniques coming from other scholarly fields to build its knowledge (Adamus, 2012; Bihari & Pattanaik, 2023; Nothelfer et al., 2024; Pizzo et al., 2022). An example in this sense is coming precisely from the wide range of sources and research methods included in the studies cited inside the esports ecosystem's outline of the previous chapter, which displays how the field employs a mixture of well-established research approaches (e.g., management studies' toolkits) and insiders' insights (either researcher-elicited or gathered from other sources) to empirically ground its scientific advancements (Scholz, 2019). Indeed, esports scholars have proven inventive in finding ways to obtain reliable data on the various layers that form the competitive gaming landscape, refraining neither from scraping in-game data (through APIs) nor from utilising available market-oriented research. This has allowed scholars to reveal many of the ecosystem's underlying mechanics and entanglements, but has so far failed to produce a qualitatively rich and ecologically informed study of the links that sustain such a digital business network. Indeed, previous studies either overlooked this theme or failed to account for it, as their methodologies were not designed to elicit such data.

On the other hand, the ecological approach to digital business ecosystems has not yet been widely accepted as a framework, as most of the work remains theoretical (Márton, 2022, 2023). Studies focusing on relationships within digital ecosystems have so far mainly relied on qualitative methods, as revealed by the literature review by Yoon and colleagues (2022). In their study of symbiotic relations within business ecosystems, 84% of extant research adopts a qualitative approach, while only 14% employ quantitative studies, with just 2% opting for mixed methods (see Tab. 1).

Research Methods		A Proportion of Each Method
Qualitative/Quantitative/Mixed	Detailed Methods	
Qualitative (84%)	Case study	34%
	SLR	26%
	Narrative review	20%
	Content analysis	2%
	Integrative review	2%
Quantitative (14%)	Survey	2%
	Logistic model	2%
	Network analysis	2%
	Regression	2%
	Others	6%
Mixed (2%)	Comparative historical Analysis + regression	2%

Tab. 1. The table shows the data upon which Yoon and colleagues (2022) based their literature review. This is particularly interesting because two of the most widely used methodologies (case studies and narrative reviews) align with the approach adopted in esports research (e.g., Scholz, 2019; T. L. Taylor, 2012). (taken from Yoon et al., 2022)

Yoon and colleagues (2022) also align with previous reviews suggesting that (digital) business ecosystem studies primarily relied on market share measures, often as proxies for assessing the health and internal status of the network (Bogers et al., 2019). Following this approach, researchers focused on defining the structures and outcomes of ecosystems rather than examining the relationships among networked actors. Thus, taxonomies taking into account organisational characteristics went along with value creation indicators, such as overall market value (Ludwig & Lachmann, 2024; Newzoo, 2024), leaving a gap in the literature regarding the relationships between ecosystem members.

Since my contribution aims to propose a research approach that extends beyond the limited assessment of keystone species' influence or network mutualism (Yoon et al., 2022), I had to employ a different methodology than previous research on the topic. The choice of ethnography led in this direction, as it enables direct contact with participants' (implicit) knowledge (Clifford & Marcus, 1986; Davies, 1998; Flick, 2023), alongside "thick descriptions" from the field (Geertz, 1973). Nonetheless, the field proved particularly problematic to access, exhibiting resistance to long-term observations. This forced me to reposition myself and the techniques employed during the research, modulating the level of intrusiveness I had initially drafted as necessary

to conduct my study. Hence, short-term ethnography appeared as a viable toolkit, also because of its broad adoption within organisational and information studies, while keeping it sufficiently familiar with most of the research fields informing my theoretical backdrop (Boellstorff, 2006; Hjorth et al., 2017; Hughes et al., 1995; Pandeli et al., 2022; Pollock & Williams, 2010; T. L. Taylor, 2022). This method combines the intensity of typical ethnographic research with the constraints that can often be encountered in digital and entrepreneurial scenarios, as it widens the data sources and depth of empirical-theoretical dialogue to “compensate” for the shortened stay in the field (Hughes et al., 1995; Millen, 2000; Pink & Morgan, 2013). Within this methodology, the literature review, which served as a means of familiarising with the field before entering it, took the form of a systematic analysis. Hence, its procedures will be expanded to serve as the first methodological brick, thereby completing the research toolkit through a careful examination of short-term ethnographic methods.

4.2. Literature review

Following the suggestion coming from short-term ethnographers and, notably, Pink and Morgan (2013), before getting to the field I explored ways to get acquainted with the social milieu I was about to delve into. First, I needed to engage with the gaming and esports jargon, which often functions as a gatekeeping tool that neatly demarcates casual players from professionals (Hsu, 2018). Given the highly professionalised environment I was about to enter and the peculiar intertwining of gaming lingo with internet memes and slang, I started collecting insiders’ information about the current esports scene. From specialised media to match livestreams, I began my journey into competitive gaming as a newfound fan: a “n00b” (read “noob”) or newbie, in gaming vernacular (cf. Chen, 2010).

I found out that esports tend to be exceptionally closed to outsiders, as they actively avoid less committed players and external actors by checking them against a set of taken-for-granted notions: to be an esports member requires a deep knowledge of game mechanics, trivia about celebrity gamers, and a certain familiarity with the cornerstones of esports history (T. L. Taylor, 2012). This collective unconscious formed a shared imaginary that often slipped through “insider’s jokes” and memes, punctuating gamers’ interactions and potentially leaving the researcher aimlessly unprepared to grasp the subtleties of the exchanges they are witnessing. Finally, when

I first approached esports events, such as the 2022 LoL World Finals, they proved to be decidedly complex to follow, as broadcasters' efforts were often not enough to decipher all the layers of action on livestreams. Hence, I needed guidance to effectively focus my observations during the short-term visits to esports gaming houses.

Given my previous experience as a gamer and the material I have already collected for my studies, I opted to pursue a literature review to more quickly reach the level of familiarity needed to enter the field. However, when I started looking at academic works dealing with these structures, I discovered that few researchers had treated them in detail: even though the rising esports scholarship cited them in various works (Jenny et al., 2018; M. R. Johnson & Woodcock, 2021; Scholz, 2019; Skubida, 2016; Svensson & Pargman, 2024), the field still lacked a thorough analysis of gaming houses as well as a shared definition that differentiated them from similar structures, such as gaming bars and LAN cafés (cf. Cumming et al., 2022; Pereira, 2007; Stewart & Choi, 2003).

Hence, I followed my esports colleagues' lead in their turn toward adjacent fields to gain theoretical insights, looking for works that could inform my planned observations of how users were becoming professionals (or prosumers). Even though organisational studies presented a variety of explorations of enmeshed workspaces, where digital and physical features allowed for the transition of users between consuming and producing postures (Blagoev et al., 2019; Wilhoit, 2018), I could not find works tapping on structures like gaming houses, i.e., actively shaping the productive role of their inhabitants within the ecosystem in which they are inserted. Instead, I discovered that media scholars have explored the so-called "hype houses", where a combination of social, infrastructural, and architectural elements has contributed to transforming amateur content producers into internet celebrities (Bargoni et al., 2021; Cornet & Hindricq, 2023; Kaye et al., 2022). Albeit their socio-material inquiry of TikTok's "spatialised digital economy" (Kozak, 2023) provided fascinating insights into the influence that such spaces could have on digital business ecosystems, the majority of these studies cited a lack of literature on the theme and thereby resorted to qualitative approaches (e.g., digital ethnography) to gather firsthand observational data to describe their functioning and composition. Moreover, initial explorations suggested that these houses may have drawn inspiration from

gaming ones (Kaye et al., 2022; Lorenz, 2020), which historically preceded them by approximately 15 years (Can, 2018).

This, matched with the already mentioned closeness to outsiders that gaming houses seemed to display, made it necessary to conduct a preliminary study of these structures “from the outside,” i.e., to gather information about them before entering one or more of them. For this purpose, I conducted a scoping review of the extant literature, focusing on the theme of gaming houses, which spanned from their initial appearances in the early 2000s to contemporary iterations, often referred to by synonyms (e.g., team house). If exploratory searches suggested a tendency, in academic works, to take these houses for granted and leave them aside from scientific analyses, esports insiders continued to show interest in discussing, reviewing, or otherwise producing content about gaming houses. Notably, the esports community was interested in assessing the professionalising potential of these houses (curiously in line with my academic objectives), comparing regional variations (e.g., South Korean vs. NA models), evaluating the actual livability inside such structures (mainly by/for fans hoping to step in someday), and tracing their evolution throughout the innovations in competitive gaming. Considering such community-tied sources as an important knowledge area to get myself accustomed to esports’ gaming houses, I considered it crucial to include this grey literature in the review. The result was an “unorthodox” literature review, comprising both academic and lay sources, which prepared me for the short-term observations I conducted in 3 Italian gaming houses¹³ and 2 national-level events.

4.2.1. Unorthodox literature review: using lay knowledge when academia falls short

When it comes to literature reviews, scholarly databases typically yield an overwhelming number of entries to review and assess against the selected theme. However, I recall my disappointment when I first explored the notoriously strict Elsevier Scopus engine with the words “gaming houses”: I received 200 results, of which only

¹³ Even though it will not be explicitly part of this thesis, I also briefly visited a Finnish “varsity” gaming house (GamePit Pro, based in Jyväskylä), where academic staff and students could both compete and apply the notions coming from research and teaching. Not surprisingly, the Jamk University of Applied Sciences also form part of the Center of Expertise in Esports of Central Finland, funded by the EU (ERDF 2021-2027).

2 met my (loose) selection criteria. A disappointment that grew even further as I turned to the notorious Google Scholar, often deemed to be too fond of grey literature, whose results started to repeat endlessly after a few pages. As I tried with synonyms and different keywords, my discontent turned into despair. There was only one study – an MA thesis – specifically unpacking gaming houses as its primary object of research (Can, 2018).

Hence, I did what my generation usually does when facing an insurmountable problem: I asked Google Search for a solution. Luckily, Mountain View's most famous child answered, giving me "around 4.170.000.000" results, actually. This convinced me to undertake the tremendous effort of reviewing hundreds of pages of raw search results from mainstream search engines to unearth the knowledge the esports community has accumulated over the years. Their extensive production included media articles, blogs, and videos about these structures, which I struggled to incorporate into a methodological framework that could preserve scientific rigour. Indeed, I was repeatedly warned against using such lay sources, as non-peer-reviewed material could contain errors and even hoaxes. Nor could I find a tested and reliable methodology to pool these records into a scientifically proven process that could prevent the most dangerous risks.

Thus, I decided to build upon one of the most well-regarded tools for doing literature and scoping reviews, the PRISMA method (Page et al., 2021), adapting it to the data sources I was dealing with. This led to a peculiar mixture of written and audiovisual material that allowed me to leverage both areas of knowledge production (academia and the esports community) to assemble a viable dataset that could guide my understanding of the history and state-of-the-art of esports' gaming houses. As a sidenote, I will conclude this subchapter on the step-by-step procedure of the literature review with a methodological consideration about the possibilities that "lay" sources might hold when facing new, ephemeral, or so-far-ignored phenomena.

4.2.2. Data Collection

My first step in gathering data about gaming houses was to tap into academic databases for existing literature, specifically Scopus, a database provided by Elsevier. However, the scarcity and poor quality of results suggested a shift to other sources, from less-strict scholarly archives (e.g., Google Scholar) to a wide-ranging array of

searches across internet browsers and media platforms. To enhance reliability and accuracy, I performed all searches with the same keywords, which I obtained through exploratory searches and discussions with insiders. The keyboards contained Boolean operators, such as the asterisk at the end, to allow for minor variations and overlap. The query, thus, looked as follows:

TITLE-ABS-KEY("gam* house*" OR "team* house*" OR "gam* team* house*")¹⁴

Acknowledging the algorithmic biases that affect searches on Internet engines and media platforms, I conducted two parallel searches using the same web browser (Microsoft Edge) and switching the search engine from the built-in MS Bing to Google Search. Additionally, I linked the latter to a “blank” account – i.e., one specifically opened for the research – to minimise the possibility of biasing the results due to data from past searches. Finally, I decided to run engines in different languages, as it has been shown to influence results in internet browsers regardless of the keywords used (Magno et al., 2016): Bing was set in English (also my laptop's default language), whereas Google was kept in Italian (since my geolocation suggested it to the engine). Since search engines and exploratory inquiries resulted in a significant number of audiovisual materials, I decided to expand the searches to YouTube: albeit part of the Alphabet suit and hence concomitant with Google Search, the platform was chosen because of the link between gaming activities and video-sharing platforms, like Twitch and, precisely, YouTube, which has an entire subdomain dedicated to gaming¹⁵ (see also Chapter 3). Insights from literature (Tammy Lin et al., 2019; T. L. Taylor, 2018) confirmed that gaming houses can also be visually described as part of platform-tailored content, thereby enhancing the retrieved material with visual data. The more extensive database of YouTube, along with its characteristic of tracking videos and comments – a feature lacking in many Twitch channels (e.g., Deng et al., 2015, 2017) – pushed for its selection over the more live-oriented streaming platform Twitch. To sum up, the following sources were examined:

- Scopus;
- Google Scholar;

¹⁴ The TITLE-ABS-KEY specification – which clarifies that the following words must be searched inside titles, abstracts, and keywords – could be used only in academic databases (and Scopus specifically), as it was not readable by the other search engines.

¹⁵ <https://www.youtube.com/gaming>

- Microsoft Bing;
- Google Search;
- YouTube.

All sources were explored from November to December 2022 and analysed in the following months (January to February 2023).

4.2.3. Data curation

Although scholarly sources yielded only a small number of records (n=491), the other sources provided a substantial amount to review, which could not be checked within an acceptable timeframe. Therefore, I set an absolute limit of 97 records for each source. Indeed, this number was the aggregated sum of 10 pages of results from both search engines, a threshold that exploratory inquiries showed to be the point at which records began to repeat consistently, reaching near-total repetition (i.e., a full page of already displayed records). As similar results were found in other repositories, the criterion was extended to other resources to balance their weight in the search procedure. Fig. 23 details the outcome of raw searches, already highlighting the preponderance of unconventional sources.

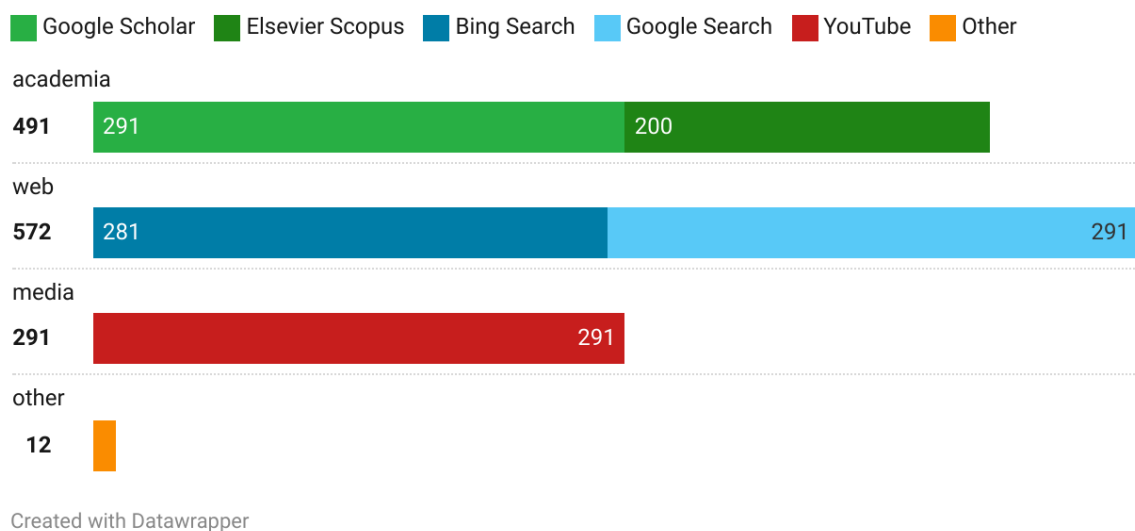


Fig. 23. A visual summary of the databases queried, detailing each repository's contribution to the total amount retrieved.

The imbalance between unconventional sources and academic ones becomes even more evident when looking at percentages (see Tab. 2). Nearly half of the total records

retrieved indeed came from the two search engines combined (41.9%), which becomes more than half if we also add the YouTube media platform (63.1%). This is due to the lack of records in conventional databases, which, even after balancing the sources to the absolute threshold of 97 results per database, failed to yield the desired quantity of data.

	Academic databases	Search engines	YouTube	Previously retrieved material	% Total
Google Scholar	291	-	-	-	21.3%
Elsevier Scopus	200	-	-	-	14.6%
Bing Search	-	281	-	-	20.6%
Google Search	-	291	-	-	21.3%
YouTube	-	-	290	-	21.2%
Miscellaneous	-	-	-	12	0.9%
Total	491	572	290	12	1 365
% Total	36.0%	41.9%	21.2%	0.9%	

Tab. 2. The table displays results, organised by database and categorised by source. Numbers refer to results before the deduplication procedure, as taken from the resource.

Even though such percentages refer to the pre-selected data, it is striking how much material could be found in lay databases. Indeed, unconventional resources demonstrated a significant fecundity characterising insiders' records, whether from professionals (e.g., esports journalists) or gamers discussing gaming houses (and even accounting for their experience as inhabitants). Still, the raw, unfiltered nature of search engines' material made it difficult to assess them in the context of recurring topics and broader thematic streams. Accordingly, a selection process was performed, as described below (Fig. 24), reducing the total number of records from 1365 to 194 results, which were scrutinised as beacons for the subsequent ethnographic visits.

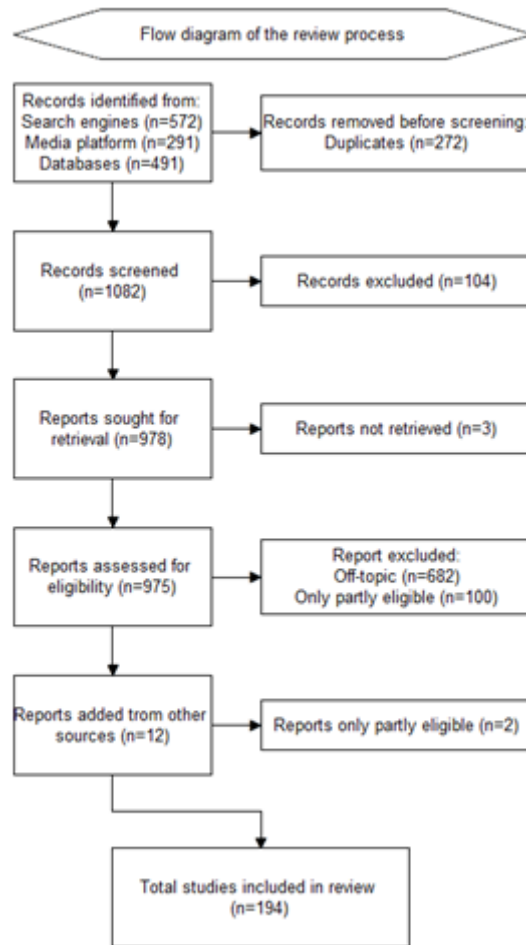


Fig. 24. The flow diagram details the procedure for obtaining the relevant records.

4.2.4. Data description

A preliminary review of raw materials enabled me to eliminate duplicates and explicitly non-relevant results, but left a significant number of them to be screened more thoroughly (n=975). Thenceforward, after more detailed analysis involving full-text (or full-length) retrieval and examination, I selected the eligible records (n=190). These comprised material specifically discussing gaming houses, their inner life, their role in the esports ecosystem, and their constitutive features. Moreover, I supplemented the database output with 12 previously retrieved records, obtained from preliminary searches and informal sources (e.g., colleagues' suggestions). The resulting 194 records were then reviewed again to familiarise myself with content and themes, which were subsequently identified through qualitative analysis and used as background knowledge for the subsequent observations. Before delving into the section regarding

the ethnographic component of my research, I will provide a brief descriptive summary of the results using more quantitative indicators.

Although Tab. 3 already depicts the multifaceted origins of the records, examining the data after applying deduplication and selection procedures highlights the role of unconventional sources in this part of the research. To begin with, search engines outperformed other sources, as they (continue to) account for more than half (n=126, 64.9%) of the total relevant records. On the contrary, academic sources were not particularly valuable, as papers and other scholarly materials accounted for only 2.6% (n=5) of all relevant sources. On the other hand, when looking at the data through their source type, it emerges that the majority of results were videos (n=63, 32.5%), followed by news articles (n=53, 27.3%) coming from both general news sites and magazines specialised about esports (see Tab. 3). Finally, another crucial data source was represented by blogs and sites belonging to or related to gaming house owners, which were outputting 30.4% (n=59) of relevant records.

Type	n	%
Videos	63	32.5%
Blogs	34	17.5%
News (field-specific)	28	14.4%
News (generic)	25	12.9%
Stakeholders' sites	25	12.9%
Social media posts	9	4.6%
Dictionary entries	5	2.6%
Academic material	5	2.6%
Sum	194	

Tab. 3. Summary of the data after deduplication and selection procedures. The relevant results showed a predominance of videos over other types of materials; however, aggregated data highlights how articles, blogs, and sites directly connected to gaming houses could also be seen as equally important sources.

Finally, Fig. 25 helps visually grasp the data used to inform my subsequent ethnography. Again, it is essential to note that videos and blogs played a fundamental role, followed by media outlets (including newspaper and magazine articles), and content from social platforms.

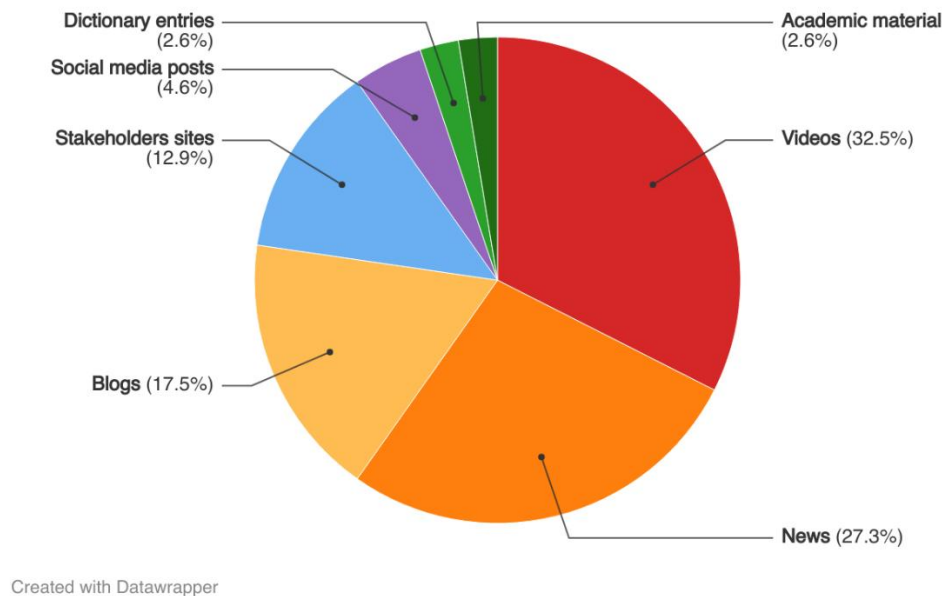


Fig. 25. Depiction of the variety of source types encountered in the analysis. Percentages refer to data after deduplication and selection procedures. The plot highlights how some sources, such as academic databases, provided less valuable material than expected.

4.2.5. Some brief considerations about searching Internet sources

The screening of pertinent records allowed me to qualitatively extract relevant themes from the tapped resources, specifically how digital infrastructures, architectures, and social structures could be seen as the three founding pillars around which gaming houses were articulated. Although these three themes will not be discussed in detail in this thesis, they helped me to orient myself within the visited structures, paying attention to the socio-material construction of spaces and how this intertwined with symbolic and organisational claims of each gaming house. Specifically, I extracted valuable insights about the history of gaming houses (see Chapter 5) and how the esports community viewed them. I also detected a tendency toward the emergence of different ideal-types based on the diverse functions that owning organisations allegedly attached to their structures, from the symbolic show-offs of Californian gaming groups – that used (literally) dimension and luxury to surge celebrity status and consequently legitimate themselves as a media business – to more pragmatical or scientifically-informed approaches in Europe – where the focus stayed on performance and players' health, hence linking legitimacy claims to attempts of mirroring traditional sports facilities (for a deeper discussion of how space links with organisational legitimacy, see de Vaujany & Vaast, 2014).

To conclude, I must emphasise the challenges I faced while researching these unconventional repositories. Although the bulk of results came from search engines, these sources also counted the highest number of duplicates removed. In other words, this methodology suggested that these sources might be the best tools for obtaining relevant information on emerging (media) phenomena, as the built-in algorithmic selection of search engines pre-selected the data and displayed a greater number of relevant results. However, the embedded biases and the black-boxing of search algorithms not only presented methodological issues but also yielded redundant results, as engines continued to display records that were supposed to be pertinent, regardless of repetition. This also meant that the researcher had to put in increased effort to “clean up” the raw results and obtain relevant records. Indeed, search engines could not offer the maximum number of unique records. This confirms scholars’ reluctance to use search engines to obtain data, as unique entries can be more easily found in academic databases. On the other hand, data also suggest that scholars should be attentive to the topic at hand, as the most fertile repository is often the one that is closest to the themes to be investigated, especially when the scholarly literature is scarce. In this case, for example, the YouTube database was the most valuable repository of relevant records, thanks to the deep links it shares with the esports and gaming communities.

4.3. Short-term ethnography: Adapting methodologies to space-time boundaries

The rich output from the unorthodox literature review enabled me to become familiar with the history and environment of gaming houses, providing me with a theoretical and informational toolkit that guided me during observations. Nevertheless, in the early phases of my research, I still planned to sustain prolonged visits inside these structures, which I had contacted with the intention of gaining stable access to them. This was in line with the academic custom, attested by many social and anthropological scholars (e.g., Pink & Morgan, 2013), to frame ethnography as a year-long endeavour, usually undertaken by PhD students. Indeed, this methodology has been traditionally crafted as a long-term effort, as the objective of it has been stated as:

“to describe the lives of people other than ourselves, with an accuracy and sensitivity honed by detailed observation and prolonged first-hand experience” (Ingold, 2008a, p. 69)

Ethnographic studies involve extended periods spent inside the “field,” with the researcher often struggling to be accepted as a “native” or, at least, to become a participant observer of the everyday activities they intend to study. On the one hand, scholars have cautioned against a superficial definition of this technique, as it tends to shape-shift and adapt to the discipline in which it is embedded (Ingold, 2008a; Knoblauch, 2005; Pink & Morgan, 2013). Nevertheless, this method has been commonly framed as particularly intense, due to the depth both required of the ethnographer – who has to become an “apprentice” (Pink, 2009) – and obtained by the research encounters. A characteristic that worked well with the aims of this work, as more “external” studies failed to produce a detailed account of ecosystemic connections (cf. Carrillo Vera & Antón, 2024; M. R. Johnson & Woodcock, 2021; Scholz, 2019).

Given these considerations, I had to adapt the chosen ethnographic stance to both my personal positioning as a social scientist and the material constraints arising from the field itself. This means that I looked into ethnography, here understood as the “family of techniques” revolving around the participant observation approach, to find what best suited my particular situation. I finally found a viable methodology under the moniker of “focused” or “short-term” ethnographies: stemming from a more sociological approach, these methods resonated with my background, while providing methodological shortcuts for those studies in which a prolonged stay is not an option. Of course, the less anthropological stance included in these methodologies involved a different posture regarding the role of the researcher inside the field: as underlined by Knoblauch (2005), the “bestrangement” needed to critically appraise what is observed becomes notably more complex when dealing with a shared social backdrop between the ethnographer and the participants (Knoblauch, 2005; Pink & Morgan, 2013) – what other authors frame as an “insider-outsider” positioning (Hodkinson, 2005). Facing not “other cultures,” but the same cultural context, means taking into account a different kind of “alterity” (Knoblauch & Schnettler, 2004), which brings into the picture a renewed and enhanced importance of the reflexive features entailed in

(short-term) ethnographic observations (Cardano, 2023; Davies, 1998; Knoblauch, 2005).

While considering all these features, I already sensed that esports could be a peculiar field to investigate. Indeed, the closeness I already mentioned, paired with the ability of this industry to go unnoticed by mainstream media, regardless of the impressive figures it created (Collis et al., 2017), suggested me to be cautious about the possibility of obtaining the desired access to members' knowledge, particularly through long-lasting participation in their hyper-specialised activities (Scholz & Stein, 2017). Nonetheless, what I could not have expected was that Italian gaming houses would be closed and empty, making it impossible for me to stay for prolonged periods.

As a matter of fact, most of the Italian gaming houses were functioning on a "bootcamp-style" approach, which I could only understand thanks to the extensive literature research I was already performing at the time of my first, tentative entrance in a gaming house. This model presupposes that players come to gaming houses only for brief periods, such as when preparing for important matches or particularly significant events. For the rest of the "split" – i.e., the season – they kept living at their birth-home, playing and training together just online. Accordingly, the staff of gaming houses were mainly scattered around the Peninsula (and even the world, sometimes), with few to no activities truly being observed in person. This paucity of observable moments left me facing a difficult choice, as I had to either adopt alternative methodologies or adapt ethnographic techniques to a scenario with significant time-space constraints.

If field-specific praises (e.g., T. L. Taylor, 2022) and a wider academic positioning prompted me to opt for a qualitative and intensive approach, the fertile dialogue I could have with experts in organisational studies pointed me toward a set of methodologies usually framed under the "short" or "rapid" ethnographic procedures (e.g., Handwerker, 2001; K. J. Harris et al., 1997; Kumpunen & Vindrola-Padros, 2022). These methodologies went in the direction of addressing some of the more pragmatic issues, such as adapting to the transient nature of observable activities, as well as crucial methodological points, including the depth of data and the intensity of the observer's penetration (Hughes et al., 1995; Millen, 2000; Pink & Morgan, 2013). Indeed, focusing more on the esports-specific challenges, a crucial aspect of my research was aligning its typical short-to-ultra-short timeframes with a rich theoretical-empirical dialogue on data. Since the focus of my work was to employ firsthand observations to discuss the

broader esports ecosystem, this required a constant, intense exchange between what the observed data could reveal about the larger picture, especially regarding the industry's taken-for-granted interactions and implicit relationships. Overall, the methodology that seemed to suit this approach best fell under the moniker of short-term ethnographies, which definitely pointed me toward using that toolkit to conduct my study.

Hence, the following subchapter will position this thesis inside the methodological discussion over short-term or focused ethnographies, highlighting the potential that these techniques bear with them in space and time-constrained scenarios, as well as underscoring how the differences between short and "classic" ethnographies do not correspond to a "weakened" form of the latter.

4.3.1. Ethnography going shorter: picking short-term ethnography among other rapid assessment procedures

Sociological and organisational studies offer an eclectic variety of rapid assessment procedures to choose from (K. J. Harris et al., 1997; Kumpunen & Vindrola-Padros, 2022). Hence, I could choose from many approaches, some of which were widely accepted in their respective fields of research. From this potpourri of methodologies, I decided to opt for the short-term ethnographic approach described by Pink and Morgan (2013).

Several crucial factors prompted this choice: first, their method addressed similar issues to those I personally encountered, namely, the temporal and spatial constraints imposed by specific organisational scenarios, where prolonged observation was neither feasible nor bearable for the observed people; secondly, their methodological suggestions were not field-bounded, as the authors aimed to push forward a technique which could be adapted to a variety of "practical purposes" and theoretically support those already in the need of shifting to more brief assessment procedures (Knoblauch, 2005); thirdly, if Pink and Morgan drew on a long-standing ethnographic experience, they also made connections to studies in the information and social sciences, thereby aligning particularly well with the themes and theoretical background of this work. Thus, I will be fond of Pink and Morgan's (2013) points in suggesting how short-term ethnography might offer an intense route to knowing when practical contingencies or theoretical reasons suggest an alternative to classic ethnographic methods.

As suggested by Pink and Morgan (2013), short-term ethnographies do not represent a new phenomenon. Design research and applied studies in corporate and health research contexts already need to adapt long-term observations to the constrained possibilities offered by their respective subject matter, either in terms of timely utilisation of allocated resources or difficulties regarding the co-presence of the researcher in the field (Bentley et al., 1988; Millen, 2000; Scrimshaw & Hurtado, 1987). Rather than prolonged stays in other people's lives, these scholars devised a series of more interventional excursions, quickly stimulating those contexts that interested the researcher (K. J. Harris et al., 1997; Kumpunen & Vindrola-Padros, 2022). By leveraging innovations, such as mixed and highly technological methods for data collection, these approaches have yielded encouraging results in applied contexts, particularly due to their shortened time frame (weeks, rather than months or years of research).

Nonetheless, Pink and Morgan (2013) follow other authors in acknowledging how these techniques tend to detach the method from (anthropological) theory (Manderson & Aaby, 1992), leaving aside reflections regarding, for example, otherness and culture, to rush toward a rapid assessment of the observed object (Carley et al., 2012). Instead, short-term ethnography proposes to do precisely the opposite, employing a “sharply focused dialog between research and theory” (Pink & Morgan, 2013, p. 352) as the golden route toward the intensity lost by the shortened stay in the field. Instead of simply adopting new techniques and interventional technologies to compensate for the lack of time, the intensity of ethnographical observation is reached through a series of methodological differences from the classic approach. Such changes prompted some authors to talk about “focused ethnographies” (Knoblauch, 2005), since they generally involve a more efficient deployment of available resources – from theory to material supports – for the sake of making the most out of the data obtained. Instead of superficiality, however, these methods are data-intensive, as they employ techniques such as recordings, multi-site, and multi-person research to achieve the desired depth of data and immersion (Knoblauch, 2005).

As suggested by Pink and Morgan (2013), the analytical stage becomes particularly central, as it seeks relevant information as quickly as possible through constant comparison with the literature and among the involved researchers. Through this implementation of different methodological, practical, and analytical entry points to others' lives, short-term ethnography also protects itself from a “quick and dirty”

approach that sees as impossible gathering a detailed understanding of the setting at hand in the given time (Hughes et al., 1995; Pink & Morgan, 2013). On the contrary, interventionism and theoretical engagement suit both contemporary nonrepresentational attentiveness and the rapid pace of our increasingly digitised world, leveraging our sociotechnical milieu to make closer and more focused the details of everyday practices. If this makes short-term ethnography potentially intrusive, it also produces qualitatively rich accounts that respect such intensity displayed in longer research settings (Pink & Morgan, 2013).

4.3.2. Ethnographic place and other short-term qualities

Among the characteristics detaching short-term ethnography from other kinds of ethnographic research, Pink and Morgan (2013) claim that a rethinking of the “ethnographic place” (Pink, 2009) should be the first step to discuss.

Indeed, Pink draws on Doreen Massey and Tim Ingold to define place as “open” (Massey, 2005) and “unbounded” (Ingold, 2008b), which allows her to explain how aggregations of things, persons, and temporalities come together as part of the process of ethnographic ways of knowing (Pink, 2009; Pink & Morgan, 2013). This not only brings in sociomaterial assemblages, but also transcends locality as the delimiting space in which ethnography is conducted. In other words, such a conception of place makes ethnography take into account not only the strict, local dimension of “fields,” but also encompasses the overlapping spatio-temporalities of research processes, such as re-immersion in the data during analysis and discussion, thanks to audiovisual recording, transcripts, or distant communication technologies (Knoblauch, 2005; Pink & Morgan, 2013). In addition, researchers’ previous experiences can expand and enrich the ethnographic place, making connections between different scenarios that become fruitful for the investigation. If the interweaving of fieldwork and analysis permitted by digital technologies intersects with past knowledge from ethnographers, dissemination and reflections associated with colleagues’ prompts or writing might also come part of the picture (Pink & Morgan, 2013).

An entanglement of interactions and (fieldwork) localities that, on the one hand, undermines the “lone ethnographer” model but, on the other, reinforces the unfolding and emergent nature of ethnographic knowledge (Glaser & Strauss, 1967; Pink & Morgan, 2013). More notably, this interactive reinterpretation of ethnographic place

also underscores the importance of participants, or informants, in shaping the researcher's way of knowing. The intensity and intrusiveness of short-term ethnography make people's choices central to the results, as the ethnographer must trust them in their gatekeeping role throughout the navigation of fieldwork (Ingold, 2008a; Pink & Morgan, 2013). This becomes even clearer in hybrid contexts, such as esports, where the researcher's gaze must navigate among the physical, social, and digital layers of action (Boellstorff et al., 2012). Here, spatiality is particularly "exploded," in the sense that the field's boundaries start to lose their material meaning as they potentially include multiple (digital) environments. When a player is simultaneously in a gaming house, online with teammates, listening to music, and streaming to their fans, it becomes harder to define where the field is. Not to mention that game servers, located somewhere between those in the gaming house and the other team, can come into the fore and profoundly influence the actions observed in person by the ethnographer, only to fall back into the background again some minutes later.

Hence, considering the ethnographic place as already made from a constellation of spaces and temporalities helps us understand why the quality and intensity of encounters might be more crucial than the mere quantitative length of time spent within a social context (Pink & Morgan, 2013). If this means that "immersion" is countered by multisited-ness, or through a more interventionist approach to the ethnographer's visit to the field, it is a matter of resources and choices for the research team. What remains is that the engagement of short-term ethnography does not stop at the measured time spent in the field, but extends beyond to include online involvement, re-engagement through recordings, and contamination fuelled by both participants' perspectives and theoretical comparison.

Another important quality of short-term ethnography is its focused observations, which significantly contribute to the technique's intensity. For this purpose, the study aims to reduce the classic "hanging around" of anthropologists, preferring a direct involvement at the centre of the action by a more deliberate selection of contexts, informants, and ethnographic sites (Pink & Morgan, 2013). In previous studies, for example, Sarah Pink invited participants to perform specific tasks in their presence, thus eliciting the requested object of study without waiting for them to happen (see Pink, 2012). Similarly, in my study, I specifically asked gatekeepers (i.e., house managers) to schedule my visits during moments of activity in the house to make the most of my

time there. Alternatively, I solicited participants to make explicit the routines and reasons behind the actions and material features I encountered in the field, drawing on another interactive technique suggested by Pink and Morgan (2013). Performances, how-to guides, and explanations all formed part of a strategy to “make visible” the everyday and commonsensical practices of gaming house members, leveraging participants’ collaboration to boost the intensity of ethnographic encounters through an active posture of embodied participation (Pink, 2009; Pink & Morgan, 2013).

As a consequence, my visits resulted in focused observations during which I actively tried to concentrate on others’ practices, attempting to understand or imagine their sensations and reflect with them about what was happening. This often meant an exhausting experience for both the researcher and the participants, as it was both highly intrusive and very demanding. Instead of slowly becoming an “apprentice” of esports (Pink, 2009), I speed-ran through their skill set and everyday routines, rapidly (and bodily) apprehending the what, where, when, and how of the professions that could be found inside houses. This was made possible by intense engagement with people, tasks, and spaces, even without becoming an active participant, since my lack of training (and, I would say, my lack of inclination) would not have been appropriate for “throwing” me into such a highly professionalised environment as that of competitive gaming. By making correspondences with other experiences, whether through research (mine or that of colleagues) or personal experiences, I seek to create bridges that enable me to grasp the witnessed practices (Okely, 1995; Pink & Morgan, 2013). Markedly, Pink and Morgan (2013) frame the ability to leverage “embodied residues of sensory memory” as a key element of short-term ethnography. This translates into a focus on details that does not replace participant observation or embodied (and emplaced) learning (Fors et al., 2013), but complements these techniques with other routes of knowing that do not require long-term commitment (Pink & Morgan, 2013).

Focusing on details becomes a way to address broader questions without deeply immersing oneself in a field, which also means that research questions differ from those in classic ethnography, being usually more precise and less tied to specific environments (Pink & Morgan, 2013). In longer studies, the dialogue with theory occurs in the later portions of the research and represents a valuable tool for reflecting on observations; conversely, in short-term research, the theoretical dimension

poignantly leads or structures the fieldwork (Pink & Morgan, 2013), as this method is often employed in situations where research questions need to be addressed more firmly, and when data collection and analysis intertwine for pragmatic or other reasons (we have already mentioned how prosaic constraints may affect studies' resources). This does not mean that space for change or roundabouts in the research process is eliminated. However, intensity is reached through a continuous confrontation between theoretical questions and the ethnographic fieldwork (Knoblauch, 2005; Pink & Morgan, 2013). For Pink and Morgan (2013), this dialogue can be well performed by teams of researchers, as well as by lone scholars, for example, by taking time away from the field and presenting preliminary work – a strategy that I significantly relied on. Moreover, re-engagement through fieldnotes, commentaries, audiovisual materials, and recordings can foster these reflections, enriched by comparisons with literature, and consequently guide the subsequent ethnographic encounters (Pink & Morgan, 2013). For example, during my initial visits, I paid close attention to players and coaches, engaging intensely with them during their training and competition sessions. Yet, by contrasting my fieldwork with the organisational literature and scholarship on the esports ecosystem, I began to look for more encounters with other roles, such as managers and collaborators, who are not directly involved in the competitive dimension. This allowed me to spot how gaming houses become hubs for a multitude of professionals well beyond the purely competitive side of the hustle, including external or side businesses that come to be entangled with esports organisations through their physical proximity. An observation that sharply reconnected my fieldwork with my research questions, which are more closely related to the broader esports ecosystem than “simply” to the practices confined within gaming houses.

Last but not least, short ethnography complements the classic way of knowing by implementing a substantive use of technologies in the research process. Indeed, the constant theoretical-empirical dialogue is fostered by another kind of re-engagement, enabled by iterative re-immersion in the data through audiovisual recordings. In this sense, short-term ethnography reveals a tendency to use material objects as probes (such as images) that is not confined to ethnographic disciplines (Knoblauch, 2005; Pink & Morgan, 2013).

Widely employed in HCI, engineering, and organisational ethnography (Hughes et al., 1995; Kumpunen & Vindrola-Padros, 2022; Millen, 2000), for Pink and Morgan (2013) technologies display an array of advantages: first, they allow multisited or team

ethnography, since observations can be easily shared and compared among fields and scholars involved; second, it relieves by some degree the intrusivity of ethnographer's intervention, since they does not need to reiterate demanding requests to participants without impeding the researcher to re-engage with data to find new details during analysis; third, it expands the "ethnographic place" or, in other words, allows short visits to produce long-term results, as the ethnographer can re-view or re-listen the materials as an ongoing form of familiarisation and analysis.

Finally, audiovisual materials also enable an ongoing, intensive encounter between the researcher(s) and participants, as such data can be used to reflect on and discuss with them through re-performances or follow-up interviews. Pink describes this complex relationship between research materials and fieldwork context as "coming to understand [the field] anew each time" (Pink & Morgan, 2013, p. 358), but also bringing to the forefront the need for (an enduring) informed consent. This is often achieved by establishing a collaborative relationship with research participants, who are kept informed about the ethnographer's work through various communication channels that extend beyond the fieldwork setting – a development linked to the expansion of ethnographic place beyond traditional spatio-temporalities to include more co-operative and layered ways of knowing (Ingold, 2008b; Pink & Morgan, 2013).

4.3.3. Study design: Detailing my journey inside Italian gaming houses

After discussing the methodological and theoretical qualities of short-term ethnography, I will now give a more detailed overview of my fieldwork.

Leaving the personal positioning for Appendix IV, I will here start from introducing the reasons behind my choice of gaming houses as a research field to study the esports ecosystem; then, I will describe the three gaming houses in which I performed observations; the last section will, instead, explain how I could add some "complementary" observations as a way to follow (or prepare) the organisational interactions witnessed inside gaming houses. Indeed, as suggested by Czarniawska (2004), "contemporary organizing moves quickly from one place to another and happens in several places at once" (p. 779). This means that "delocalised" observations were sometimes necessary to understand how the happenings inside gaming houses were deployed (and influencing) external events. This also led to more

careful detection of interlinks among ecosystemic activities, while keeping the number of strategic sites to be investigated manageable (Hyysalo et al., 2019; Seibt, 2020).

Gaming houses as a theoretically-grounded and viable ethnographic place

Since I was aware of esports, gaming, and livestreaming well before my PhD project on the topic, this meant that, conceptually, I occupied an “insider-outsider” position (Hodkinson, 2005). In other words, as I (already) was personally keen on competitive gaming, I shared cultural literacy with other research participants, while methods and reflexivity allowed me to maintain critical distance (see also Appendix IV). This might explain, among other things, why my first (superficial) acquaintance with gaming houses left me intrigued by the importance that these material spaces were accorded within the esports ecosystem.

A consideration that was later increased by the rising familiarity I was getting with the literature on competitive gaming, which, while assigning significant importance to gaming and esports’ material components (Apperley & Jayeman, 2012; Z. Lin & Zhao, 2021; N. Taylor, 2022; T. L. Taylor, 2012), was apparently setting aside deep qualitative explorations of such spaces. Indeed, calls for the rising significance of esports physical venues, such as those made by Jenny and colleagues (2018), have remained peripheral in esports research thus far.

Similarly, if a post-humanist and socio-material attention has surfaced in the field (Z. Lin & Zhao, 2021; Montfort & Bogost, 2009; Wilde, 2023), most studies focusing on the esports ecosystem have adopted a market-driven approach, relying on managerial and organisational analyses of general industrial arrangements (Carrillo Vera & Antón, 2024; Hölzle et al., 2022; Roth et al., 2023; Scholz, 2019). Based primarily on qualitative appraisals of insiders’ data, esports scholars have relied either on elicitation techniques (e.g., expert interviews) or on archival analyses (e.g., scraping social media) to obtain data valid for understanding the architecture and (basic) functioning of the esports ecosystem. Media and communication scholars have complemented this perspective with reflections on identities and local communities (Gilardi & Martin, 2023), yet they still rely on methodologies that do not explicitly focus on the spaces in which such interactions occur. This body of literature, as I already noted (Chapter 3), has also failed (so far) to propose a detailed characterisation of the ecosystemic links among esports agents, even though it has signalled the complex and often blurred relationships among many of the interconnected actors (Scholz, 2019).

Therefore, my choice of gaming houses as the study's empirical field was the result of a sum of factors: first, a response to praises coming from the field to cover an unexplored area of research (both in terms of physical venues and of gaming houses specifically); secondly, a possible solution to the identified literature gap which, drawing from organisational and IS studies (Hyysalo et al., 2016; Mikołajewska-Zajac et al., 2022; Yoon et al., 2022), relied on ethnographic observations (hence, performed in a physical space) to enhance the understanding of more implicit and “invisible” organisational features; finally, it could present a viable way to inquire into esports while keeping local features prominently visible, since the literature has both neglected geographical specificities of esports ecosystemic configurations (for a counter argument, see Gilardi & Martin, 2023; Wong & Meng-Lewis, 2022) and has scarcely explored the Italian esports scene, despite hosting some of the most successful teams in Europe (Boldi & Sanseverino, 2025; Fiorani, 2022; Rizzi et al., 2019). These elements matched with a scholarly (Can, 2018; Scholz, 2019; Skubida, 2016) and insiders' (Billy, 2015; Jacobs, 2015; Lombardo, 2020) perception of gaming houses as crucial hubs, inside which the esports industry is “grounded” and enacted in a physical space that, through its containment, fosters the professionalisation of esports practices (Byrne, 2019; franzó & Bruni, 2023; Schiavella, 2021).

While considering all these elements, getting access to perform the intended observations and interviews was extremely difficult. Such hurdles were not only tied to typical fragmentation and secluded community culture of esports – and the Italian scene specifically –, but identifying the key informants to contact was also hampered by the lack of local research and/or public archives about a) Italian esports organisations and b) structures dedicated to competitive gaming. As a consequence, after individuating the first structure to be observed (Qlash House) through media content and acquaintances, I had to rely on experts, players, and other esports members I met along the way to multiply my “entry points” in the ethnographical field (Pink & Morgan, 2013; Seibt, 2020). For example, attending the Milan Games Week (2023) to observe Qlash's stand and events, to which I was personally invited, allowed me to meet Francesco “Deugemo” Lombardo, one of the most notable Italian esports journalists. After discussing with him about my research¹⁶, he pointed me toward

¹⁶ This included a “test” he silently performed, which I jotted down in fieldnotes: after talking for a bit, he started making references to the team's results, streamers' typical content, as well as people and event names that somehow connected to Qlash. Although I could not validate my hypothesis, the way he was

Mattia “Pencil” Guainazzi, who, thanks to Lombardo’s reference, allowed me to visit the OutPlayed (OP) gaming house in Milan. This example is interesting not only because of the support I found in the journalist’s personal archive of acquaintances (Pencil was actually a notable personality in the Italian esports landscape), but also because OP Gaming House was nowhere to be found in internet sources or media content. In other words, access to this structure was granted only because of the fortuitous connection I could make with a personally-crafted archive of data about Italian esports organisations, which was shared with me after I was recognised as part of the community. Similarly, the third and last gaming house observed (Macko Gaming House) resulted from a personal contact made during another visit to Milan Games Week (2024), where I met the owner (Macko) and presented him with the research project. This introduced me to the Esports Manager, whom I subsequently arranged a visit with. Such a contact was prompted by media content, in which I spotted Macko’s compound, displayed during MGW’s events featuring the top esports organisations participating.

In that same event, however, a former Qlash manager – with whom I had preliminary discussions about getting access to another Milan-based gaming house – confirmed to me that his new organisation (Dsyre) was not ready to welcome external professionals or academic researchers until an official presentation was made. Nearly a year after that personal communication, I am still waiting for this showcase to be made and for the promised invitation to arrive. I am not disclosing such disappointing “bounce” to accuse Dsyre of ignoring me or research activities, but to demonstrate that the choice of the three observed gaming houses was the result of a complex mixture of: a) available fields (i.e., those which granted me access to their spaces); and b) a selection of relevant cases (i.e., I neglected rumors about amateurish makeshift houses that were not tied to prominent esports organisations). Finally, I attempted to make this selection representative of the regional differences I was aware of in the development of Italian esports, selecting three houses scattered across the Peninsula to enrich my research with additional data tied to their geolocation.

Hence, among the most prominent Italian esports organisations, I relied on media content, expert suggestions, and other snowball sampling techniques to identify three

doing these references gave me the perception that he was actually verifying if I really knew them and not just pretending a fake collaboration.

relevant examples of gaming houses used as organisational spaces, which I theoretically drafted as the selected “keyholes” to obtain data about the esports ecosystem. The three gaming houses I present in the following lines are: Qlash Gaming House (Villorba, Treviso), OP Gaming House (Milan), and Macko Gaming House (Monopoli, Bari).

Qlash House

The first Italian gaming house where I conducted my observations is Qlash House, located near Villorba, a suburb of Treviso, Italy. To speak the truth, this was also the structure that prompted my whole research, as I had personal connections with people involved in it (collaborators from a business partner, H-Farm). Moreover, informal descriptions of the gaming house depicted it as one of the biggest ventures in Europe (Lombardo, 2019; NemosTV, 2019), and the owning company (Qlash) had been rapidly ascending the Italian and European esports market through a series of acquisitions (e.g., the successful streamer Paolo “Paolocannone” Marcucci), sponsor deals (e.g., the media colossus Now TV and the professional football team AC Milan), and business strategies (e.g., launching angel investment projects up to 2.6 million euros; Barbera, 2020; Calgaro, 2022; Lombardo, 2019; Pagano, 2021).

Qlash, framing itself as a media company (Calgaro & Cozzi, 2021), was founded in 2017 by two former poker stars: the Italian Luca Pagano (Fig. 26) and the Ukrainian Eugene Katchalov (Cohen, 2022), who chose as CEO and co-founder Alessandro “Sirbone” Fazzi, one of the most notable personalities inside the Italian LoL scene, for his accomplishments with Team Forge (Ligas, 2019).



Fig. 26. A recent photo of Qlash’s founder, Luca Pagano. (taken from Sigon, 2025)

Interviews with both Pagano and Fazzi confirmed to me that it was the passion of the Treviso-born poker player that prompted the birth of Qlash, expressing a passion for competitive gaming that he had to put aside to pursue his career as one of the most prize-winning European professional card players (Sigon, 2025). The provenance of one of the founders matched with managers’ (i.e., Fazzi and Alessandro “Sekuar” Sesani) attentiveness toward gaming houses as necessary structures for professional(ising) gaming (Retegno, 2017) pushed the esports organisation to establish its headquarters in an industrial area outside the city of Veneto, situated 5 minutes from the renowned Benetton factory (the local fashion giant, which also sponsored many successful sports teams). Qlash rapidly turned its offices into a proper gaming house, launching it after official sponsor agreements (MSI, Logitech, JD Sports) between 2018 and 2019 (Calgaro & Cozzi, 2021; Casagrande, 2020; Lombardo, 2019; QLASH, 2018; Tanca, 2019). This involved a complete reconstruction (for which I could not obtain photographs or other documentation) of a warehouse building into a modern-looking edifice (Fig. 27) featuring a range of different spaces.



Fig. 27. The Qlash House's exterior, highlighting its modern-looking aesthetic entailing numerous windows, a giant illuminated logo, and chrome-plated surfaces. (taken from Tanca, 2019)

The total available space of the gaming house is claimed to be over 2'000 sqm (QLASH, n.d.), subdivided into two stories (although mezzanines make it nearly a three-story building). On the ground floor, we can find:

- training areas (divided into PC or console gaming areas, driving simulators, gyms, and spaces dedicated to VR technologies);
- competition areas (overlapping with training ones);
- 2 streaming booths and a main stage for events or live broadcasts;
- a branded (Now TV) space dedicated to football-themed content, later turned into a gym;
- the control booth containing both the technologies needed for livestreams and an office space dedicated to media and communication professionals (e.g., graphic designers);
- an enclaved garden with a grill and chaise longues;

- an internal lounge or relax area open to visitors with branded banners (Panasonic), sofas, and games (a ping pong table, a pinball, some consoles, a poker table, chessboards, and other tabletop games);
- a non-separated office space (with a desk and other stationery) for the house's handypersons, employed mainly by just one of the all-arounders (by occupying it with his laptop);
- a storage room (later expanded to a nearby building);
- a kitchen;
- a shared bathroom;
- 3 multiple bedrooms for visiting players or other people, decorated with gaming themes and with individual gaming stations included (where to game or stream from);
- a shared laundry room.

On the second floor, instead, we can find:

- Fazzi and Pagano's offices, adjacent to spaces dedicated to other managers and collaborators (either in a stable fashion or as temporarily occupied stations);
- a shared bathroom;
- 3 multiple bedrooms for visiting players or other people (one of which steadily occupied by Marcucci and his girlfriend at the time of my visits), decorated with gaming themes and with individual gaming stations included (where to game or stream from).

Given this structural description, I conducted three short-term ethnographic visits, totalling 26 hours of observation and informal interviews inside Qlash House (see Tab. 4 for details).

Qlash fieldwork	hours
Contact (agreement)	0.30
1 st visit (2 days)	20
Online streams	2
2 nd visit	3.3
Total	26

Tab. 4. Summary of the Qlash ethnographic fieldwork hours.

Additionally, I followed Qlash during online events (without recording them; 2h) and met with the org members during one of the main national gaming conventions (Milan Games Week; counted in the section about “side” ethnographic fieldworks), where they had a stage holding some major events (Fig. 28).



Fig. 28. The 1'200 sqm stage by Qlash at the 2023 Milan Games Week, where it hosted some major events (e.g., the Circuito Tormenta matches shown in the picture). During this event, the second Games Week I participated in, I had the opportunity to meet again with the players and Qlash staff and witness their typical work shift during an exhibition-style event. Moreover, during that visit, I met Francesco “Deugemo” Lombardo and Antonio “Macko” Todisco. (taken from Corriere dello Sport, 2023)

The summed amount corresponds to 25 continuous hours of ethnographic observation, encompassing informal interviews with individuals in various roles (a summary, excluding overlapping roles, is displayed in Tab. 5).

Qlash in-house professionals	n
Owner / founder	1
CEO / Main manager	1
Area managers	2
All-arounder / house manager	3
Photographer	1
Coach	2
Player / streamer	10
External collaborators	2
Other (girlfriends)	2
Total	24

Tab. 5. Summary of the intercepted Qlash professional profiles.

Going into detail, after formally and informally setting up my upcoming visits via video call and a brief meeting (approximately 30 minutes) at the gaming house, I was accepted as an observer during a bootcamp of the Qlash Valorant male team, comprising five players and a coach. Players were mainly from Italy (Rome, Asti, Turin, and Milan), except for one from the Czech Republic (Prague). Before the second visit, I watched two official matches of this Valorant team, streamed live. The second visit was much shorter, lasting only 3 and a half hours, during which I observed the all-rounders and the house managers being accompanied by an external collaborator to organise an upcoming event (Napoli Comicon). In the meantime, an academy LoL team (i.e., lower league tier) composed of streamers was training in the gaming house (all from Italy).

The first visit started on the second day of the Valorant male team's bootcamp, due to concerns by the coach and manager about my presence as a distraction from an important match they had to play during the bootcamp's initial stages, as well as a fan event they were required to participate in for content and marketing reasons. The first visit was an extremely demanding fieldwork, since I got introduced to the house's spaces and stable workers (2 all-arounders, the house manager, an H-Farm external

collaborator) in just 1 hour, after which the players woke up (we are talking about 11 to 12 a.m.) and top-level managers (the owner, the CEO, another manager living in the house for those days waking up with players) started to flow in, only to leave after the team's match end at nearly 00 a.m., when I left with managers, leaving players to celebrate and keep playing casually until 4 a.m. (at least so was reported me the day after). Except for a brief pause at dinner, I remained in the gaming house from 10 a.m. to midnight, totalling over 14 hours of recorded observations and informal interviews on the first day. On the second day, I joined the activities in the late morning (noon) and left at 6:30 p.m., totalling nearly 6 hours of observation. After 2 hours of online observation of matches, during which I maintained contact with the players but did not witness any details of the gaming house (as the players were not present), I performed my second visit from 4 p.m. to 6 p.m., lasting 2 hours.

At the arrival of my first visit, the agreed-upon schedule for the day's activities was rearranged due to the players' late awakening (resulting from their late-night gaming the previous day). As a result, many of the scheduled activities, including my official introduction, were rescheduled for the afternoon. Hence, I was left to introduce myself on my own, with little help from the house manager (Francesco Pio "Pob" Pocobelli) and the house members, starting with the all-arounders (one of them was called "Jones"). They were rarely in the same place for more than a couple of minutes, constantly wandering around to move materials, perform activities at the laptop (especially the all-arounder in control of the desk positioned inside the relax area), taking the car to run errands, cleaning dishes or doing the laundry, accompanying people to external errands, preparing house's areas for upcoming activities, and so forth. Then, I could meet with players as they woke up. Most importantly, I managed to have an informal interview with the coach (Guglielmo "GUGLi" Carraro) during the morning, as he was already awake and working with the Qlash Spanish team, for which he served as manager (actually, he is "team builder" in his own words, since he coordinates all Qlash competitive teams). He thus explained the planned activities, the team's formation, some split routines, the previous days' occurrences, and the general tournament organisation (since the evening, I could witness an official match). Later on, I could talk with players during their morning routines: a slow and disjointed breakfast, yoga sessions for one player, gym exercises for a couple of them, shooting training (warm-up) for three of them, PC preparation for the afternoon's training, and watching other players' streams. After lunch, I was officially introduced to the team

during the afternoon, when the CEO, Fazzi, took the team to the garden to explain my presence and sparked a discussion that ultimately resulted in a brief group interview of nearly 45 minutes. This happened after a short meeting with the owner, Luca Pagano, who arrived with his girlfriend (who collaborates with the organisation's media sector). After taking a short pause for dinner, I returned to the house to watch the official match, which was part of the season's regional split. After the match, I remained for some celebrations and post-match team activities (interview with online casters, stream with fans, and relax with the other house members). One of the most interesting activities, however, took place before the match: the CEO, the owner (who employed ChatGPT during it), his girlfriend, the coach, the all-arounders, the external collaborator, and some players participated in a brainstorming meeting (after dinner, in the same table) about the upcoming female Valorant tournament that Qlash had been appointed to organise by Riot. I could spectate on the discussion, and the CEO even asked me to participate in drafting the competition name, which should sound “feminine” without being banal or gender-biased. At last, I later discovered that Minerva was the assigned name, making it the first official Italian female Valorant tournament (still categorised as amateur-level). In the meantime, the other players and Paolocannone (who had recently joined the brainstorm) were spectating a ping pong match between Pob and Isabella, the owner’s girlfriend. The day after, I was there again in the morning, witnessing a very similar routine but performed in a more relaxed fashion, as the players were not having an official match that evening, and Sirbone was leaving early (thus leaving only Luca Pagano and the coach to “supervise” players). The more dispersed agenda allowed me to conduct informal interviews with players and the house’s handyman, gathering more information about their usual routines, their relationships with the house's configuration, and a sketch of their typical daily routines. During the afternoon, I had the opportunity to witness the team's daily training regimes, which included individual drills and a test match (i.e., a “scrim”), alongside out-of-game chats, match reviews (VODs), and streaming activities for fans. For example, one of the players (Kevin “rhagee” Pettinato) continued to practice his aiming technique through Aimlabs, an “AI-powered aim trainer” that appears as a shooting game with standard and custom exercises to improve specific skills. Another one (Luca “Lomba” Lombardi), instead, at first spent some time unpacking and setting up a new keyboard (which he lost and re-found during the day) and mouse setup delivered at the gaming house – which prompted a broad discussion over game

materialities and subjective preferences that punctuated, now and then, the whole day – and later spent more than an hour in the lounge, mostly playing ping pong with oldest player of the team (Marco “SparkeR” Forte) and the house manager. At the same time, the Czech (Jan “SoRa” Kaipr) player spectated and wandered on his social media on the sofa. The most attractive activity on the second day was the arrival of a physiotherapist (Gabriele), who was conducting research to improve players' gaming posture and overall physical health. He took players one at a time into the small gym, which had formerly been a streaming and competition room, where he performed tests and other exercises to measure players' biophysical indicators.

The second visit, instead, was characterised by a mini-bootcamp for a new, still unofficial team hosted in Qlash (which I later discovered was officially presented as The Gull Esports). This team comprised Paolo “Paolocannone” Marcucci, the organisation's top streamer, and other content creators (Silverio “Deidara” Masi, Alessandro “Fragola” Zappalà, Antonio “Sadaz” Scalese, and Riccardo “Creon” Santarelli), informally coordinated by the Korean coach I spotted during my first visit. The behaviour of this coach was interesting, as he mostly kept his distance from the players (except during meals, when he even prepared kimchi-dressed yakisoba for all the house members, including me). However, he was chatting online inside a soundproof streaming booth. I was later said that he was a former player and professor (in a Korean esports university, as said by Sirbone), which lost his job as coach of Turkish team for poor performances and internal rifts, leading to him asking the CEO (who he know for previous contacts and, especially, for Fazzi's trips and collaborations with Korean teams and universities) a place to stay until he could find a new job. While he was speaking English with the players and housekeepers, I heard him speaking Korean from the streaming booth. On the other hand, players' behaviour was also interesting, as most of them were streaming while scrimming, which is very rare for LoL teams. Moreover, one of them was actively interacting with his audience and even playing with a tengu mask to produce more content. However, the most interesting part of the second visit was witnessing the organising phases of the Napoli Comicon, where Qlash had to set up a stand and a stage (hosting important competitive events). There, an external collaborator (an electrician) was collaborating with the house manager (actually a friend of his) to graphically design the connections needed to power the stage, link computers on the stage to the internet (without blocking the traffic for too heavy usage), and wire all screens and cameras to the control desk for the

streaming of the event. This meant that all-arounders (also electricians) had to go in and out of the storage rooms (also an external one in the neighbouring warehouse) to retrieve cables, foldable chairs, and so forth.

OutPlayed Gaming House

The second Italian gaming house where I conducted my observations is the OutPlayed Gaming House, located in the southern part of Milan, Italy. This neighbourhood hosts many other media companies, one of the most notable being Sky Italia, which has its studios just a few streets away from the gaming house. Moreover, this house is situated within the so-called Milan Gaming District, which is, in fact, an OutPlayed (OP) side business. More specifically, the OP rents its spaces for gaming-related events, cosplay photoshoots, private tournaments or bootcamps, workshops, and other “pop events,” as stated on their website¹⁷.

The owning company was founded in 2017 by one of the most distinguished teams in the LoL Italian landscape, capitalising on their success to become, as they proudly state on their website, one of the most winning organisations in Italy, across all titles. The declared founders, indeed, count three players: Andrea “Whooops” Marcolla, Simone “Awaking” Benedetti, and Mattia “Pencil” Guainazzi (Fig. 29). The latter of the three opened the house for me before a bootcamp, thanks to a contact favoured by the esports journalist Francesco “Deugemo” Lombardo.

¹⁷ <https://www.milangamingdistrict.it/>.



Fig. 29. A photo of my contact and OP's co-founder, Mattia "Pencil" Guainazzi, also a former LoL player. (taken from Sigon, 2025)

Actually, the first mention of this name appears on an esports website (outplayed.it) in 2016, and Pencil stated that it was located in Lonato del Garda, a small town in the province of Brescia, Italy. Still, the organisation rapidly transformed into a proper media company through its partnership with the aNc talent agency (a goliath in Italy's influencers' scene), also prompted by the fact that one former OP player (Luca "Brizz" Brizzante) became one of the most followed Italian LoL streamers after being one of the Italian top winning LoL players ever (Sirio, 2022).

Another strategic move by OP was partnering with Hellas Verona football club to win the inaugural Italian eSerie A, organised in 2019. This partnership not only launched them into the rising scene of football competitive gaming but also established one of the longest collaborations between an esports organisation and a traditional sports society, still ongoing (Lombardo, 2021; Sirio, 2023; Triunfo, 2020). Another milestone set by OP was the opening of the first online marketplace dedicated to an Italian esports company inside the Amazon ecosystem (Lombardo, 2021; Sirio, 2023). This, for Pencil, drastically boosted their earnings through official merchandise, significantly multiplying the opportunities for fans to obtain their branded products without waiting for an in-person event (Lombardo, 2021). Finally, in addition to the Milan Gaming

District, the org expanded its operations to other esports side hustles, becoming a proper software house when it established Versus, a matchmaking platform open to both amateurs and tournament organisers, not dissimilar to what Qlash do with its proprietary app.

Such market-driven expansions were motivated by a firm conviction, stated by its founders, that the Italian competitive scene was on the rise, also in terms of audience, which, for them, was an overlooked feature in the strategy of Italian esports organisations so far (Lombardo, 2021; Sirio, 2023). Consequently, the partnerships (with aNc above others) aimed to add marketing attention to the already top-tier competitive side of the org, which was in fact reinforced too through the acquisition of European-level players and teams (e.g., Andreozzi, 2017). The strategy actually worked, as the team is widely regarded as an Italian esports powerhouse, also due to its ongoing efforts in sustaining IIDEA, the sector's professional association.

In this picture, the OP Gaming House (Fig. 30), established in 2023, serves as both a legitimising device, positioning OP as a media company through its location in Milan's media hub, and as a showcasing space that can rapidly transform into a rentable space to enrich the organisation's revenue strategies.



Fig. 30. The OP Gaming House's interior as showcased in the newspapers. However, when I entered the house, this room had been entirely refurnished to serve as a streaming area and a photography set for content production. (taken from Sirio, 2023)

The house is said to cover around 300 sqm (MGD, n.d.; Sirio, 2023), making it the smallest structure I visited. The available space is allocated over two stories (in a loft-style; Fig. 31), plus some extra spaces (proper apartments for players) located in the same residential complex. The structure comprises:

- gaming area (6 pc stations plus the option of adding others);
- relax area with 85-inch television, sofa, and consoles (from PS5 to Nintendo Switch);
- streaming room for content creation (partially soundproof), separated for more privacy;
- playing area with tabletop and RPG games, consoles, arcades, VR headsets, and driving simulators;
- fully furnished apartments in the same residential complex.

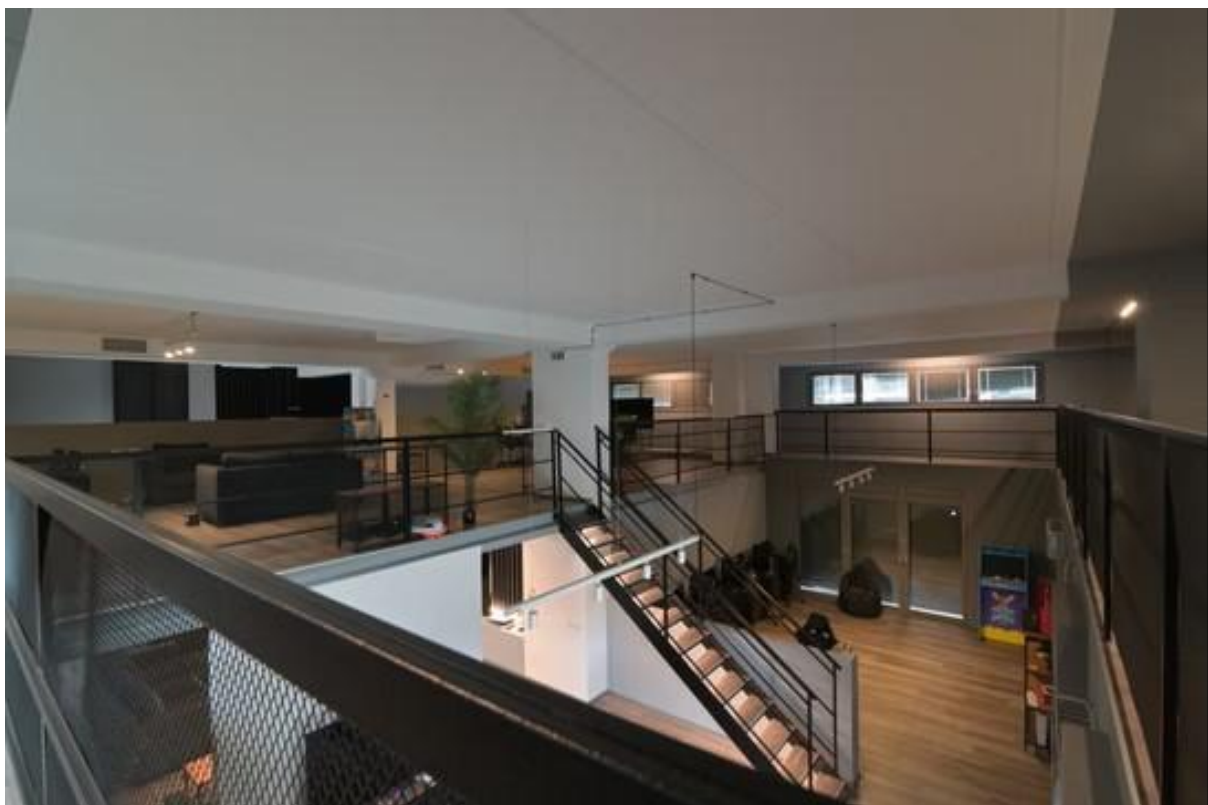


Fig. 31. The OP Gaming House interior, showcasing the mezzanine-style subdivision of its spaces. On the upper floor, we can spot a relax zone, the food area with shared tables, a coworking space, and other rooms for workshops and office purposes. (taken from MGD, n.d.)

Given this structural description, I conducted a single short-term ethnographic visit (see Tab. 6), mainly comprising a semi-structured interview with Pencil (fully recorded and transcribed), who hosted me during the setup of their house for an upcoming LoL bootcamp.

OP fieldwork	hours
Contact (agreement)	0.15
1 st visit	2.15
Total	2.30

Tab. 6. Summary of the OP ethnographic fieldwork hours.

Although I agreed with Pencil on a visit during a team bootcamp, he actually hosted me in the hours leading up to the players' arrival.

This was due in part to his care for players' well-being (and performance, especially) and partially to a shift in the schedule by Riot. Indeed, the developer set a “media day” to produce content for the upcoming split, inviting all teams to a photoshoot at a designated studio, with full reimbursement of travel and expenses. He went along, saying that the media day was actually a very nice initiative from Riot, which raised the qualitative standards of the local scene after its return to Italy following the closure of its local department just before the COVID-19 pandemic (between 2018 and 2019). This was also particularly important because of the economic situation of the esports industry reported by Pencil, which in Italy still meant working only at a loss (both organisations and players). For the OP manager, those organisations remaining on an economic par were only those with a franchise spot or some very peculiar partnerships able to generate steady flows of income. Not surprisingly, OP could leverage some of its signed professionals, mostly streamers, to attract collaborations with a multitude of diverse companies, such as the Italian snacks industry icon Motta (fieldnotes; see also Sirio, 2023). This meant that, although Guainazzi primarily focused on the competitive side of the organisation, the “weight” of the OP's competitive section was not crucial for its economic sustainability. Indeed, instead of focusing on winnings, Pencil emphasised the content they were able to produce as the most effective way to engage with the community and “lock” it into the team, which was also the reason behind the opening of the OP Gaming House.

This shift “from esports to gaming” enabled the industry to tap into an audience that, according to available figures, surpassed the combined audiences of music and cinema (Pencil, fieldnotes). The house, then, was harshly aimed at reducing production costs for content (“a cinema set”), but was also aimed at enhancing players’ performance by gathering them together in what Pencil called, instead of “house,” a “gaming office” or a “training gym” (fieldnotes). In truth, the apartments were found by OP on a short-term rent deal with a company in the same residential complex, thus outsourcing the proper “living” arrangement for the players.

The abundance of monikers did not, however, distract Pencil from setting up an alternative connection system for the PC stations, as the internet services had collapsed during the house hiatus. This suggested to me that, albeit a manager, Pencil was in fact also an all-rounder for the house: he bypassed the D-Link and reconnected PCs to the internet (even though they have a specialised on-call technician), launching the updates needed for the bootcamp; he maintained contact with Riot and organised the logistics for the photoshoot and interviews, but also managed players’ flight and trips to get into the OP Gaming House; he moved and unpacked the pallet full of Motta’s snacks arrived as part of the collaboration, preparing some food for the arriving players; at the same time, he was deeply inserted in the revenue strategies of the company, making clear that the choices about where to invest were partially a result of his choices. Among these choices was how to furnish and decorate the gaming house, which celebrated its first birthday only a few days before my visit.

Overall, the visit provided me with a wealth of information about the Italian esports ecosystem, thanks to the interviewee’s well-placed role and his willingness to share data on the organisation’s business model – something I had previously been blocked from exploring in Qlash.

Macko Gaming House

The third and final gaming house I was allowed to visit was Macko Gaming House, located on the outskirts of Monopoli, a well-known tourist destination in the province of Bari, Italy. The gaming house was part of a larger villa-style complex, situated within an olive tree grove. The compound also hosts a luxury bed-and-breakfast business (Residenza Il Sole), open seasonally (in the summer), offering six rentable rooms and suites on two stories, a terrace, and a pool with a side-water bar. All these amenities

are indeed displayed as part of the gaming house, suggesting a partial overlap of the business (Macko Esports, n.d.-b). On the underground level, instead, the proper gaming house shares its space with the Macko Tattoo Academy¹⁸, which hosts more than 14 theoretical and practical courses, including those required to become a professional (e.g., obtaining sanitary permits). All this is situated in a well-known tourist area of the Apulia region in southern Italy, with the compound being just a few minutes from the beach.

The company behind this Apulian gaming house is eponymous with its founder, Antonio “Macko” Todisco, whom I personally met during the 2023 Milan Games Week, and who was also present in the gaming house during my visit (Fig. 32). Notorious for his bold attitude, which he conveyed to the organisation, Macko is a worldwide-known tattoo artist and painter, having received prizes for his black ‘n’ grey and Chicano style at the most important tattoo contests.

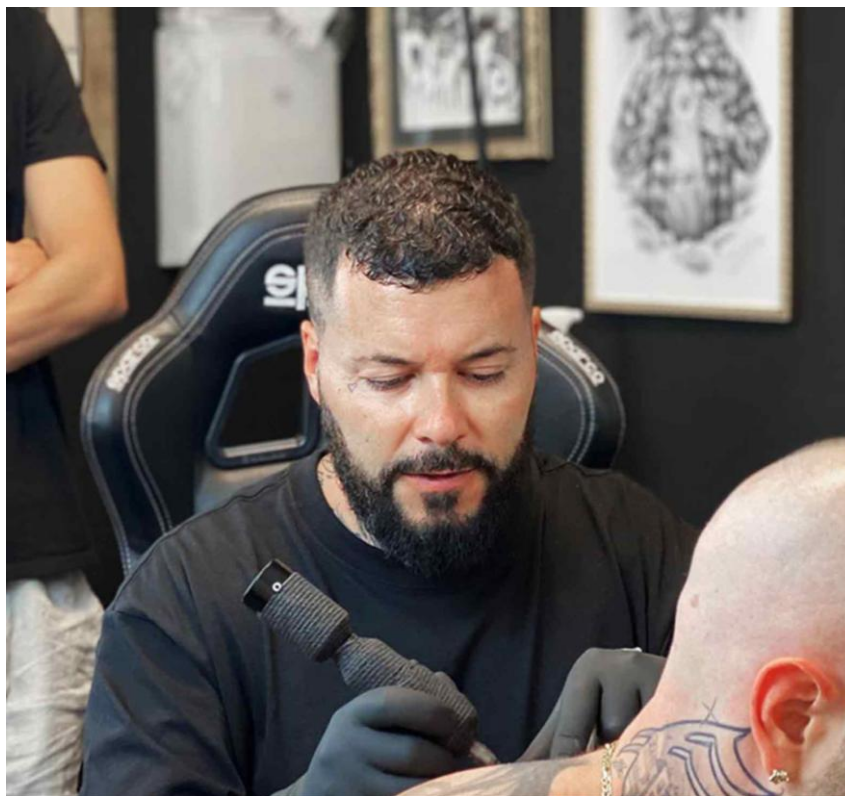


Fig. 32. A photo of Antonio “Macko” Todisco in his tattoo artist clothes, sitting on a gaming chair while tattooing for his Academy’s audience. The background is indeed the Macko Gaming House spaces, specifically its larger room (often used for the Academy’s workshops). (taken from Macko Academy, n.d.)

¹⁸ <https://macko.academy/>.

Alongside him, I found evidence of another co-founder (Alessio Albanese). Nonetheless, during the informal interview I had with my local contact, Andrea “Korax” Planamente (Fig. 33), the general and esports manager, I was told that he had also been involved with Macko since its early days, playing a fundamental role in establishing it as a mainstay of Italian esports.



Fig. 33. A photo of my contact and Macko general manager, Andrea “Korax” Planamente, also a former LoL player and coach, inside the gaming house’s streaming booth. (taken from Macko Esports, n.d.-b)

To speak the truth, the founder, Macko, agreed to a visit when I spoke with him during Milan Games Week, but it was not until my conversation with Korax, whom I had contacted through a scholar from Turin, that I finally managed to schedule an appointment. He later explained to me that most of the esports activities were a result of his effort, since Macko was passionate about competitive gaming but only partially involved. Instead, he could count on a rich experience, first as a competitive player and, after a forced medically-due retirement, as a high-level coach. Notably, Korax joined a Belgian team, serving as a vice-coach until he was able to step in and

demonstrate his abilities (fieldnotes). After this experience, he finally returned to Italy, relocating from Rome to Apulia to establish a well-known team (Racoon) and achieve remarkable results. Not surprisingly, he also brought some key collaborators from his previous team, such as the LoL coach Riccardo “Rharesh” Tata (Bortone, 2021), who was present in the gaming house during my visit.

This led Macko, established just after the COVID-19 pandemic (2020), to rapidly reach the peak of the Italian esports landscape. However, unlike the other two esports organisations tapped in my ethnography, this company did not invest in gaming platforms or other digital products, as it could already rely on substantial earnings coming from Macko’s side hustles (the Academy, his tattoo work, and the residence). Instead, Macko Esports displayed a particularly strong focus on winning and being competitive, allegedly due to the influence of its founder’s attitude (fieldnotes; Bortone, 2021). Moreover, Macko invested in the media sector, signing content creators and partnering with the Italian gaming journal Everyeye (Di Domenico, 2023), as well as collaborations with important non-endemic brands, such as the Italian fintech company Hype and the Korean automotive giant Kia (Everyeye Staff, 2023, 2024; Leoni, 2024; Staff, 2024).

This brought them to a powerful position, which they recently leveraged to signal their dissatisfaction with Riot’s strategies for the Italian LoL scene: after being the most successful team in the Italian league, they withdrew until profitable again (Izzo, 2025). Interestingly, Korax warned me against this possible outcome of the Riot-Macko dispute, well before the official press release, during my visit in June 2024. This brought major changes to the org’s rosters; for example, the departure of their signature player, Vittorio “Click” Massolo (ending one of the longest collaborations in European esports). However, the team continued to be among the most competitive in their other titles, especially R6.

Given Macko’s company organisation, the Apulian gaming house (Fig. 34) may appear again as a legitimising move, as it clearly links the organisation’s focus on top-level performance with discussions over the impact of such structures on team results, which can be found in the esports ecosystem (e.g., Billy, 2015). Still, a less superficial analysis of Macko’s moves, confirmed through Korax’s words during my interview, revealed that the house was, in fact, more a result of the organisation’s tendency toward more sustainable business strategies. In fact, Korax’s academic background in management studies (following a degree in Medicine) prompted Macko to reflect

more on its revenue model, leading to harsh criticism of the Italian esports ecosystem for its overall propensity to operate at a loss – a point already stated by Pencil (see the section on the OP Gaming House). Hence, while they claimed on their site to be “one of the only 3 orgs in Italy who can brag a Gaming House” (Macko Esports, n.d.-a), the short-term ethnography revealed that their structure was, in fact, a secondary effect of Macko’s activities, enriching their brand appeal but not functioning as a core part of their business model within esports.

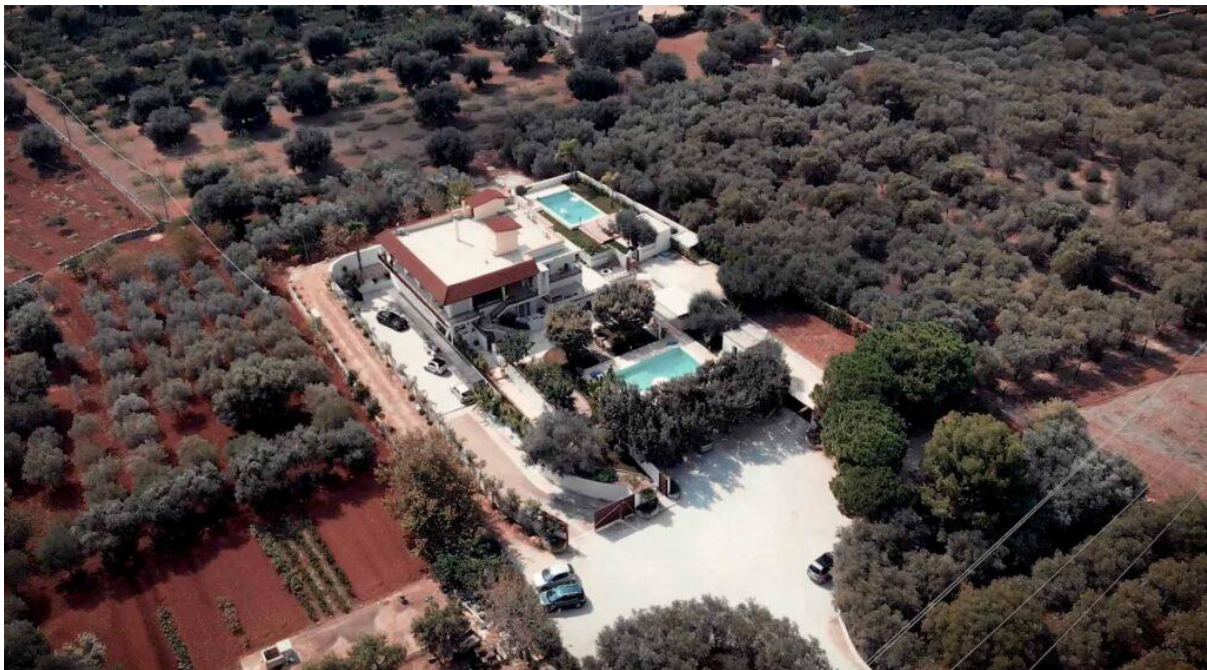


Fig. 34. An aerial photograph of Macko Gaming House, showing the surrounding olive tree grove, the pools, and the three-story compound hosting the residence rooms, the tattoo academy, and the proper gaming area. (taken from Macko Esports, n.d.-b)

On their website, the gaming house is stated to cover 4'000 sqm, as its three stories (two above and one below ground) include:

- a welcome desk;
- a classroom (mainly occupied by the tattoo academy)
- a conference room;
- the media office (hosting the desk of media managers, the graphic designer, and the videomaker);
- Antonio “Macko” Todisco’s office;
- the LAN room (comprising 12 PC stations);

- 2 streaming booths;
- a gym (accessed from outside);
- 2 pools (shared with the residence);
- a barbecue area (near the pools);
- overnight accommodations, including a kitchen and professional services (e.g., a cook); note that these spaces partially overlap with the residence rooms, also offered to participants in the in-person tattoo courses.

I conducted a 2-day observation inside these spaces during the LoL team's bootcamp (see Tab. 7), which was led by Korax and included meetings with other staff and organisational members.

Macko fieldwork	hours
Contact (agreement)	0.15
1 st visit (2 days)	3.15
Total	3.30

Tab. 7. Summary of the Macko ethnographic fieldwork hours.

Although hosting the LoL's team bootcamp for the upcoming LIT Summer Split, there were also some tenants in the residence. Nonetheless, the house's staff was nearly complete (Tab. 8), hosting all professionals involved (managers, founder, videomaker, coach, and players), lacking only the streamers (who were rarely present in the house, actually).

OP in-house professionals	n
Owner / founder	1
Manager	3
Coach	1
Player	4
Total	9

Tab. 8. Summary of the intercepted Macko professional profiles.

Notwithstanding the heat (it was June), the gaming house was fully working: the coach (Riccardo "Rharesh" Tata) welcomed me briefly, as he had to complete a review for an

upcoming VOD with players, who were scrimming in the meanwhile; the media section of the org was working to polish the content needed to publicise the upcoming matches, while the founder was a bit more relaxed as he had no courses to hold. While guiding me through past prizes and branded areas, Korax supervised the team's bootcamp and coordinated the other managers' work. This left him time to be interviewed at length about his personal story, the gaming house's functioning, and Macko's overall organisation. By talking with him, I discovered that he was aligned with the org's focus on winning, as he firmly believed that a significant part of media coverage and community engagement can be achieved through results. Nonetheless, during the interview, he revealed that much of his effort as a team manager (though he was not officially appointed as such) was choosing the right players and fostering a relaxed atmosphere among the different personalities, despite their individual performances. Similar to Pencil, Korax displayed high awareness of the difficulties of professionalising esports, especially in the Italian landscape: while institutional recognition can help the movement, the manager firmly believed that the situation in esports was much more delicate, given the developer's nearly omnipotent role over its product. This did not hinder Macko and Korax personally (through his LAN room side business in Rome) from considering esports a rising industry. On the other hand, Korax surprisingly stated that he judged the offline dimension to be crucial for the sector, and maybe the only way to transform it into a sustainable business. Entering this theme, he stated that while most issues concerned players claiming they were not paid enough, the real problem was making an esports organisation profitable. Indeed, he explicitly revealed that Macko was surviving only through Todisco's and Hype's continuous flow of money, as the organisation was not making any profit (fieldnotes). This created many issues for him, as he sought to transform Macko into a sustainable company to ensure his (and his players') future within esports.

On the second day, I got to witness another scrim, as I was allowed to stay in the practice room while players played online. In the meantime, the coach used one of the streaming booths as his "office," following the match online without direct contact with players (albeit he sometimes spoke with them through headphones). Before the match, the players took some time off at the beach, but unfortunately, they broke a couple of the electric bikes. While Korax attempted to get them repaired, I witnessed a small agreement between Rharesh and Click, who likely covered the captain role, much like EduCoz on the Qlash Valorant team. The Danish player (Nikolaj

“DenVoksne” Asbjorn Meilby) had a chat with me about some psychologists involved in esports he knew, since I spotted his self-improvement book under the screen. This happened during a pause, but other players (especially the Serbian Dušan “Lotuss” Nedeljković) rapidly took him back into the game (discussing strategies and preparing the next round). Although performed on another game (LoL, instead of Valorant), the observed scrimmage routines were pretty similar to those in Qlash, with players chatting with each other in front of their screens, giving advice, going to the coach to discuss some points, playing silently, drinking and eating snacks to keep their attention on.

Other venues: Following the ethnographic place in other scenarios

While the three gaming houses formed the core of my short-term ethnographic fieldwork, totalling 32 hours of observations and interviews (Tab. 9), I also followed some of the observed individuals through their social media, press releases, and in-person events (Tab. 10).

GHS fieldwork	hours
Qlash	26
OP	2.30
Macko	3.30
Total	32

Tab. 9. Summary of the ethnographic fieldwork hours.

I partially engaged in side research activities as a way to become more immersed in the field and be more widely recognised as part of it, but also to multiply the possible entry points and complete observations throughout the moving actions of my research participants. This sometimes led to the emergence of parallel projects, such as the possible role as an OP content creator, which was not always successful. Sometimes, I had to withdraw from pursuing interesting pathways due to the lack of resources or the pressure that some esports professionals put on my role, for example, asking me to be their sports psychologist while conducting observations.

GHS met professionals	n
Qlash	24
OP	1
Macko	9
Total	34

Tab. 10. Summary of the intercepted professionals.

However, the most significant external research site was the Milan Games Week excursions I conducted, which allowed me to establish connections with many esports professionals and amateurs, often obtaining invites through informal chats or by pressuring key informants to schedule visits to their organisations. In total, I made two extended visits to Milan Games Week conventions (2023 and 2024 editions), held in the Rho exhibition area, a suburb of Milan, Italy. This event, held annually between October and November, is regarded as one of the most significant national conventions for gaming and comics, hosting a substantial portion of the local gaming and esports community. Indeed, nearly all the ecosystem moves to Milan in those days, as every major team has a stand or a stage, and smaller ones also find a spot (usually for significant sums). Moreover, peripheral actors are also present, including talent agencies, institutional actors, and industrial representatives.

During the first visit, as I witnessed some of the preparation for the event, I gained access to the behind-the-scenes of the Qlash stage. Behind it, I was surprised to find the Machete Gaming stand, where the notorious rappers' crew organised an exhibition and playing area in direct collaboration with Qlash, with which they had partnered. After the matches, I stayed with the players well beyond the convention's closing hours to socialise and have fun with them (all of which I obviously observed but did not record for privacy reasons). I left when the party moved to the Monster Energy area, featuring a fully furnished cocktail bar.

During my second visit, I attended other entertaining matches at the specifically built arena (Fig. 35), which transformed the exhibition area into a proper esports stadium for the Valorant National Qualifiers. While I took advantage of the MGW to stay in contact with many esports professionals I had come to know, I also utilised the programme to understand ecosystem trends and to witness some new industry players emerge. Specifically, Dsyre moved from being a very polished but small stand to one of the largest spaces the Games Week ever assigned to a single organisation.

Inside Dsyre's spaces, one could find nearly every facet of the esports ecosystem, from traditional sports collaborations (in this case, Juventus FC) to streamers popping up occasionally, as well as freely available consoles, professional players mingling, managers working with potential partners, and amateurs trying to get noticed. For the first time, I participated in an academic panel held inside the gaming convention, where I met some academic acquaintances and introduced myself to Francesco "Deugemo" Lombardo, who later pointed me to Pencil and Korax. Finally, I attended the IIDEA esports awards, where Macko was named the best esports organisation of the year for its ongoing efforts on both the competitive side and in commercial success. Indeed, I could introduce myself to Antonio Todisco, who agreed to host me during a bootcamp whenever possible.



Fig. 35. A digital reconstruction of the 2024 Milan Games Week main esports stage. The "Game Storm Arena" hosted all major weekend events, almost all organised by PG Esports. Among the various matches, I spectated a Fortnite qualifier that was shoutcasted by the famous streamer Xiuder. (taken from Redazione, 2024)

Data analysis

Although data collection procedures were never completely finalised until the initial phases of this thesis drafting, after the last visit (Macko) I began to delve more thoroughly into the collected data for interpretation.

First, I transcribed recordings, visual data, and fieldnotes into a single format, allowing me to compare data and utilise all these sources as valuable material for my research. This sometimes meant integrating the collected data with information from the grey literature review and other media resources. The second step was qualitative coding, which I performed manually over the data I drew from observation (also visual) and elicited in interviews. Although I would have preferred an inductive approach, letting data “speak” for themselves, the sheer amount of material and the chosen methodology suggested a more intensive dialogue with theory (Pink & Morgan, 2013). Hence, I analysed the collected data through theoretically driven categories, integrating them as needed. Of course, this qualitative analysis involved a substantial degree of interpretation, since I was limited in my access to business-related data when visiting gaming houses (especially Qlash). The emerging and top-down categories, though, were designed to detect and define the typology of relationships occurring between ecosystemic actors, taking advantage of both my theoretical framework (e.g., Márton, 2022; Yoon et al., 2022) and the extant literature on the esports ecosystem (e.g., Carrillo Vera & Antón, 2024; Scholz, 2019). More specifically, interpretation was involved in the first step of qualitative coding, i.e., when applying the category to the selected text, and again in the subsequent step of analysis, when these codes needed to be expanded with subcategories, merged, or modified during recursive procedures.

Providing a straightforward example, a coded excerpt falling under the category of “parasitism” identifies those ecosystemic relationships in which an actor “survives” at the expense of another. This excerpt had to be attached to words or situations that revealed an ecosystemic connection where one of the two actors was predicated on the other. For example, the relation between Qlash and Panasonic, a non-endemic sponsor that branded significant parts of the gaming house. Even though such spaces occupy the “relax” and social area of the house, featuring branded wall decorations and television screens, they were not intended for streaming. Although I was told that this large lounge area was commonly used to host potential industrial partners, VIPs, and community events, the house manager, Pob, informed me that this happened very rarely, and primarily involved a brief go-through before proceeding to Luca Pagano’s office. Indeed, the CEO interview and observations suggested that Qlash had largely capitalised on the Panasonic collaboration, incorporating both products and sponsorship into a relatively small advertising budget. Knowing that Qlash, too, had

financial issues in making its esports teams profitable, I categorised the relationship between Panasonic and Qlash as mainly parasitic, since Qlash benefited from Panasonic's income without giving much in return.

However, the third step of analysis included recursively (and collaboratively) going through the coded excerpts and drafted categories, in order to test these preliminary "hypotheses" and compare more thoroughly the observed data with the theoretical framework. This approach was consistent with the short-term ethnographic methodology described by Pink and Morgan (2013), which involves a continuous, intense exchange of theory and data to maintain focused, relevant observations for research purposes (see also Knoblauch, 2005).

To illustrate this recursive procedure, it may be helpful to draw on another org-sponsor relationship, drawing on the last gaming house observed to recall how the coding shifted to accommodate a deeper understanding of the synergetic links within the ecosystem. Indeed, I initially categorised the relationship between Macko Esports and the owner's tattoo business as "parasitic," similar to the previous Qlash-Panasonic link, as Korax and observational data suggested the org was kept afloat only by two primary income sources: Hype and Macko himself (through his side business). However, a recursive re-appraisal of these links led me to reconsider the categorisation, as, even though both pertained to the synergetic domain, they differed in a fundamental feature: the tattoo and residence were, in fact, coexisting with the esports business without needing to finance it. To speak the truth, after the initial investment by Macko, the esports organisation took a direction toward becoming sustainable through sponsorships and winnings, as well as by carefully reviewing which game titles to invest in to avoid incurring unaffordable expenses for professional players.

Following Márton's principles of ecological functioning, considering the information ecology in which Macko was inserted, allowed me to categorise the relation between the organisation and, for example, the tattoo academy business as more "commensal" than "parasitic," since they were both sharing the benefits of Macko's¹⁹ revenue streams to pursue their subjective inclinations. Since sponsorships (Hype, specifically) and management decisions (i.e., Macko's materialisation of its part-of-ness in the ecosystem) helped keep the esports org afloat, the relationship between it and the

¹⁹ Here intended not as the org itself or Antonio Todisco specifically, but as the entire business group under that name.

other Macko businesses began to shift toward forms of collaboration, rather than pure dependence (e.g., the residence started to be offered for third-party bootcamps).

This brought counter-directional influences more to the forefront, such as the growing notoriety Macko began to acquire as he moved between the neighbouring subcultures of tattooing and gaming, as well as the effects of that fame on his revenues. Hence, the tattoo activity and the residence became “safety nets” for Macko Esports, prompting a variation in its behaviour through a change in the nature of their relationship: as a matter of fact, the general manager (Korax) disclosed to be increasingly interested in making the org profitable since it became predicated on sponsorships (and not “Macko’s philanthropy”; fieldnotes), even considering withdrawal from some major competitions if these would have turned out to be an unbearable effort for the “company.” Not surprisingly, this was revealed to be real when, some months after my visits, their LoL team withdrew from the Italian championship, following Riot’s decision to disinvest from the Italian landscape.

To sum up, the steps of qualitative coding, categorising, and recursively re-appraising the data through the theoretical lenses of both esports and ecosystemic scholarship were the processes that led me to extract relevant information, which could then be employed to enrich the discussion on the esports ecosystem. Therefore, the subsequent chapter will leverage such methodology to demonstrate the importance of considering ecological features when approaching digital business ecosystems.

5. Three models for hosting gaming: Homes, facilities, compounds

This thesis employs gaming houses as empirical entry points. These structures have emerged within esports since the start of the Millennium, evolving into various forms and functions throughout their history. Even if generally unreliable as a scientific source, it is interesting to take the move from the Wikipedia definition of these structures, which states:

“A gaming house is a co-operative living arrangement where several players of video games, usually professional esports players, live in the same residence.” (“Gaming House,” 2025)

As it goes on to recount the South Korean origins of gaming houses and their frequent confusion with similarly named gambling establishments, the Wikipedia article stresses the importance these buildings assume nowadays for professional teams: physicality, social bonding, infrastructure services, among others. Hence, gaming houses are seen as professional(ising) tools that help amateurs transition from passionate play to a more serious stance, often compared with those of professional athletes. Not surprisingly, though, the online encyclopaedia concludes that, albeit differing in their aesthetic appeal, most houses comprise a manifold of technologies (e.g., low-latency internet) and professionals (e.g., nutritionists and psychologists) that sustain players’ efforts. Such a description is helpful to start with, not only because it gives feedback on the community’s public legitimising processes, which try to make sense of the role of these houses for external audiences, but also because it summarises the primary expectations that those involved in esports attach to gaming houses, thus unveiling the internal, given-for-granted meanings associated with them. Therefore, we can sum up the reflection on this public explanation of what gaming houses are by underlining some core tenets around which they are constructed:

1. Scope: Gaming houses are teleologically oriented, as they are specifically designed to host and enhance professional gaming.
2. Time: Gaming houses involve a temporal co-existence of players, at least for restricted timespans (e.g., bootcamps), and often involve cohabitation.
3. People: Gaming houses employ supporting staff, from simpler housekeepers (who can be players themselves) to external professionals (e.g., physiotherapists).

4. Infrastructure: Gaming houses heavily rely upon digital technologies, primarily those necessary to compete virtually (i.e., high-end computers, internet and power infrastructures, streaming equipment).
5. Materiality: Gaming houses take advantage of their constitutive elements (technologies, materiality and co-presence) to overcome well-known problems in the field, such as health concerns due to the overuse of substances and the lack of social connections, but also the absence of personal spaces to transition from amateurism to professionalism.
6. Ecosystemic value: Gaming houses are inextricably linked with many of the esports ecosystem's crucial actors, representing a spatialised node where one can materially witness their interaction.

All these constitutive elements, however, did not simply appear at the first occurrence of gaming houses. Actually, they progressively emerged as the core functions throughout the evolution of the structures, which were much more naively guided by a more straightforward money-saving purpose at their birth (Can, 2018). For this reason, it may be useful to start with a historical outline of gaming houses in order to better understand how what could remain a contemporary housing solution transformed into a (set of) model(s) that now characterise the esports field and sit at the crossroads of many of its ecosystemic relationships.

5.1.1. The birth in South Korea: Homes

The birth of gaming houses is shrouded in mystery and legendary allure. In fact, there is no official birth date of the first gaming house. However, there is a large consensus that sees South Korea, and more specifically Seoul, as the birthplace of these structures. The myth links the first appearance of gaming houses to one of the earliest and most important esports titles, StarCraft (Blizzard Entertainment, 1998), which brought Korean players to the forefront of global esports at the start of the 21st century. The Korean scene was rapidly rising at the time, as StarCraft benefited from the country's institutional policies supporting the digital transition, which helped spread the game and make it the most widely played in the region (D. Y. Jin, 2010; Scholz, 2019). Indeed, the South Korean government invested heavily in digital infrastructure, modernising the Country and prompting the spread of new enterprises such as PC bangs, the Korean version of internet cafés (D. Y. Jin, 2010; Stewart & Choi, 2003).

Additionally, the first institutionalising moves of the Korean Ministry of Sport, which recognised the local esports federation (KeSPA), coincided with the emergence of the first TV programmes and dedicated broadcasting channels covering esports tournaments, effectively launching competitive gaming as the country's national pastime (Mozur, 2014). In this scenario of growing importance (also economically), the first "celebrity players" began to emerge, attracting fan and sponsor attention as they won one title after another (T. L. Taylor, 2012). Although the spectacularisation of esports relied mainly on these individual actors, such as Lim "BoxeR" Yo-hwan, teams also transitioned from more friendly-based groups to professional formations, following the model of traditional sports disciplines (Svensson & Pargman, 2024; T. L. Taylor, 2012): as competition rose, more and more training hours were needed to be a top-level player, and many gamers expressed the will to move in Seoul, where most of the tournaments (and PC bangs) were located to fully dedicate to esports (D. Y. Jin, 2010; Lingle, 2016). However, affording a place in the capital was difficult due to the field's still-fragile salary figures. It is not surprising, then, that even some celebrities, such as BoxeR and Yell0w, decided to join in order to save money on housing (Can, 2018; T. L. Taylor, 2012). At a time when top-level players could finally afford to dedicate themselves to gaming all day, living in the same place with another high-level gamer might constitute a winning move to raise one's performance significantly (and save on the expenses of playing in a rentable station). Even though they were not called such, we can recognise in Korean shared apartments the earliest appearance of gaming houses (Can, 2018; T. L. Taylor, 2012), which teams rapidly co-opted as part of their professionalising tools (Byrne, 2019; Skubida, 2016). As South Korean teams rapidly became the powerhouses of the industry (Scholz, 2019), gaming houses started to be seen as a crucial step up for all those who wanted to take esports seriously: organised around a model where "younger" (i.e., weaker) players supported top-level ones, these structures benefitted both players, who could train endlessly with their teammates, and teams, who could manage their talents as a whole and easily employ them in (rare) side-activities like promotional campaigns (Chaloner, 2020; T. L. Taylor, 2012). Taking the six-tiered subdivision of the crucial elements that describe a gaming house, then, we can see how these "cramped apartments" (Jacobs, 2015) were centred around at least two core scopes (i.e., saving money and enhancing play), gathered players together for at least a season or, alternatively, one or more "bootcamps" (short-time gatherings dedicated to intense training); welcomed the entire team plus some

additional supporting staff (at least a coach and a manager); filled the house or flat with playing technologies, from computers to internet cables (N. Taylor, 2022); made use of the house's spaces to accommodate players (mostly in shared rooms with airbeds and floored mattresses), playing technologies (usually taking the widest room of the house and called "scrim room"), and extras (from leisure games to gym equipment); finally, these gaming houses clearly connected with the broader esports ecosystem, as they gathered around playing arenas or esports' hotspots (e.g., Katowice, PL and Berlin, DE) and started to host the first sponsor-related elements (from free-to-use tech to promotional merchandise) used to promote team's marketing agendas (even though still scarce at the time). The photo below (Fig. 36) shows how all these constitutive elements were entangled inside what we can describe as "adapted spaces". In other words, players of the time took pre-existing housing and transformed it to accommodate professional gaming. Thus, the first gaming houses could still be described more as "homes", which means personal and private spaces strictly related to one's own identity and sense of belonging, than "houses", which mainly refer to physical spaces hosting something, from people to businesses (e.g., "coffee house").

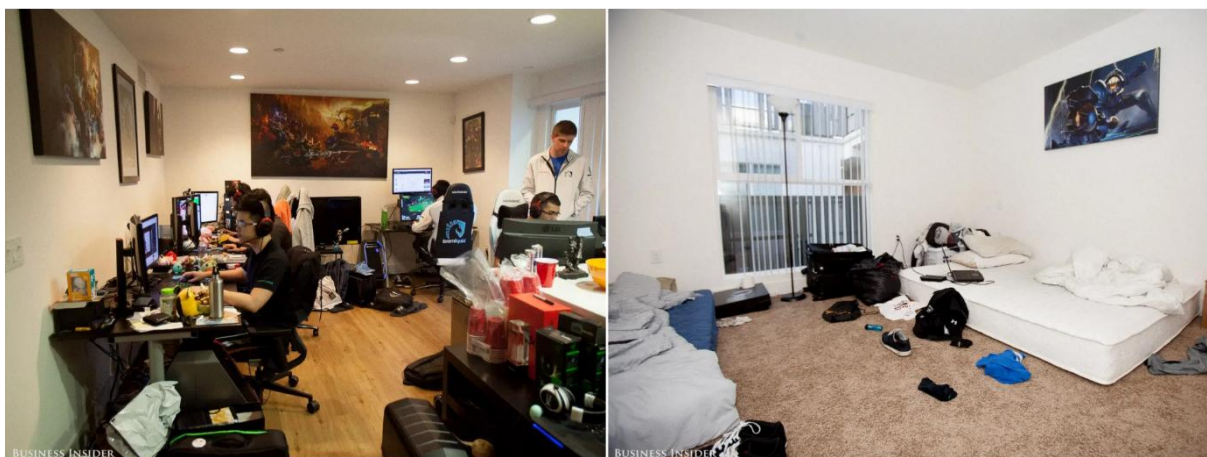


Fig. 36. A collage of Team Liquid's gaming house, a rented apartment in Santa Monica, LA. Although historically subsequent, this house still perfectly exemplifies the "home" model, in which rooms remain bare and are roughly adapted to accommodate the team and supporting staff. The image on the left shows the "scrim room," where all main gaming stations gather; instead, the right photo depicts one of the players' shared bedrooms, with gaming and personal stuff chaotically scattered across the raw mattresses, which lie directly on the bare floor. (taken from Jacobs, 2015)

For the sake of analytical clarity, I define the first and simplest model of organising gaming houses as the “home” model, whose characteristics revolve around i) the space being an adaptation of housing structures (i.e., homes “modded” to host competitive gaming) and ii) the marketing side of these houses to be scarce to useless for the owning team. In fact, these gaming houses primarily focused on gathering players and enhancing their performance, overlooking other activities that could make these establishments more productive hubs for the industry. This aligns with the *Zeitgeist* of esports’ early years, which focused more on passion, emphasising the grassroots nature of tournaments and teams, and prioritising less the economic sustainability of the movement (T. L. Taylor, 2012). Such an approach may sound naïve, but it would evolve into a more business-oriented management style as the community gained awareness of its power and numbers (Scholz, 2019). For some insiders, gaming “homes” played a part in this general shift toward a more “adult” attitude (Billy, 2015; ESL, 2014; Sacco, 2019), fostering players’ sense of professionalism and giving a material substrate to the birth of some of the teams that still exist today, such as Team Liquid (cf. Chapter 3.1.3). The “home model” retained the innocence of early LAN parties, with most internal transformations and refurbishing being done “homemade-ly” by the players themselves: famous scenes caught pro players building their own rigs inside the gaming houses (e.g., Team Secret, 2020). On the other hand, teams affording such a step, like renting (or even buying, although rarely) a house to host their roster, were at the forefront of a professionalising revolution that was about to change the esports’ public face: a progressive shift toward entertainment was about to come (D. Y. Jin, 2020; R. Li, 2017), sustained by external elements – such as the institutionalisation of esports federations and the entrance of non-endemic sponsorships (Scholz, 2019; Svensson & Pargman, 2024) – and internal transformations – like the arrival of huge tournaments and the steep rise that online gaming brought to some competitive titles like League of Legends (LoL; Riot Games, 2009). While the gaming industry went viral and global in these years (between the 2000s and 2010s), esports saw its first appearances in television programmes and its first young celebrities rise to fame (R. Li, 2017; Scholz, 2019; T. L. Taylor, 2012), in a rollercoaster of successes and failures (e.g., the US-bases and Fox-flavoured Championship Gaming Series, CGS for short). In this scenario, again, gaming “homes” were seen as a way to somehow “stabilise” the field, offering a real solution to

youngsters trying to transform their passion into a proper job: an effort which was carried over both by imitating the Korean style of co-living with teammates and by accompanying teenaged gamers with “managers” and coaches, usually older players, who were at the time part of the ecosystem for enough years to know how to survive (Lingle, 2016; T. L. Taylor, 2012). Still, many, if not all, of the gaming houses of the time no longer exist, as they mutated, moved, or closed as the esports movement traversed its ups and downs (Messier, 2013; Scholz, 2019; T. L. Taylor, 2012). However, the “home model” can be seen as the first attempt to propose co-living, and the constitutive elements listed above, as the core professionalising tools that a team can offer to an emerging pro player (Can, 2018). Not surprisingly, this model still exists and is generally found in those Countries where esports is still in its (local) infancy (e.g., Bago, 2016). As we move to the next model, “facilities”, we must consider that the analytical subdivision I am proposing is not as straightforward as it should be. In fact, the “versions” or iterations of gaming houses’ models coexist around the globe, often intersecting as each owner or manager pursues (economic) sustainability for their own structure. In other words, the proposed analytical categorisation becomes much blurrier when examining the nitty-gritty of everyday empirical reality, where gaming houses rarely fit perfectly into any of the described models but instead often mix characteristics of the three. However, analytically separating the occurrences of gaming houses and linking them to the broader esports’ history allows us to appreciate their evolution and intersection with the surrounding ecosystem as it got more complex and articulated (Byrne, 2019).

5.1.2. The intersection with business: Facilities

The second stage of the evolution of gaming houses corresponds with another esports leap forward. Indeed, after 2009’s economic crisis, esports also experienced a series of downsizing moves, such as the already-cited failure of the CGS initiative and a return to more locally based tournaments (R. Li, 2017; T. L. Taylor, 2012). In fact, esports realised that it was still too fragile, both economically and in terms of the maturity of its participants, to sustain a definitive transition into one of the global entertainment industries (R. Li, 2017; Scholz, 2019). However, those involved in major events made use of the experiences (and the mistakes) to understand how esports could grow again: returning to gamers and grassroots events, for example, was a

strategic move that reinforced the active base of competitive titles, something that some tournament organisers ignored in their pursue games that could allow “screen-friendly” showdowns (Messier, 2013; Scholz, 2019). Reverting to the community’s most-played games also meant reinforcing the commercial power of developers and endemic sponsors, such as Intel, which appeared to be more stable stakeholders than external firms seeking a share of esports’ rising profits (Scholz, 2019). In addition, scandals and gamers’ upheavals highlighted the reluctance of esports to integrate with other entertainment products and their complex relationship with other media, such as emerging social platforms (R. Li, 2017; Popper, 2013; T. L. Taylor, 2018). This desire was often expressed by emphasising its resemblance to other sports disciplines (Svensson & Pargman, 2024; T. L. Taylor, 2012) and entrusting only actors part of the community, from stakeholders to organisers (see, for example, the rise of ESL, briefly described). However, during these turbulent years, some of the most played esports titles in history also emerged, such as League of Legends (Riot, 2009) and Counter-Strike: Global Offensive (a.k.a. CS:GO; Valve, 2012), which prompted new life for esports toward record figures and an even greater global diffusion. Intriguingly, CS:GO is a prime example of the renewed importance of the gaming community, as the series was born as a “mod,” i.e., a modification of an existing game (Half-Life) freely made available by its non-professional developers. The two computer science bachelors who created the mod, Minh “Gooseman” Le and Jess Cliffe, were subsequently hired as programmer and designer, respectively, by the developer behind the modified game, Valve, which also purchased the mod’s copyrights, thus turning it into a proper game. This story, along with the success of this title among other competitive games, underscored for those still sceptical how relying on gamers themselves was the winning move to transform esports into a proper industry and boost its figures (T. L. Taylor, 2012). However, scholars like Julian Kücklich (2005) and Olli Sotamaa (2007) highlighted how this custom of “taking advantage” of community-made mods by developers, critically speaking, could be seen much more as an exploitative move by the industry, which relied on the free work of programming enthusiasts to imbue their products with fresh ideas and constant innovation (Foxman, 2021; Kücklich, 2005; Sotamaa, 2007). Here, we start to spot some themes which I will take on more in detail later, as I will explain how such an exploitation of free labour (Beverungen et al., 2015; M. R. Johnson & Woodcock, 2021) for the sake of innovation can be seen as one of

the first elements aligning with the use of ecosystemic metaphors to describe the esports' field (see Chapter 3).

Moving on to the second gaming house's ideal type emerging in esports, we must account for another crucial turning point that surfaced during this "second rise" of esports in the 2010s (Scholz, 2019). At the turn of the decade, indeed, a "vlogging platform" or, more precisely, a video-sharing site where creators (and its Yale students founders especially) could endlessly livestream their "real life," called Justin.tv, renamed one of its branches into TwitchTV and began to spread among gamers as the leading platform to show off one's gameplay (Gandolfi, 2016; Sjöblom & Hamari, 2017; T. L. Taylor, 2018). As the spin-off rapidly took over the owning platform, other media sites began to be used for esports, such as YouTube, which was employed as an official broadcasting channel for some tournaments (it was already used for game clips and some of the famous "fragmovies"; T. L. Taylor, 2012). These platforms, ultimately, led to the emergence of a new practice of sharing one's gaming activity, transforming (leisure or professional) play into content to be published: a move that, in line with the rising platform economy (Brewer et al., 2023; Dijck, 2013), gave rise to the first gaming influencers and celebrities (M. R. Johnson et al., 2019; Woodcock & Johnson, 2019a; Zhao et al., 2021). Eventually, the rising prominence that these video-sharing platforms assumed for the broader gaming industry definitely introduced video games as part of the current post-capitalistic scenario (Srnicek, 2017; Wark, 2007; Woodcock, 2019), where users' content and attention are put into production (and monetised) for the benefit of the platforms' owners (M. R. Johnson & Woodcock, 2021; Terranova, 2012). However, the entrance of gaming among the other algorithmic devices that shape our daily routines, transforming us from consumers to prosumers (Ritzer & Jurgenson, 2010) or produsers (Bruns, 2008), also meant a new path for esports professionalisation, as gamers could rely not only on winnings to sustain their playbouring passion but could decide instead to pursue a career within these new forms of production of/by users: for example, gamers can now "decide" (on the voluntariness of such a choice, see Zhou & Liu, 2021) to engage in playing practices like "farming" – routinely performing an action to accumulate in-game currency to be sold for real money (Chew, 2023; Fickle, 2021; Goggin, 2011); instead, they can go for a career inside the platform economy, trying to become a streamer or content creator, as happens in other media entertainment fields, e.g., the TikTok scene, with which gaming shares some similarities (Kaye et al., 2022). Regarding this latter

evolution of gaming as a productive endeavour, researchers stressed how streaming implies burdensome elements, from affective labour to exhausting performing routines (M. R. Johnson & Woodcock, 2021; Woodcock & Johnson, 2019b), and represents just another way of “infrastructuring” the free labour (Alaimo & Kallinikos, 2019; Bruni & Esposito, 2019a) of users (in this case, gamers) for the sake of the industry’s profit – either intended as those of platform owners or game producers, who also benefit from the visibility obtained through media outlets (M. R. Johnson & Woodcock, 2021). The evolving landscape of media platforms and the gaming industry also impacted core actors in esports, including amateurs, pro players, and teams, with numerous changes and influences on new business models and practices. On the one hand, gamers discovered new opportunities to monetise their passion, either through streaming or by participating in the (growingly) organised system of competitions called esports. On the other hand, the second rise of esports in the 2010s has been linked to a renewed importance of tournament organisers, but was also fostered by the surging prominence that “orgs” assumed in esports (Scholz, 2019; T. L. Taylor, 2012). Esports organisations, known as “orgs”, represent an evolution of the teams that first appeared in the field, like the already mentioned Team Liquid. These groups of players not only gather in team(s) to compete – something increasingly required since the shift toward multiplayer games – but are somehow transformed into more complex entities where competition, usually, is just the “surface” of their actual set of competencies (M. R. Johnson & Woodcock, 2021; T. L. Taylor, 2012). More straightforwardly, orgs can be seen as esports firms that range their interests from pure competition (for example, counting one or more teams among their ranks) to other digital products (like managing online communities, maintaining game-related services like wikis and ranking sites, or promoting new software to enhance teams and players’ performance). Thus, orgs can be seen as esports’ native answer to the need for organising bodies, along with regulating federations, that could detach competitions from developers and distribute power in the field more equally (Scholz, 2019; Svensson & Pargman, 2024). More interestingly, for this thesis, orgs can also be seen as the field’s autochthonous form of business or firm, as they rapidly took over the other ways of organising players’ workforce and, nowadays, represent the most diffused way of organising in esports (Gisbert-Pérez et al., 2024; Scholz, 2019; Wong & Meng-Lewis, 2022). Hence, previous elements of the field, such as gaming houses, began to be co-opted by orgs that adapted existing tools and structures to their new,

more business-related interests. If we look at how pro players' "homes" become turned into esports' productive hubs, we can spot two main trajectories: gaming houses shapeshifted either toward sports-like facilities, hosting the team(s) that form part of an organisation, or turned into media factories, which means facilities dedicated to the production of content for media platforms. In any case, the emerging shape of gaming houses during this second rise of esports can be dubbed the "facility model". Again, I emphasise that this distinction is an analytical artifice that helps us detect significant historical differences in the most common ways the field has understood the phenomenon of gaming houses. However, few to no actual houses fully respond(ed) to the presented models since they locally adapt(ed) to a manifold of influences that shape(d) their final form and set of functions (Can, 2018). Turning our eyes to the facility model and employing the six-tiered subdivision presented above, we can detect a shift in the motivations behind the creation of these houses – which, instead of saving money, are more related to enhancing play and, in addition, sustaining players' playbouring practices; on the other hand, the time-frame of utilisation remain similar, as facilities gather players for a "split" (i.e., the term for an esports' season) or bootcamp-long stays; however, the supporting staff hosted in gaming houses significantly rises, as well as the "visiting" professionals that daily pass through the structure to sustain players' practices – e.g., photographers taking pics for promotional campaigns or sports psychologists taking care of gamers' mental performance (franzó & Bruni, 2023); in the same way, the amount of technologies and tools employed to enhance players' performance and overall well-being significantly rises, going from proper gyms to fully-equipped streaming rooms, but also leisure spaces and rooms not only adapted, but wholly refurbished and even built for competition from the ground up (e.g., Lombardo, 2019); lastly, even if the facility-like gaming houses start to detach from esports' hotspots, preferring more tech-friendly areas than just being near to tournament's locations, they become more strictly tied with other actors of the field, both endemic – e.g., reinforcing sponsorships with tech firms behind gaming hardware to equip the houses – and non-endemic – e.g., strengthening collaborations with firms interested in esports also through their "frontstage", meaning turning their gaming house into a stage for events and other marketing-related productions (e.g., Barbera, 2020). The last point is particularly significant, since one of the characteristics that more clearly separates facilities from "gaming homes" is the growing stress that the former places on the business opportunities that rely on a physical site for one's

esports practices. In other words, gaming facilities “actualise” the activities of the org behind them, giving a tangible nature to digital firms like esports teams and employing space to promote legitimacy in front of other organisational actors (de Vaujany & Vaast, 2014; Franzó & Bruni, 2023). Even if the organising power of “spacing” (Beyes & Steyaert, 2012) is not the point of this contribution, it is important to note how physically “containing” (Wilhoit, 2016) a set of practices often goes along with other organising moves, helping some practices and firms to professionalise themselves and encourage the development of an organisational field (Czarniawska, 2004; Dale & Burrell, 2008; Wilhoit, 2018). However, for the sake of the present paragraph, it will be sufficient to underscore how facilities entangle with orgs to provide players and teams with a more structured path toward professionalism, whether intended as a sportified endeavour or as a more business-oriented feat (Pargman & Svensson, 2019; Svensson & Pargman, 2024). In this sense, facilities moved away from the custom of “simply” modding homes; instead, facilities growingly displayed gaming spaces built ex-novo for the purpose. When relying on adaptation, these complexes heavily reworked the spaces, revolutionising older structures to host high-end gaming and editing technologies (e.g., facilities are often optimised for streaming). Internet infrastructure has assumed a crucial role since the definitive shift of competitions and side hustles (e.g., streaming) to online platforms. For this reason, infrastructural power is often regarded as one of the core elements that players can benefit from joining a gaming house (see Fig. 37).



Fig. 37. The German rentable gaming house 1337Camp publicises its powerful network assets as an “indestructible Internet connection,” dedicating an entire webpage to them. This snapshot is taken from that page, emphasising, among other elements, the benefit of the installed optical fibre. (taken from *1337Camp Internet*, n.d.)

For orgs expanding into other business areas, such as community management or game-related digital products (e.g., Liquipedia), adopting a facility often entails

implementing office-like workspaces in addition to gaming areas (e.g., Team Liquid CSGO, 2020). However, the facility model can still be seen as primarily tied to team-sized populations, as these gaming houses remain focused on hosting players to compete, setting aside other business branches in favour of the gaming component. This results in facilities incorporating spaces dedicated to other working activities (such as streaming) while maintaining most of their areas for playing video games, providing players with the necessary resources to sustain their performance and well-being (franzó & Bruni, 2023). Therefore, the scrim room remains central to houses' structure, and it is usually surrounded by zones allocated to digital "detoxing" (e.g., gyms or leisure areas) and a set of supporting staff to remove the burden of housekeeping from players. Regarding staff, however, it must be noted how the facilities' office-like appearance not only relies on socio-material elements like technological infrastructures and handypersons but growingly encompass professionals that enhance players' daily life, from physical and mental well-being to marketing appearance – as more and more people like brand managers and video makers become employed by teams and orgs, following the rising importance of online popularity and the possibility of getting revenues inside media platforms (M. R. Johnson & Woodcock, 2021; Woodcock & Johnson, 2019a). All in all, the gaming houses that embrace the facility model can be described as i) structures whose spaces are increasingly shaped around gaming practices (either through radical renovations or purposeful building from the ground up) and ii) whose population, spaces, and technologies encompass both competition-related elements (e.g., players, scrim rooms, coaches, etc.) and a growing component related to side-activities (e.g., offices for staff and clerks, external collaborators, streaming equipment). To conclude, it is fundamental to note how this model introduces and makes visible three core trends traversing esports of the time (and still present today): firstly, the growing importance of economic sustainability for esports organisational actors – from orgs to tournament organisers, without forgetting players – and the consequent prominence of gaming houses as a professional(ising) tool in this sense; secondly, the rising sportification trends that involve teams and their practices, who increasingly look at other sports physical structures – not coincidentally, often called facilities (Svensson & Pargman, 2024) – to emulate the athletic atmosphere needed to transition from a geek pastime to a proper sport; thirdly, and finally, the consequences of the "streaming revolution" and the socioeconomic impact that the entanglement between platforms and gaming

brought to the meaning of core esports' practices like competing, training, obtaining fame, relate with sponsors and the like (in a word, playbouring). Before going into the third and last model I analytically defined to describe esports' gaming houses' evolution, I wish to underline how the growing focus on streaming also meant that more and more players and, consequently, orgs (or teams) became online celebrities (M. R. Johnson et al., 2019; Woodcock & Johnson, 2019b). This reflected on gaming houses by prompting the last transformation we will describe next, which historically overlaps with the facility model but also detaches from it to get close to external phenomena, for example, TikTok's "collab houses" (Kozak, 2023; Lorenz, 2020). Streaming-focused endeavours are consistently less focused on gaming for competing but instead use it as a tool for content production: even if such an approach is somehow extraneous to the "purely esports" field, it has become progressively entangled with it as a way to co-opt its revenue models inside general concerns toward sustainability and professionalism (Burroughs & Rama, 2015; M. R. Johnson & Woodcock, 2021; Witkowski & Manning, 2019). The following model, then, represents the ultimate evolution of gaming houses, and most of the time, incorporates streaming and content production as a fundamental component of the progressive branching of esports teams (i.e., orgs). However, it must be kept in mind that the facility model still represents the most diffused and, for some, still the most advanced and mature one, as it heavily focuses on sustainability, office-like spaces, and flexible structures. Lastly, facilities lie behind another peculiar variation of gaming houses, although that will not be explicitly treated in this thesis: indeed, rentable gaming houses can be reliably categorised inside the facility model (e.g., 1337Camp, n.d.).

5.1.3. The entanglement with digital platforms: Compounds

As we saw in the previous paragraph, media platforms have surged dramatically in the last few years, evolving from a visibility device to a viable economic field where one can pursue the dream of transforming one's passion into a proper profession. Since the emergence of video-sharing platforms, gamers have utilised them in various ways, leveraging online services to upload and track prominent events (see the use of YouTube as an archive, as described in Gehl, 2009). However, technological evolution has enabled events to be streamed live on online channels, fostering other types of content creation through in-game functions (such as automatically marking salient

moments during gameplay). If the first sites did not allow livestreaming or made it cumbersome and complicated to operate, new platforms and functionalities within modern consoles enabled gamers to easily log matches, which could be edited and uploaded, if not streamed directly. If recording and archiving matches was a custom derived from other sports disciplines, which taught esports coaches the benefits of using the footage to prepare for upcoming scrimmages, livestreaming was something more than a tool to study opponents' strategies, common approaches to maps, or copycatting some player's moves to improve one's playstyle (Scully-Blaker et al., 2017; T. L. Taylor, 2018). Thus, the field progressively shifted from archive-like services, like YouTube's standard functionality, to more interactive channels. Nowadays, these two approaches to videos, recording versus streaming, coexist inside esports: teams and players are constantly engaged in preparing and uploading content, be it full-match recordings – commonly referred to as VODs (a.k.a. Videos On Demand)– or clips extracted from them; conversely, streaming platforms are employed to expand their presence on social media, taking advantage of their enhanced interactivity to showcase players' ability or team attractiveness, thus to further reinforce their fan base and sponsors' opportunities.

However, some of the early usages of this kind of in-game footage were much less serious, as it was employed to create (semi-)artistic works called “fragmovies” (T. L. Taylor, 2012; Young, 2021). Such edited recordings mainly showcased team performance during a match or season, collecting the most beautiful and adrenaline-filled moments to promote the team's or player's image (Lowood & Nitsche, 2011; T. L. Taylor, 2009a). Some creators have become so famous that they have authored their own movies, earning a reputation in the gaming community for the quality of their products. Some of them, instead, decided to employ in-game footage to pursue more artistic editing, creating narratives and plots to be acted out in-game by in-game thespians. Particularly notable in this regard is the web series recorded within the game Halo: Combat Evolved (and its follow-ups), titled “Red vs Blue” (abbreviated as “RvB”), which initially began as a short series and was largely auto-produced by creator Burnie Burns. Given the unexpectedly high success of the first episodes, the series rapidly became a mainstay within the gaming community and even collaborated

with game producers to launch special episodes during global events like E3²⁰. Not only did RvB become the second-longest-running web series, until its conclusion in 2024, but Burns' production company, Rooster Teeth, has been awarded multiple prizes and mentions from film festivals and cinema experts (Delaney, 2004), fuelling the rise of a new kind of animation: machinima (Lowood & Nitsche, 2011; Ng, 2013). This word, a portmanteau of "machine" and "cinema," refers to all artistic oeuvres that employ footage from a game and synchronise it with pre-recorded dialogues or other audio. Even though the machinima community ultimately became separated from esports and other forms of gaming, it is worth noting that machinima represents one of the earliest realisations of games' potential to expand into other forms of cultural production (Mäyrä, 2016; Sotamaa et al., 2021).

Returning to the "pure" gaming community, we must acknowledge that playing no longer constitutes a form of cultural consumption but rather a form of "prosumption" (Fuchs, 2014; Ritzer & Jurgenson, 2010). Expanding on the original theorisation by Toffler (Toffler, 1980), Ritzer and Jurgenson have employed this concept to describe those situations in which production and consumption intertwine with each other, blurring the boundaries between the productive phase (e.g., coding digital games) and the utilisation of finished products (e.g., playing video games). In prosuming scenarios, consuming a product becomes, *de facto*, a form of production, since it links with further value creation. To illustrate the point, consider an example from gaming, such as "farming." This term refers to the practice of repeatedly and perfunctorily playing to accumulate in-game resources, which can then be sold (or the entire account) for real money (Adhikary et al., 2024; Goggin, 2011). "Digital sweatshops" (Brogan, 2022) even appeared in some (marginalised) areas (Fickle, 2021; G. Jin & Herold, 2015; Zhou & Liu, 2021), unveiling how play (i.e., consuming) may effectively transform into a lucrative practice (i.e., producing). Similar descriptions might describe the productive processes occurring within platformised environments, as underscored by STS and media scholars inquiring into the contemporary role of users in (cultural) production (Hyysalo et al., 2016; Poell et al., 2021). When examining gaming houses, livestreaming serves as a clear example of how gaming can evolve into a productive process. Indeed, by placing itself inside platform economies, livestreaming aligns with

²⁰ One of the most important gaming events worldwide, where developers showcase their upcoming products and tease groundbreaking developments in an Apple-like presentation scenario.

other media industries in pushing forward a “users’ production” model (Hyysalo et al., 2016; M. R. Johnson & Woodcock, 2021), here intended both as production *of* users – which are made productive for the sake of platform owners and other stakeholders like game producers, which benefit from the data and products shared in the ecosystem – and production *by* users – as they actively get revenue from staying inside the ecosystem or market created by the platform, e.g., using one’s gameplay to become a streamer. Even though I will expand the topic of prosumption and users’ production in the remainder of the thesis, it is helpful to have them outlined now because they have become foundational for a manifold of phenomena inside gaming and esports, including gaming houses (M. R. Johnson & Woodcock, 2021; Witkowski & Manning, 2019). In fact, gamers have led the way in the explosion of livestreaming platforms and explored potential new directions in digital media, becoming deeply intertwined with the media industry (Witkowski & Manning, 2019). Notably, the world’s leading livestreaming platform, Twitch, was boosted by the adoption of its channel by gamers showcasing their play (T. L. Taylor, 2018). At first, livestreaming was just one of the multiple ways players could pursue the dream of generating revenue from the visibility gained on social media, as YouTube and other platforms were heavily used to publish content and monetise from view counts. However, gamers quickly embraced the interactive possibilities of livestreaming, transforming Twitch into the royal road to internet celebrity (M. R. Johnson et al., 2019). The fame obtained by streamers intertwined with those derived from competitions and other events to transform them into leading actors for the gaming community – it should be noted, here, that not only pro players surged at the celebrity level in these years, but also other performers that were more prone to transform gameplay into an entertainment product (Nakatsu et al., 2017; Tammy Lin et al., 2019). Indeed, the effects of streaming can be divided into two different directions: on the one hand, it transformed solo or “bedroom” playing into a worthwhile activity (Ruberg & Lark, 2021), which could, at least, be used to create a community and find some parasocial support among fellow enthusiasts (Hamilton et al., 2014; Taber et al., 2019), or, in the best scenario, launch someone into the (traditional) star system (Brookey, 2010; M. R. Johnson & Woodcock, 2021); on the other hand, it was rapidly adopted as the primary channel to broadcast esports matches, from more amateurish ones to big events where arenas were not enough to contain the figures of competitive gaming (Esports Charts, n.d.). Due to this versatility in (dramatically) expanding the visibility of gaming and co-opting users as part of the

industry production processes, streaming platforms have become a crucial part of the esports ecosystem and a cornerstone of the broader gaming industry (see Chapter 3). This prominence is reflected in the rising importance that players assign to streaming practices, which are nowadays regarded as both an alternative career path for gamers (particularly those interested in becoming entertainers or community organisers) and a sustaining tool for pro players pursuing a career in esports (as the stabler revenues and the visibility obtained through streaming enhance the possibilities of “making it” in this fragile field).

Thus, gaming houses had to make space for livestreaming, accommodating this new actor within them by morphing their materialities and functions. Notably, gaming houses have become more inextricably tied to the infrastructure they offer, as they now must allow their members to remain constantly online and livestream training and matches (franzó & Bruni, 2023). Not only do gaming houses have to sustain the visibility of their players, but they also transitioned to be an active part of their owners’ productive processes: in other words, gaming houses invested in sceneries and professionals to permit teams and orgs to actively enter the platform economy, directly producing content that could enhance the team’s visibility – thus detaching from single players and reinforcing the team’s position in front of other ecosystemic actors – and strengthen the ties with the fan base (franzó & Bruni, 2023; Svensson & Pargman, 2024). Additionally, teams and orgs saw the potential to embrace another crucial yet emerging actor: streamers. To include those playing (more) for the sake of entertainment, such as global celebrities Giorgio “POW3R” Calandrelli and Ninja, gaming houses shifted toward the last model I analytically defined, which I called the “compound model.” As a matter of fact, the rising figures of platforms like Twitch and TikTok – which also gave rise to hype houses (see the following subchapter) – prompted an expansion of esports business strategies, which moved from a more sport-like structure that centred around competitions and sponsors, to get closer to other platform-enabled entertainment economies, where data like views, spectators and engagement are seen as the primary channel to value one’s ability to produce revenue. In such a scenario, bigger teams that could afford to branch their endeavours, even more than those that decided to transition to live-streamed entertainment completely, morphed into digital businesses moving inside a manifold of industrial fields: from marketing physical products to promoting their streamers’ roster, competing in tournaments and leagues became just a part of the complex ways in

which these orgs get revenues. For these kinds of firms, sponsors are no longer the only way to sustain themselves, as they can also rely on services (such as community management and tournament organising) and products (like gadgets, event tickets, apps, and courses) to generate a stable income (see Fig. 38). However, gaming houses illustrate how teams still have to rely on sponsors, especially non-endemic ones, to step up from field-specific firms to digital businesses.



Fig. 38. A snapshot of 100 Thieves' founder NaDeSHoT showcasing the newly built 100 Thieves Cash App Compound, containing offices and, as shown here, areas dedicated to side businesses. NaDeSHoT is proudly showcasing exactly one of these side activities: their apparel design studio. (extracted from 100 Thieves, 2020)

Such a financial dependence on external actors or a few celebrity-level streamers fractured the esports ecosystem and, specifically, the gaming houses' subsystem into two differing scenarios: physical structures hosting teams now are either huge warehouse-like buildings containing all the company's activities (i.e., compounds) or luxurious mansions situated inside lavish urban areas. If the more flamboyant choice of hosting players (in this case, mostly streamers, too) can be categorised inside the previous model, facilities, or even in the first one, homes, as they often take place inside classy villas transformed into entertaining sceneries, the third model focuses on going for the construction of specific buildings that host all, or most of, the orgs activities. Such a choice is not simply a matter of dimensions or (either teams' or

author's) preference, but is motivated by a fundamental difference in the relationships that teams behind lush manors have with the rest of the esports ecosystem, let alone in their approach to the space they happen to inhabit. For analytical clarity, the following sub-chapter will describe gaming mansions to explain why I decided to keep them outside the threefold model of gaming houses, while also highlighting some important elements that I will explore in the subsequent chapters of this thesis.

Gaming mansions and content houses

Teams opting for the mansion-style gaming house often do not buy it; instead, they rent a pre-existing estate or manor, relying heavily on the features it already offers rather than making radical adaptations to host their streaming practices. Moreover, they seem to be attracted to such structures for the symbolic power they retain and the amenities they can offer players, who see in these comforts the dream of celebrity. At the same time, the deep investment in streaming practices to gain visibility and revenue is often seen as detrimental to players' performance, which becomes more focused on producing content than on being top-notch gamers. More straightforwardly, using games to entertain means a radically different approach, less focused on gameplay and more on relating with spectators, changing games to keep and expand the fan base, promoting products for sponsors and participating in physical events to show off and cash in from the online presence (M. R. Johnson & Woodcock, 2021). Consequently, streamers are often at the edge of the esports field, as they are scarcely employed as top-level gamers by teams interested in winning tournaments and are brought in "solely" as a team's marketing move²¹. However, relying on streaming celebrities often opens new relationships with non-endemic sponsors who may see them as a tool to reach (younger) market segments that are usually outside their reach. Such a depiction clarifies how gaming mansions fall slightly outside the esports ecosystem, positioning themselves more comfortably inside digital platform economies and other content production fields. Not surprisingly, then, such nearby fields have learned the lesson from gaming, rapidly adopting (and adapting) houses to their production processes. An example in this sense is the rise of TikTok's "content houses", also known as "hype houses" – from the name of one of the most notorious

²¹ The brackets, here, indicate that a marketing move is not as simple as it might seem from this phrase, since the fan base obtained through a solid streamer may change even radically a team's financial situation and, consequently, its possibility to sign in top-notch players.

establishments – or “collab houses”, i.e., collaboration houses (Bargoni et al., 2021). Similarly to the ones in gaming, content houses gather creatives and content creators to boost their productivity, as living and working together allow them to connect the respective fan bases (Cornet & Hindricq, 2023; Kozak, 2023), reduce costs for external support (e.g., video makers), and save on rent and housekeeping (Kozak, 2023; Swanson, 2021). Media scholars have defined these agglomerations of creators as *Gesellschaft-type*, i.e., clusters characterised by more formal interactions. Such groupings reflect the platforms’ “commercial logic of generating capital through mass appeal and viewing time and the Tiktokers’ logic of boosting personal visibility and promoting their self-brand” (Kaye et al., 2022, p. 106). On the other hand, *Gemeinschaft-type* groups are more community-oriented, relationship-driven conglomerations where creators come together because of their desire to share a passion, rather than as a result of an explicit, business-driven strategic move (Kaye et al., 2022). If we parallel such subdivision with the three-folded modelling I presented here, we can equate *Gemeinschaft-type* agglomerations to the first appearances of gaming houses (i.e., the home model), where relations among players prompted the birth of these shared environments (for the use of the term “gaming house” that is in line with this more friendship-flavoured approach, see Thornham, 2016). Conversely, *Gesellschaft-type* groupings can be more easily likened to teams employing houses to turn esports toward professionalisation, thereby established on formal relations between players and organisations (i.e., contracts). Collab houses, just like gaming ones, can be seen as assembled actors operating within platform economies. However, they differ from gaming establishments because of their positioning within the so-called *wanghong* economy, which characterises platforms like TikTok (Craig et al., 2021). Even though hype houses explicitly emulate gaming houses (in fact, they saw the light years after them) in their pursuit of legitimacy, stabilisation and expansion of digital business strategies (Fear-Smith, 2021; Lorenz, 2020; Singh, 2020), these structures are usually driven by venture managers and advertising agencies, which try to profit from the enhanced visibility that content creators obtain in joining a collab house (Cornet & Hindricq, 2023). In fact, creators seem more interested in these structures for their networking capabilities (Kozak, 2023). In contrast, homeowners praise the power of such creative hubs to help influencers establish a long-term reputation, refine their content, and (re) integrate it into traditional media outlets, thereby offering longer-term career opportunities (Bargoni et al., 2021; Cornet &

Hindricq, 2023; Kozak, 2023). Again, hype houses can be compared to gaming ones for their ability to stabilise the market, as the convergence of “virality” in specific places makes it easier for other ecosystemic actors to locate, connect and incorporate such productive hubs inside the broader entertainment industry (Kozak, 2023; Lorenz, 2020; Swanson, 2021). In simpler terms, houses transform into intermediary bodies, either personified by managers or corporations, that steer conglomerations of influencers inside the algorithmic fluctuations of digital scenarios (Bargoni et al., 2021; Kozak, 2023). Going back to gaming houses, this latter definition can be equally applied to those establishments that gather streamers (i.e., mansions) or focus more on entertainment products and relationships with platform(ed) environments (e.g., the NRG Castle depicted in Fig. 39).



Fig. 38. A snapshot of the NRG Castle’s presenting video, displaying their 100-foot giant screen. The video, published by the eponymous organisation, showcases the compound’s attractions, such as giant robots, LED walls, rage rooms, and brand-related collectables (e.g., collaborations with shoemakers). This structure represents an outlier among compound-style houses because it respects some of its inherent characteristics (e.g., being built from the ground up to host different teams and side activities) but defies complete adherence to the model, as it focuses mainly on media production. (taken from NRG, 2020)

For the sake of analytical clarity, I position esports’ manors, which gather celebrities, such as FaZe Clan (see FaZe Clan, 2020), closer to content houses than alongside

other gaming structures. The main point of this shift, I contend, lies in the different focus that these houses adopt when deciding to transform their primary business plan from competition to media production. By adhering completely to platform economic networks, they step back from the esports ecosystem and join a different organisational field, which often means radically changing the set of actors involved both in terms of external relations – such as sponsorships and collaborations – and regarding the internal composition, since effective streamers not necessarily perform well in competitions and differ from pro players in their supporting needs – e.g., coaches will no longer be the core figures inside staff, letting more space to video makers and full-time moderators. Hence, players inside streaming-focused houses will employ gaming as a content-generating tool and will rely on gaming houses to support their professional endeavours as streamers – something they would pursue anyway, even if less easily without orgs and houses’ support – instead of counting on them to effectively create the professional figure of the pro player – which, without orgs, remains nearly impossible to achieve. In other words, streamers’ mansions can be seen as supportive environments for already established and potentially autonomous professional endeavours, just like content houses are framed within TikTok’s media industry (Kozak, 2023). Undeniably, the rise of these structures promotes a shift toward platform economies, such as the increasing prominence of intermediary actors, but remains limited in their power to effectively influence the gaming industry and, most importantly, the esports ecosystem.

Compounds

To conclude this paragraph and chapter, we must now turn toward the last and most complex ideal type of gaming house that has appeared so far. Adopting a term found in some teams’ self-descriptions (e.g., 100 Thieves, n.d.), I referred to this iteration as “compounds.” As mentioned above, the emergence of such gaming houses is closely related to organisations that have evolved from a team-level firm, expanding through branching and sponsorships to become more established and wide-ranging digital companies. These orgs, then, had to face the challenge of hosting a larger number of collaborators, from streamers to clerk-like employees, who needed to run the business smoothly without over-reliance on gamers or external professionals. Thus, the space needed by this kind of firm significantly outstands that of common-sized esports orgs, which rarely exceed an organic size of 5-10 people (players excluded). Even though

exceptions are numerous, compound-sized gaming houses often have an organisation that decided (or, more accurately, had the opportunity) to invest its resources in the ground-up construction of a facility to host all its staff, players, employees, and even external partners (e.g., photographers). Usually, this means that playing areas are no longer the structure's core, as other spaces become equally crucial for supporting the org's side activities. Thus, conference rooms, offices, and even fan-dedicated areas (e.g., stages and merch stores) occupy a significant amount of space inside the compound; alternatively, side-business needs are allocated a specific room (see the previously described Fig. 40 for an example). Consequently, the defining difference between this last model and the previous ones lies in the loss of importance of the scrim room within the gaming house. Indeed, as Fig. 40 outlines, common compounds' plans do not place playing areas at the core of their structure nor give them the majority of available space, focusing instead on the multiplicity of the team(s)' activities.



Fig. 40. The TSM Esports Facility's plan highlights the different room allocations and the loss of centrality that scrim rooms manifest in such compound-like structures. Specifically, this outstanding, warehouse-like gaming house has most of its space dedicated to the open office area, which tells about the number of employees the organisation can count on. The cost of this structure was allegedly around 50 million dollars. (taken from TSM, 2020)

To sum up, gaming houses falling inside the compound category can be described as structures i) whose space is not any more centred upon gaming practices but that

encompass such activities inside a more variegated organisation of space and ii) whose population, materialities, and infrastructures have unequivocally transitioned to sustaining a media company whose interest is centred, but not limited to, gaming and esports-related content (from merchandising to streaming). Thus, these gaming houses view the de-emphasis of players as they distance themselves from sport-like takes on esports to approach the media business environment more convincingly (Scholz, 2019; Svensson & Pargman, 2024). Interestingly, some of the organisations behind this kind of structure are led by former players and streamers, like 100 Thieves' founder Matthew "NaDeSHoT" Haag. Moreover, compounds unveil a counter-trend in response to that displayed by gaming mansions: instead of relying on platform economies for visibility and chasing media celebrity as a way of becoming sustainable (Burroughs & Rama, 2015; M. R. Johnson & Woodcock, 2021), the orgs that went for compounds opted for a more complex way of obtaining sustainability, one which could profit the whole esports ecosystem (Scholz, 2019; Scholz et al., 2021). Indeed, compounds organise themselves like other media professional spaces, co-opting both a focus on esports as a sport – thus embedding sport-like professionals and materialities, like psychologists and gyms – and an interest in competitive gaming as a media product, thus branching out in near fields like apparel, event management, and app production (100 Thieves, 2020; Calgaro, 2022b). Even though such conversion to a company-like organising means an increase in professional recognition of their employees, these firms continue to benefit from a significant part of free labour (i.e., playbour) coming from the playing base, which ceaselessly fuels the ecosystem with new users, sustaining mechanisms (e.g., subscriptions), and the low- to non-paid workforce needed to keep the running costs of these media companies affordable (M. R. Johnson & Woodcock, 2021).

In conclusion, I wish to return to the six-tiered subdivision of the composing elements I outlined earlier to describe the structure and function of a gaming house, underscoring how compounds significantly differ from the other two aforementioned types. First, esports compounds are not solely oriented to playing games competitively since the rising importance of side activities makes it harder to identify competitions as the core business of the organisation and structure; however, areas dedicated to scrims and competing are there, as well as the space needed to take care of players' performance from A to Z. Secondly, the lowered importance given to players impact also their temporal coexistence, which is now limited to training and competing

moments; this is also motivated by the spreading of the “office model” inside esports, which heavily critiqued the forced co-living and pushed for an adoption of a system based on two core spaces, one for playing games and another, separated, meant for living. Interestingly, this two-fold solution did not exclude co-living but instead focused on addressing health concerns regarding the overuse of gaming technologies, even outside the competition timespan. Thus, if, for players, the time spent collectively in gaming compounds appears limited (with respect to homes and facilities), it is the coexistence with other employees that is the core point here. Since compounds host many different professionals, it is their coexistence (and the co-presence with players) that characterises this kind of structure. This leads to the third point, regarding gaming houses’ inhabitants: indeed, compounds’ population is much more varied than those of gaming homes and facilities, since now players represent just a tiny portion of the people involved: from externalities (e.g., either sports professionals or supporting experts, like designers) to in-house employees, the range of workers is significantly higher and diverse. Going to the fourth dimension, infrastructure, we must acknowledge that the sundry composition of compounds’ activities requires an equally diverse set of technologies: if streaming and gaming digital components also populate other models, which become surrounded by cables, sceneries, audio and video supports, and more basic (but essential) infrastructures like mighty power and internet supplies, then we must add all the resources necessary for the organisation branches, from office-like stations to high-end training technologies, but also areas available to internal and external collaborators – from studios to conference rooms, but also adaptable stages, store-like zones, and top-notch studios. This prompts our reflection on the following point, which pertains to the materialities involved in gaming compounds: obviously, it goes without saying that the increased number of workers must be allocated sufficient space for their specific activities, whether it be an office-like desk or a considerable photoshoot area filled with top-level equipment. Notably, the core benefit of compounds resides in being built from the ground up for the owning organisation’s purposes. Thus, they require little to no rework, instead displaying vast areas for each branch of the org’s activities. Surprisingly, compounds seem to retain the flexibility shown by other gaming houses and exhibit a tendency to continuously adapt their spaces to emerging needs and productive processes within the organisation. Moreover, compounds usually respond to all the latest trends in office health guidelines, keeping privacy and well-being at the centre of their space

organisation. Finally, their impact on the esports ecosystem is considerable, as they position themselves as productive hubs that host not only competitive sessions but also side events (e.g., on their stages) and other working processes. However, esports seem to rely more on facilities for now, perhaps because of the excessive variety that characterises compounds. More probably, though, the ecosystem might not prefer structures over the others because of their enormous cost, which is barely sustainable by an average esports organisation and does not represent a sustainable business model for the vast majority of the field's actors (M. R. Johnson & Woodcock, 2021; Scholz, 2019).

Now that we have explored the various forms and appearances of gaming houses, I will delve more specifically into the empirically-driven evidence I employed to pursue an ecosystemic reading of the esports ecosystem, as well as how this might reflect on broader discussions of digital business ecosystems. The data ethnographically derived from these structures, though, will help me to reconnect with the ecological thinking and critique the current esports ecosystem depictions, thereby proposing a more precise, yet wide-encompassing view of the term, able to keep together empirical data and the ecological critique expressed by Márton (2022).

6. Into the dragon's lair: Gaming houses as spatial anchorings to study digital ecosystems

Gaming houses offer a unique perspective on the esports ecosystem, as the local and material observations I could draw from them, sometimes contradicted the common depictions found in broader industry views. In a sense, we could say that a gaming house “anchors” the esports ecosystem to a local community through its spatial extension, materialising competitive gaming and allowing actors (especially flesh-and-blood ones) to engage with the ecosystem in a more embodied fashion. More significantly, they are offered the opportunity to “physically” experience their professional position as-part-of an ecosystem, something that may be particularly difficult for those embarking on esports (or streaming) from the intimacy (and loneliness) of their bedroom. Albeit a reflection about how social phenomena become “inscribed” (Latour & Woolgar, 1986) or “embodied” (Haslanger, 2012) into matter and other (a)biotic components is not the focus of this study, it is important to note that the opportunity given by gaming houses was actually that of “materialising” the digital ecosystem, thus making more explicitly observable some of the underlying principles steering the interactions of actors within their (now also physical) environment.

One of the most relevant features that “materialisation” made explicit was the importance that players (both amateurs and professionals) assume within this industry (cf. Scholz, 2019). Following the point made by Johnson and Woodcock (2021), the observations made clear that the current arrangement of the esports ecosystem, at least in Italy, puts gaming users under two-sided pressure. On the one hand, they are considered deployable resources, as they are involved in all productive processes as part of the productive devices. Not only would esports not exist without pro players participating in matches, but the industry's passionate flavour is evident in the ongoing flow of amateurs seeking to compete internationally. Curiously, the observed players appeared particularly aware of their involvement as the “deployable backbone” of esports activities. Indeed, during my stay in Qlash, one of the players repeatedly teased the owner, Luca Pagano, about their performance, more focused on “producing content” than on obtaining winnings (rhagee, fieldnotes). At the same time, a substantive part of the supporting crew were explicit about their low pay, straightforwardly admitting that it was passion that kept them there (fieldnotes). Not

surprisingly, the Qlash housekeeper ended up leaving the sector for a “more secure job” as a web designer, stating that:

“I could not do that forever, I was paid crumbs, and I had even to move outside my beloved Napoli: it was cool, I was living out my hobby, and I found a lot of friends... but that could not be a life-job.” (Pob, fieldnotes)

On the other hand, the industry significantly extracts value from gamers as its target audience: most revenue flows, in fact, rely on them to become profitable (from online and offline tournament attendance to merchandise, as well as donations and streaming advertisements). A “gift economy” that, actually, could prove so worthwhile that some ecosystemic actors decide to live entirely on it: if nearly all of the players I encountered tried to stream as a side-job, I was able to witness one of them totally abandoning the competitive dimension to dedicate himself to streaming and content producing – even though he admitted doing that because of the “real job” he maintained in his hometown (rhagee, fieldnotes; see also Box 6). At the organisational level, it was Qlash and OP offering me direct examples of “extracting strategies,” since both were trying to capitalise on their fanbases through proprietary technologies. OP, for example, created a matchmaking platform that offers automated tournament-organising services to both pro players and amateurs (fieldnotes). As stated on their site:

“Versus offers a space to organise independent competitions, grow communities and hone skills. For brands, it is an innovative way to activate efficacious and authentic engagement campaigns, creating direct links with a youthful and passionate audience.” (translated from <https://outplayedgaming.com/it>, accessed last time on 23/12/2025)

Thus, the following paragraphs will show how this double-sided exploitation is, in fact, echoed by the ecosystemic structure, which leverages market architectural features to engender a continuous flow of passionate (unpaid) work (Duffy, 2017; T. L. Taylor, 2012) and, at the same time, produces complex sets of synergetic relationships that, nonetheless, keep players in the least powerful positions, making them the chosen victims of the ecosystem’s inconsistencies or, in Márton’s terms, “problematic runaway dynamics” (2022, p. 251).

6.1. Architecture: From platforms' hidden verticality to ecosystemic layering

The first ecosystemic dimension that should be taken into account is the structural one, namely the architecture lying at the base of its organisation and relationships. As we saw in Chapter 2, most ecosystemic research has moved in the direction of defining ecosystems' structuring as a form of decentralised and demand-driven networking (Boley & Chang, 2007; Whelan, 2010). However, research on platforms has shown that some "verticalities" indeed persist (Thomas et al., 2024), as the platformised environments become organised around the ecologically dominant species, i.e., the platform owner/coordinator (Gawer & Cusumano, 2002; Moore, 1993). As with many other ecosystemic features, the literature on architecture is "both confused and complex" (Teece, 2018), with engineering and economic literature often clashing in their views on ecosystems, or, even more often, overlapping in their use of the metaphor. The ecological critique proposed, then, aims to establish some order in the proclivity of declinations attached to the word "ecosystem," utilising empirical material to outline a "third way" by contrasting views on ecosystemic architecture, ties, and components. From this paragraph onward, focused on the architectural features of digital ecosystems, the following lines will compare theoretical perspectives with data, reproducing the intense theory-observation dialogue that constituted the research process.

Hence, this paragraph will demonstrate how esports-related data suggests that ecosystems represent a hybrid form of organisational structure, capable of balancing the centrifugal forces depicted in network-like descriptions with the centripetal drives expressed by more vertical, or platform-like, structuring.

6.1.1. From core-periphery structures to vertical and horizontal complementarities

An initial stream of research, primarily originating in engineering and computer science, focused on the architectural features of digital ecosystems to distinguish them from nearby alternatives available to network designers (Boley & Chang, 2007). The implementation of ecosystem-like characteristics in this field went alongside an emerging set of network designs based on collaborative environments and information sharing, such as grid structures or peer-to-peer networks (Boley & Chang, 2007), but countered some of their weaknesses, such as centralised information control or other

structural restrictions, to which ecosystemic organising responded more flexibly (Boley & Chang, 2007; Whelan, 2010).

Similarly, economic literature employed the ecosystem metaphor as a straightforward way to depict business networks that, instead of relying on linear industrial relationships, were characterised by a web of mutual interconnections that distributed information and created value (Adner & Kapoor, 2010, 2016; Moore, 1993; Powell, 1990). Thus, the adoption of reticular theories (Castells, 1996; R. Chia, 1999) and the ecosystem concept in general was, again, a response toward less flexible models, such as the linear value or supply chain perspectives (Mentzer et al., 2001; Porter, 1985), which maintained a strictly hierarchical view of organisational actions, for example, relegating the role of users to feedback loops (Bogers et al., 2019). Conversely, ecosystemic networks underscore the economic complementarities that emerge from structural dependencies (Kapoor, 2018; Thomas et al., 2024), including how these can arise from consumption dynamics, rather than solely within productive interactions between firms (Borner et al., 2023; Jacobides et al., 2018). For these reasons, most research in this direction has depicted networks as “horizontal” scenarios, where groups of interlinked actors collaborate to create value in a “superadditive” manner (Baldwin, 2024; Thomas et al., 2024). This means that the advantage of ecosystemic networks lies in the fact that the resulting (inter)actions are more valuable than the individual actions of single actors.

Nonetheless, these views, stemming from economics and management theory, kept roles (e.g., primary producer, complementor, seller, etc.) relatively stable, somewhat contradicting the concept’s ecosystemic provenance. Emphasising the flattening of hierarchies that this new organisational arrangement brought about, these studies did not reject the engineering view of ecosystems as demand-driven and organically flexible, but left aside a more detailed definition of the elements, prompting the adoption of a decentralised model. This allowed platform studies to co-opt this body of literature and incorporate the studies about complementarity and network effects into their analysis of platforms as an emerging market structure (Evans, 2003; Evans & Schmalensee, 2016; Tiwana, 2013). The platform model contradicts the decentralisation drives originally drafted in early ecosystemic perspectives (Comunello & Mulargia, 2023; Couldry, 2015), hiding a clear hierarchical reorganisation of business relationships under strategic moves like crowd-complementing (K. J. Boudreau & Jeppesen, 2015), user production (Alaimo et al., 2020; Bruni & Esposito,

2019a), and opaque forms of governance and control (Gillespie, 2018; Gorwa, 2019; Pais & Stark, 2022).

This resulted in a reintroduction of hierarchical architectures, albeit framed through the metaphor of proximity between core and peripheral areas of the ecosystem, with the latter being occupied by less crucial ecosystemic actors – i.e., additive but not necessary agents for an ecosystem’s functioning (and revenue making). To illustrate, the Airbnb platform represents an ecosystem at the centre of which we find the owning company (also the technical operator of the platform, in this case), alongside complementors in the form of “hosts,” who offer their rooms and houses to potential customers. Actually, platform influence is so strong that it even shapes complementors’ (in this case, users’) behaviour, forcing them to adhere to its needs (Bruni & Esposito, 2019b). Other kinds of complementors exist, however, such as firms specialised in software development and maintenance, rent management, cleaning companies, and advertising agencies, among others. While vital to make the ecosystem worthwhile – for example, strengthening its integration within search engines’ algorithms through the work of SEO specialists – the absence of these latter agents would not, in a purely theoretical situation, hinder the platform from being operational and even economically profitable (Baldwin, 2024; Parker & van Alstyne, 2000; Thomas et al., 2024). Nonetheless, they become part of the ecosystem because they substantially enhance value-creation processes.

The logical consequence of this perspective, though, is that, when it is applied to platform ecosystems, it puts mainly platform owners in control of the surrounding environment by occupying a leading (i.e., central) position, echoing what classical authors defined as playing the role of a “dominant species” (Moore, 1993), as even complementors stand in a subordinate position. If this biological metaphor seems to approximate, once again, digital ecosystems to their original semantic field, we have already discussed how, in fact, it can be described more as a manipulative strategy to “naturalise” the current form of platform capitalism (Z. Ç. Alexander, 2014; Haraway, 1976; Helmreich, 1998; Krivý, 2023). Not surprisingly, recent studies have also reintroduced the notion of “verticality” inside platform ecosystemic architectures, noting how relationships between complementors and platforms (see A in Fig. 41) – e.g., an app and the software environment in which it runs, such as Android – were substantially different from “horizontal” links that puts into relation complementors or

complements – for example, the integration between email and calendar apps, both running inside the iOS ecosystem (E or D, in Fig. 41).

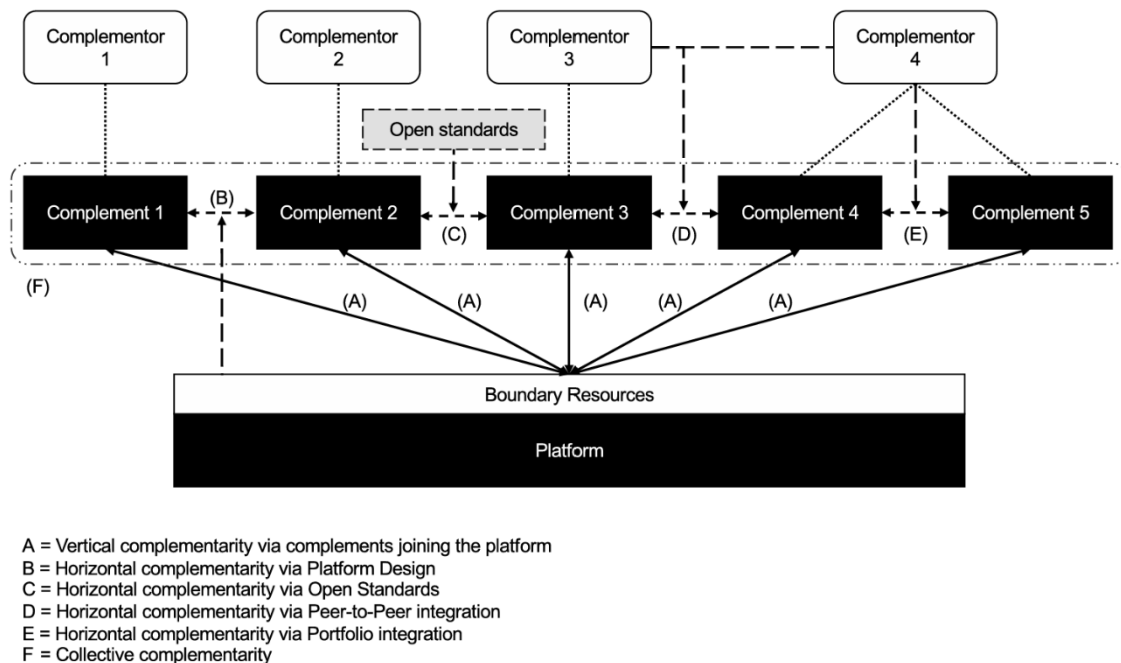


Fig. 41. A visual representation of vertical, horizontal, and collective complementarities, with examples (from B to E) of strategic moves behind the emergence of such horizontal interdependencies. (taken from Thomas et al., 2024)

If this latter theoretical reflection prompts a critical appraisal of the ecosystem metaphor inside digital business networks, I decided to turn toward empirical data to test this contradictory representation of ecosystems. This way, I embarked on a double-sided move, as I sought to understand a) whether esports-related ecosystems stand on one side of this spectrum – i.e., between decentralising perspectives and hierarchical core-periphery arrangements – and, if not, b) what they could reveal about a more nuanced application of the metaphor. More specifically, I incorporated the Márton (2022) critique to see whether, beyond naturalisation stances, the inclusion of “tridimensional” architectures – i.e., going beyond both core-periphery arrangements and decentralised perspectives – could help read esports ecosystemic phenomena in a more informationally dense way.

6.1.2. Tridimensional architectures and ecosystemic layering

Not surprisingly, early depictions of the esports ecosystem followed the most diffused trends in business and organisational literature, applying ecosystemic models which integrated the architectural reflections coming from those studies (Besombes, 2024). This meant that a first batch of (visual) representations followed a concentric modelisation, reiterating a flat but hierarchical view of the network, divided between “core” and “peripheral” stakeholders (cf. also Chapter 3). Although going against the grassroots flavour characterising esports (T. L. Taylor, 2012), this perspective has been confirmed by subsequent analyses of the ecosystem (e.g., Carrillo Vera & Antón, 2024), but also by grey literature and observations (see Fig. 42).

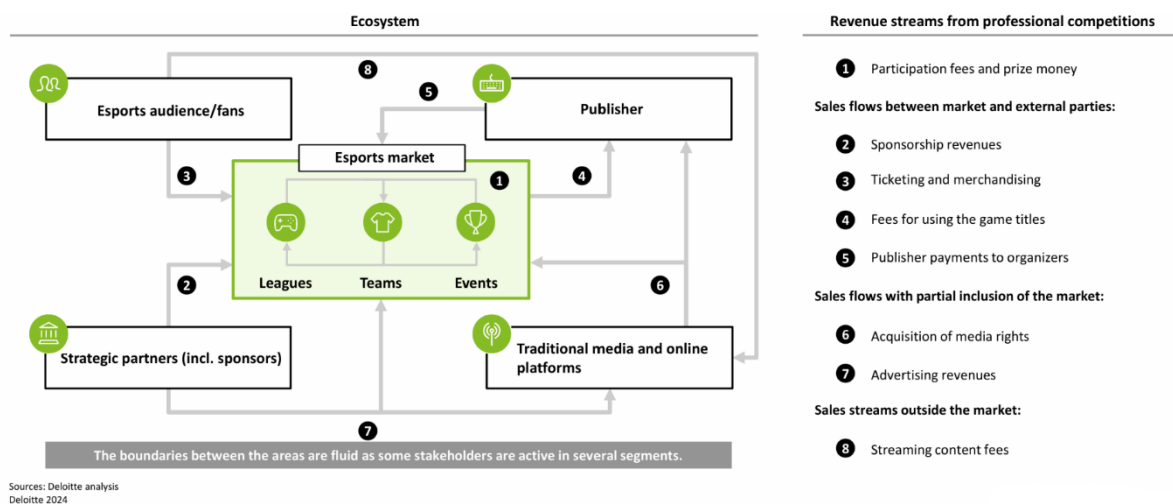


Fig. 42. The network abstraction of the Italian esports ecosystem, as drafted by IIDEA and Deloitte in their recent report (2024). This visual depiction is significant not only as it highlights the actual revenue streams active within the Italian scene, but also because it functions as a narrative tool for this local community: in fact, it stems from a widely respected consulting agency (Deloitte) and a local institutional body, thus achieving the status of an “official representation” of the Italian esports market. (taken from Deloitte & IIDEA, 2024)

The concentric model, drawn from platform ecosystem studies, resonates with the esports architectural disposition, as the network is organised around a solid core of primary stakeholders, without which esports would not exist. The ties that link core actors (as depicted in Chapter 3) are thus similar to the “vertical” or “strong complementarities” described by Baldwin (2024), which defines those situations in which a single stakeholder’s product is unproductive unless taken together with the

others' complements. On the other hand, peripheral agents, like sponsors and institutional actors in the esports scenario, might enrich the value proposition of a product, but give life to "weak complementarities," as "withdrawal of one component does not destroy the value of the others" (Baldwin, 2024, p. 45).

For example, the Qlash House initially relied on MSI and Logitech to fill its spaces with their hardware (Fagnoli, 2019; Tanca, 2019); however, during my observations, the computers were all changed (and updated) thanks to the new technical partner, NZXT (fieldnotes). This means that, although fundamental to reducing hardware costs, the technical sponsor does not have a strong tie to the core actor, Qlash (an org and event organiser without which no esports would be possible), because its substitution does not affect the overall process of competitive gaming. A point confirmed by the fact that Qlash, as well as any other observed org, allowed players to keep their most preferred hardware, whenever possible, even if from direct competitors of the org's sponsor (fieldnotes).

A warning should be done here, though, as the use of Baldwin's (2024) theory about complementarity might suggest a conflation of esports ecosystemic functioning with that of platform scenarios, in which a single product (i.e., the platform) is complemented (read, "completed") by the additive or accessory work of side actors, more or less crucial to its transformation into a valuable product. In the platform model, the importance of the complements that signal its proximity to the ecosystemic centre, granting more or less rights over the revenue process and governance to complementors, showing a strong tie with the central good of the value chain (Baldwin, 2024; Kapoor, 2018; Thomas et al., 2024). Conversely, in esports, there is no single platform on which complementors can add their products. Lacking a centralised controller, as found in platform environments, there is no "competitive gaming" to be produced or utilised as a platform for complementors to add to. Rather, esports is a performative feat that requires the participation of at least four stakeholders: publishers, players, esports organisations (e.g., teams), and events (i.e., tournament organisers). The result of their interaction makes the "good" of competitive gaming, intended both as a sports discipline and an entertainment (potential) product (Fig. 43).

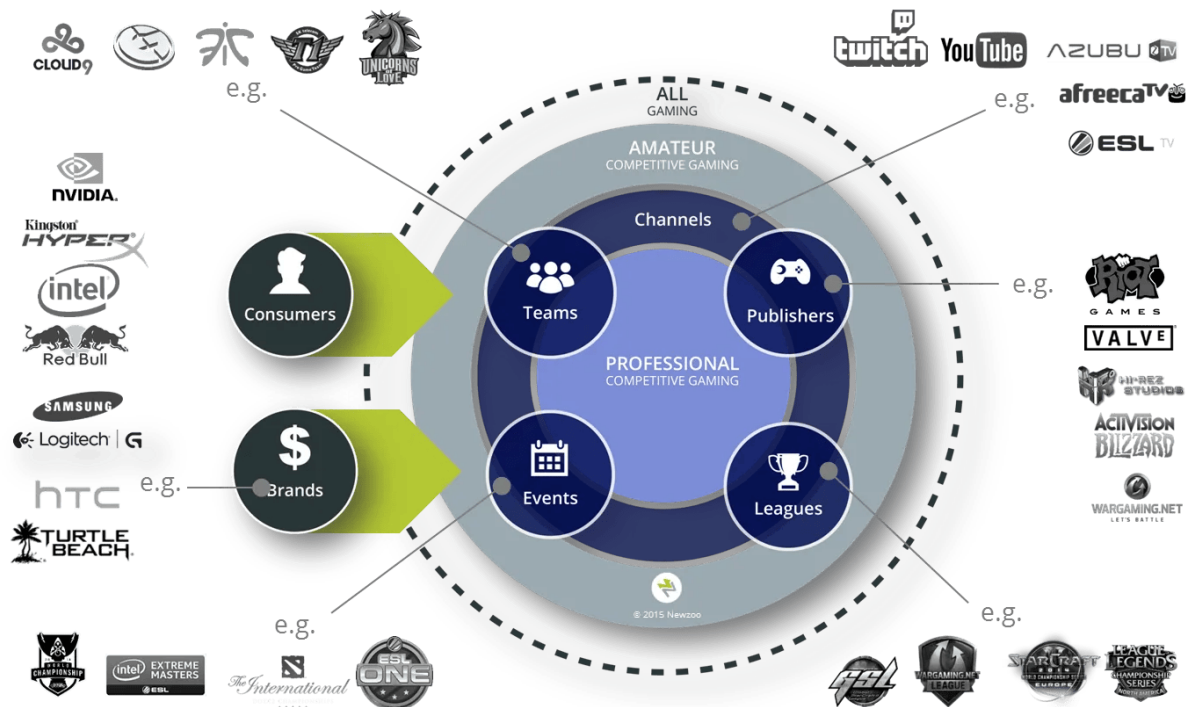


Fig. 43. A concentric model of the esports ecosystem, displaying core actors and structural elements around the core formed by the competitive activity itself. Through intermediation and enabling processes, the surrounding agents transform the central focus into a professional scene. Even though apparently “flattening” the industry by rejecting linear value chains, in fact, these kinds of models reintroduce hierarchy through proximity with the core area. (taken from Warman, 2015)

Thus, it is the proximity to these core or primary actors that generates a hierarchical disposition within the esports ecosystem, in a distinctly more complex manner than that of platforms. Still, the artificial nature of competitive gaming as the “product” around which stakeholders organise generates fundamental problems in describing the functioning of the esports ecosystem. In fact, “professional competitive gaming” is a fictional device that Warman (2015) employed to illustrate the hierarchy organising the esports network; conversely, other authors (e.g., Formosa et al., 2022) underscored how there is no single “esport” out there, rather a galaxy of competitive landscapes that can be more or less described under the umbrella term of “esports” (always plural, indeed). More precisely, every esports game has one (or more) competitive scene attached to it, thus generating a multiplicity of ecosystems, each organised around a single “discipline” (i.e., game title). This arrangement proves valuable for explaining the uneven distribution of power that some esports ecosystems

display more than others (Scholz, 2019), as well as why players and orgs seem to strategically position themselves within ecosystems that align more closely with their interests. As described in Chapter 3, the network of actors revolving around titles like LoL and Valorant displays a substantial concentration of power in the hands of Riot, the publisher behind these titles, which significantly impoverishes the autonomy and importance of stakeholders like esports organisations and players, even though they remain more central to the ecosystem than peripheral ones, such as technical operators and sponsors (Scholz, 2019). A set of restrictions that might sometimes appear too strict and superimposed, as Macko stated in their recent withdrawal from the Italian LoL tournament (i.e., LIT; Izzo, 2025). On the other hand, Valve's *laissez-faire* approach gave core actors, such as ESL (a tournament organiser) and esports organisations involved in the CS scene, a significantly more central role within the ecosystemic arrangement, underlining their contribution in making such a mod into a proper esports title. A freedom that might resonate with more autonomous (read, long-standing) gaming communities, such as those of Northern Countries and the US, where CS maintains a steady and significant following.

The observations within gaming houses, however, suggested that multiplicity is not the appropriate theoretical concept for the esports ecosystem. Indeed, the observed esports organisations operated across a variety of titles (e.g., Macko had top-level teams in both LoL and R6), not as a strategic move (e.g., business differentiation), but because of the substantial interconnectedness of the multiple iterations of the esports landscape. To put it more straightforwardly, the different networks pertaining to each competitive title “share” most of their components with each other, creating, *de facto*, an overlap between different systems. Two crucial effects stem from this interweaving of competitive scenes. First, the overarching esports ecosystem escapes fragmentation and multiplicity thanks to the parallel presence of crucial stakeholders, which bridges resources and information between the title-specific networks to create not a redundant multiplication, but rather a “layering” of the esports ecosystem where connections between actors can occur both intra-network (e.g., the tie between Riot and Qlash as local organisers) and inter-network (e.g., Panasonic's relationship with Qlash spans all of its operations across titles). Stratification, however, also enables the esports ecosystem to incorporate an element that other digital business ecosystems, such as platform-based ones, have progressively lost or set aside: the engineering principle of organic flexibility.

Retaking the example of Qlash, this organisational actor positions itself in a subordinate position when dealing with the Valorant network, as it participates as a team that adheres to all the strict regulations coming from Riot's overwhelming power in the gaming scene. Although maintaining a core position – as without Qlash and the other Italian orgs, no Italian scene would have been possible – with respect to more peripheral actors (e.g., Twitch), the network's uneven distribution of power ultimately led the Treviso-based company to be excluded from the competitive scene, losing most of its interest in participating in the professional system to concentrate its action on the amateur level. Nonetheless, this did not mean the end of ecosystemic relationships between Qlash and Riot, as the Italian company's subsequent investment in other Riot titles led to it becoming a crucial collaborator and strengthening its central role in the respective ecosystems. This way, Qlash repositioned itself as a tournament operator (TO) in titles like LoL and Teamfight Tactics (TFT, coordinated by Pob during my observations; fieldnotes), where it organises the local third-tier competitions, called Circuito Tormenta. To say it all, Qlash's branching into other local scenes (of Riot's and other titles) granted them the perpetuation of their operation and a stronger relationship with the publisher, as a potential litigation with the org may deprive Riot not only of an Italian team, but of a wide-ranging collaborator inserted in many of its products' networks (e.g., Qlash still organises the amateur-level BCS Valorant league in Italy and even partnered with Villareal FC to participate in the 2nd Division of the Spanish LVP SuperLiga in 2023; see Fig. 44).



Fig. 44. The official press image of the partnership between Qlash and Villarreal FC, displaying a fusion of their logos (a strategy similar to what Qlash did with Milan AC) on the left and that of the 2nd Division of the Spanish LoL League on the right. This material concurs in exposing how Qlash continuously repositioned itself across different esports networks to maintain its operations profitable and, most importantly, leverage its multiple roles to establish its position within the overarching esports ecosystem. (taken from Rubio, 2022)

Qlash's example was not the sole occurrence of continuous repositioning and branching (see Fig. 46), as Macko and OP could also count similar movements (for an empirical account of one of Macko's experiences, see Box 7). This suggests that the esports ecosystem might have well incorporated principles of self-organisation based on both agents' needs and collaborative purposes, commonly referred to as demand-driven and domain-clustered rearranging practices by engineering scholars (Whelan, 2010).

The fluidity of ecosystemic roles and relationships not only underscores the advantages of reincorporating original ecological concepts into the study of business ecosystems but, on a more pragmatic and empirical level, grants ecosystemic actors flight lines from the network's potential pitfalls, mostly guaranteeing the stakeholder survival to ecosystemic shocks (such as the closure of the Italian Valorant League; Ciocchetti, 2024). This, paired with the multiplication of parallel networks of (repeating or interwoven) agents tied to specific esports titles, might eventually convince us to

define the esports ecosystem as comprising intersecting “layers” or “plateaus,” each displaying specific arrangements of ecosystemic actors, relationships, and hierarchical architectures.



Fig. 45. The X’s cover banner of Qlash Italia, displaying the competitions Qlash is officially appointed to organise on the local scale, hence the multiple roles it covers within different title-specific esports networks. From left, we can spot the streamer-only Valorant tournament, later turned into an open amateur-level console-based one (Valor Hunters); the Baolo Championship Series, a mixed streamers-amateurs tournament organised by Paolocannone in joint partnership with Qlash and Riot (BCS); the non-profit and Italian-only Clash Royale influencers’ tournament heralded by CiccioGamer89 (Paguri Cup); the Italian Circuito Tormenta, comprising many amateur-level competitions on Riot’s titles, such as TFT and Wild Rift (Tormenta Open); and, finally, the third-tier semi-professional Italian LoL league, formerly the 2nd Division of the Italian League (Blooming Talents League; BTL). (taken from https://x.com/QLASH_Events; accessed last time on 04/07/2025)

The last point ultimately leads us to critically reappraise the concept of “vertical” and “horizontal” complementarities, as the lack of a central “barebone” product hinders the identification of direct additive actions from complementors (Thomas et al., 2024). Indeed, the esports ecosystem (nor its single title-specific networks) is not “flat,” nor does it display equally distributed governance structures. Instead, both extant literature (M. R. Johnson & Woodcock, 2021; Scholz, 2019) and empirical examples (such as the one contained in Box 7) suggest that the unequal distribution of power should be taken into account, as ecosystem survival is heavily influenced by the actions of “leading species,” i.e., those possessing the power to steer the network’s direction. Albeit we saw how “competitive gaming” should be, in fact, considered a product of collaborative, hence horizontal complementarity between core stakeholders, some specific esports scene (e.g., Riot’s ones) preserves an utterly

explicit dominance by a few or even one single ecosystemic actor, thereby reintroducing a situation that very much echoes the “vertical” relationships outlined by Thomas (2024). The persistence of such imbalances within single networks of the esports ecosystem, however, does not hinder others from making such omnipotent, linear relationships fade into the background, as displayed by the surge in importance that inter-organisational agreements about rules and regulations took in the CS network after Valve adopted a laissez-faire approach (Scholz, 2019; Wong & Meng-Lewis, 2022).

This produces a “tridimensionality” in the esports ecosystem, with stakeholders gaining prominence within title-specific networks, occupying (more or less) prominent roles, even without being located inside the core area formed by primary stakeholders (the same applies, vice versa, to the periphery and secondary agents). Consequently, agents like Riot might find themselves in apex positions within one network (e.g., LoL), but are significantly more on par with other core actors, such as TOs, in other networks (e.g., TFT), where they still need the collaboration from users and organisational actors to achieve a definitive transformation of their title into a proper competitive environment (see also Chapter 3). This equates to a “layered” and “tridimensional” positioning also by organisational actors, who, even more so, demonstrate a peculiar capacity to cover (and fluidly move between) different roles across the title-specific networks. This way, they can then leverage key intermediary positions in certain networks, enabling them to achieve substantial revenue shares from the ecosystem's economic flows, while remaining in fundamental but subordinate roles in other professional systems (see Box 3).

Box 3. Rigolettian Qlash: “skin changes” and Qlash’s multiple roles within the esports ecosystem.

To illustrate the effect of stakeholders’ differential positioning, we can draw on the example offered by Qlash, which not only participates in national and international leagues through its teams, but also covers organisational roles for a number of different publishers across different tiers. As shown in Fig. 46, the Italian department of Qlash is indeed organising community-level and influencer-related competitions under titles such as Valorant, LoL, Clash Royale, TFT, and many others. A role that indeed gives a tridimensional feature to the company’s position inside the esports

ecosystem, as it enables Qlash to relate with other ecosystemic actors either as a team or as an intermediary between teams and publishers, thus expanding significantly both its operations (and staff needed) and its income sources, as the TO role allows Qlash to seize fees from participants (at least a percentage of which goes to the publisher, though). More straightforwardly, Qlash collaborates horizontally with other esports stakeholders (i.e., other teams and pro players) to create value on titles like Valorant and LoL, where it holds a subordinate position but contributes to the product's value by engaging in semi-professional gaming and producing content. At the same time, it leveraged its position as a core agent in these networks to propose collaborations with peripheral actors, which assume the characteristic of a “vertical” relationship because of the access to community and content that Qlash grants to external actors. This way, Panasonic relies on the work of pro players and esports orgs – which, in fact, create “competitive gaming” – as without their efforts, there would be no esports to sponsor. Hence, Qlash takes advantage of its central position to offer Panasonic and other sponsors a share of its media exposure, which enables the org to wangle a vital income for its viability. If this network positioning already lends “depth” to ecosystemic relationships, the subsequent layering of Qlash roles empowers the company to secure even more pivotal spots when playing the TO role. Indeed, when organising community events, national-level leagues, or online amateur tournaments, Qlash “verticalise” its relationship also with central actors, for example, users and other esports orgs: by playing the mediator role between them and the publisher, in fact, Qlash grants itself direct income sources from the other stakeholders, in the form of entrance fees, revenue shares, or other payment forms (either from the publisher as appointed TO or from the participants).

To conclude, the esports ecosystem's organisational structure kept the network sufficiently flexible and open, allowing its participants room for adaptive movements. This architecture differs from other distributed arrangements, in which positions are either too fixed or too unstable, thereby engendering a layered, multidimensional scenario in which actors can achieve viability through purposeful recombination and strategic multi-positioning. The relative freedom to reshape ecosystemic relationships and assume different roles, as illustrated in Box 3, means that the esports ecosystem's architecture leverages stratification and tridimensionality to achieve a flexible

framework, rather than a rigid arrangement of positions and ties as displayed by platform ecosystems (Agarwal & Kapoor, 2023; Baldwin, 2024; Thomas et al., 2024).

6.2. Ties: From interfirm interdependency to ecosystemic relational complexity

A second theme emerging from the dialogue between theory and empirical data was the nature of relationships nurtured by the ecosystemic architecture of the esports network. If defining the esports system as multidimensional and layered restored some of its original ecological features, such as organic flexibility and complex interdependencies, it remained to be explored how these characteristics influenced the shape of stakeholders' linkages.

The historical evolution of the concept outlined in Chapter 2 showed how it has been the latter element, interdependency, one of the core reasons stimulating the adoption of the ecosystem metaphor within both engineering and business science, as it focused attention on the connectedness that networked elements displayed, which characterises their difference and peculiarity from standalone actors. However, engineers overlooked a further specification of the kind of relationship among agents in a technical system, despite the rich scholarly production by biologists on the topic. As a matter of fact, even if we draw from the extensive review of the concept by Bogers and colleagues (2019), we find only a few notes on the relational specification of technical ecosystems, mostly summarised around the concept of symbiosis (Sell et al., 2023; L. Yu & Ramaswamy, 2006). These are mainly directed to define them as “loose coupling” and bidirectional links that allow ecosystemic actors, on one hand, to move with relative freedom inside the network and pursue demand-driven reorganizability; and, on the other, the establishment of “edges,” or technical connections, that consent the mutual exchange of packages of information, resources, and so forth (Boley & Chang, 2007). Research on (digital) business ecosystems, instead, recovered the biological conceptualisations about ecological relationships, strategically employing their vocabulary to enhance (or naturalise, to a more critical eye) the interactions between firms and other organisational actors (Iansiti & Levien, 2004b; Moore, 1993; Yoon et al., 2022).

Acknowledging the risk associated with applying a theoretical etiquette without transferring the underlying semantics may be misleading; the following subchapter will first examine how the organisational and business literature incorporates biological

concepts describing ecological relations, such as symbiosis, mutualism, commensalism, and so forth (Basole & Rouse, 2008; Kapoor, 2018; Yoon et al., 2022). Then, leveraging empirical evidence from esports, I will underscore that the explanatory power of these concepts remains underexplored, suggesting that an ecologically informed adoption of descriptors such as “parasitism” and “commensalism” can enrich the scholarly depiction of digital business ecosystems. Ultimately, the subchapter will build on the previous, ecologically driven appraisal of the esports ecosystem’s architecture to more precisely categorise the network synergies. This will help describe the peculiarity of competitive gaming, whose interdependencies are far from an even distribution of power. Hence, the examples of mutualistic, parasitic, and commensal relationships will guide our understanding of how these ties inform the specific *mise-en-production* of (and between) stakeholders.

6.2.1. From platform complementarity to symbiosis

Biology and ecosystem studies have produced a wide range of terms and concepts to describe either the relations between the environment (structural factors) and its inhabitants, or the interactions between the ecosystemic (a)biotic elements themselves (e.g., Bennett et al., 2009). Such a wealth of definitions was partially incorporated by the IS research through a translation of general concepts – such as “symbiosis” and “synergetic relationships” (both identifying links where two or more actors are interdependent) – into a description of system relations as (potentially) bidirectional, loose, and dynamic, but forming deep interdependencies between the actors. Technically speaking, this set of characteristics creates an ecosystem of highly interdependent actors, albeit leaving them the freedom to reposition and adapt inside the network (Bogers et al., 2019; Boley & Chang, 2007; Whelan, 2010). Indeed, digital systems are not used in isolation but rely on webs of interconnected elements (from operating systems to hardware) to function properly (L. Yu & Ramaswamy, 2006). Thus, they express symbiotic relationships in that, to function, they depend on being embedded in a network. This is particularly true for distributed systems, where computing is shared and coordinated throughout the network (L. Yu & Ramaswamy, 2006). Most importantly, research has demonstrated that such networks exhibit another typical ecological characteristic, i.e., co-evolution, since not being “updated” with respect to the rest of the systems renders a component incapable of participating

in information exchanges (L. Yu & Ramaswamy, 2006). However, network engineers did not express the need to employ the biology's vocabulary so punctually, as they could rely on their own (rich) set of technical definitions (Boley & Chang, 2007; Dong & Khadeer Hussain, 2007).

On the other hand, business ecosystem studies largely drew from biological terminology to enhance the explanatory power in describing exchanges between network entities, integrating terms like “symbiosis” and “synergy” with their own conceptualisations (Fayoumi, 2016; Kapoor, 2018; Senyo et al., 2019; Yoon et al., 2022). All these studies springboarded from a core theoretical standpoint, which was the high level of interdependency characterising socio-technical networks described as ecosystems (Kapoor, 2018; Senyo et al., 2019). Indeed, the very definition of a business ecosystem, as we saw in Chapter 2, describes it as consisting of interdependent firms (Basole & Rouse, 2008). Expanding the work on concepts coming from interfirm networks – such as asymmetry, reciprocity, and so forth (Oliver, 1990) – the business ecosystem perspective underscored how, in such arrangements, the value creation was substantially dependent on a complex mixture of collaboration and competition, which an individual agent or linear value chains could not achieve (Basole, 2009; Iansiti & Levien, 2004b).

From this, research on the topic adopted different theoretical lenses to develop an understanding of the structure and dynamics of ecosystemic relations and alliances. For example, studies exploring the impact of digital technologies on traditional business sectors, such as tourism, highlighted how digital business networks express two kinds of ties, physical and virtual, which determine factors like dependency strength, network stability, and robustness (Baggio & Del Chiappa, 2014; Del Chiappa & Baggio, 2015). Other works employed resource dependency and embeddedness perspectives, which underscored exogenous and endogenous factors that influenced the formation of ecosystemic relations (Eisenhardt & Schoonhoven, 1996; Granovetter, 1985).

Long story short, these studies introduced the concept of complementarity, which subsequent studies on platforms incorporated as the fundamental descriptor of ecosystemic ties. Following Kapoor (2018), we can define complementarity as an “add-on” to interdependence, as the former is predicated on the existence of the latter. More specifically, complementarities are economic relationships in which an actor's functions create or enhance the overall system's value proposition to the user. On the

other hand, interdependencies are structural connections among ecosystemic actors, such as firms. In purely theoretical terms, complements function as binary variables, enhancing the focal product of a business ecosystem through their presence or absence: for example, the number of apps inside an app store platform, such as Google Store, significantly empowers the value proposition of the platform itself (Baldwin, 2024; Kapoor, 2018). However, such a possibility is granted by the technical interdependency displayed between the platform and the complements: taking the same example, the careful craft of developers' packages and app regulations by platform owners grants interoperability of complementors' products for the platform itself, thus enabling complementarity through technical interdependence (Agarwal & Kapoor, 2023; Lee & Raghu, 2014; Qiu et al., 2017). Going through the examples offered by Kapoor (2018) again, even though the complementarity between electric cars and charging infrastructures is evident, their underlying interdependency structure differs from that of cars and batteries, which exhibit a direct product-based relationship. In simpler terms, interdependence signals an ontological (or structural) relationship that may or may not be superimposed by an economic transaction. As summarised by Baldwin (2024) through a "cuisine" example, we can say that a dish ingredients are complementary, in the sense that the presence/absence of one of them significantly alter the final product; conversely, the quantities specified in the selected recipe are interdependent, as "[i]f you change one amount, you will almost certainly need to change the others as well" to get the desired taste (Baldwin, 2024, p. 52). Works on complementarity have been widely used in conjunction with other biological concepts, such as loose coupling (Iansiti & Levien, 2004b), to study platform ecosystems (Clarysse et al., 2014). In particular, the concept of "keystone species," originally drawn by Moore (1993) from evolutionary biology, attracted scholars to define how single entities (i.e., a platform) could heavily shape their surrounding environment and create asymmetrical ecosystemic relationships (Alaimo et al., 2020; Gawer & Cusumano, 2014; Iansiti & Levien, 2004b; Parker et al., 2017; Thomas et al., 2024). Platform ecosystems, though, display a concentration of power in the hands of the central owner or coordinator, usually through socio-technical tools that enforce strict governance and exploit given complementarities at the expense of the other stakeholders, and especially users (Gillespie, 2010; Huber et al., 2017; Tiwana, 2013; van der Vlist, 2022; van Dijck et al., 2018).

Although such a focus on asymmetry and complementarity brought to the fore the importance of stakeholders' relationships, platform ecosystems are not the only ones out there, and the realm of digital business ecosystems is much broader. Significantly expanding earlier works that summarised ecosystemic relationships under "co-opetitive" relations (i.e., a mixture of cooperation and competition between firms; Brandenburger & Nalebuff, 1996; Ranganathan et al., 2018), research on platforms' unequal power distribution prompted the need to specify the nature of such ties, and to the scope, the biological literature was mobilised again. In his review of such concepts inside contemporary manufacturing ecosystems, Amjad Fayoumi (2016) showed how adapting concepts like natural selection, gene robustness, and self-organisation to the study of business ecosystems could be particularly fruitful. More specifically, he demonstrated that activities such as subcontracting, offshoring, and outsourcing can be subsumed into the wider theme of symbiotic relationships, as value creation is "networked, complex, dynamic, and interrelated" (Fayoumi, 2016, p. 56). In his view, symbiotic relationships may give rise to specific organisational models, such as business-to-consumer, business-to-business, business-to-community, business-to-government, and business-to-non-profit (ibid.).

However, what interests us most is his punctual translation of (some) typical biological *lemmata* into business-like interactions: mutualism, commensalism, parasitism, amensalism, competition, and neutralism. Hence, the following lines will review and make use of Fayoumi's (2016) conceptualisations, pairing them with evidence coming from another notable study in this direction, performed by Yoon and colleagues (2022), who reviewed the three concepts of mutualism, commensalism, and parasitism. By delving specifically into the definitions of these last three concepts and comparing them with empirical data, the following paragraph will give an exemplary application of biological terms to the esports ecosystem.

6.2.2. Ecosystemic relationships: Mutualism, parasitism, and commensalism

Although the application of relational concepts from biology proves interesting for enriching both esports-specific and general literature on digital business ecosystems, I will focus on three types of bonds that I identified during my ethnographic journey: mutualism, parasitism, and commensalism. By comparing well-established literature on business translation with data emerging from field observations, this subchapter

will demonstrate how esports, and organisational studies at large, may benefit from reconsidering ecosystemic relationships in these more ecological, yet detailed terms.

Mutualism

Starting with mutualism, the Oxford English Dictionary (OED) defines it as “the relationship existing between two organisms of different species which contribute mutually to each other’s well-being” (Oxford English Dictionary, 2024d).

Both Fayoumi (2016) and Yoon et al. (2022) underscore the primary significance of this relation typology inside business scenarios, as most successful operations between stakeholders usually aim to bring mutual benefits through the co-creation of value (Boons & Bocken, 2018; Y.-R. Li, 2009; Yao & Zhou, 2016). Moreover, Yoon and colleagues (2022) underline how mutualistic relationships often give rise to co-evolutionary drives, where the partnering actors start to invest in innovation (e.g., novel marketing strategies) that benefit the whole relationship (Khanagha et al., 2022; Sun et al., 2020). Hence, mutualistic ties structurally reinforce ecosystems, either by attracting new species or by sharing the effects of innovation, an element that could be strategically leveraged by more powerful stakeholders within ecosystems.

Taking a platform-based example, the authors display how ecosystems like Airbnb and Uber, in which users are (usually) both providers and consumers, exhibit a mutualistic relationship between these positions. Thus, an increase in one of the two components eventually leads to platform success, also benefiting the other stakeholder (Yoon et al., 2022). Albeit this example may point also to platforms’ opaque forms of governance and exploitation (Gillespie, 2017; Srnicek, 2017), it is important here as it demonstrates how an allegedly “democratising device,” as mutualism is, might well coexist with vertical forms of power and inequality. This helps us remember how, to be correctly appraised, all these relational patterns must be reinserted in the information ecology (i.e., ecosystemic network) from which they were extracted, examining them with respect to the principles of part-of-ness and systemic wisdom (Márton, 2022).

Not dissimilar to platform studies, esports scholars have also exposed the importance of co-creation, particularly user-based collaborative production, within the esports ecosystem (Kunz et al., 2021; Roth et al., 2023). As a matter of fact, many stakeholders actively collaborate inside the esports ecosystem, gaining the effects of a shared value creation: for example, publishers locking esports orgs inside a franchise league (e.g., Riot) significantly benefit from this collaboration, since they

transform their title into a proper competitive environment and guarantee their game's survivability on the long-run; on the other hand, also orgs (e.g., T1) earn from this contracting model, as franchise leagues imply a distribution of the revenues obtained through the tournament itself. Hence, both actors contribute to each other's economic health and reinforce their position *vis-à-vis* other ecosystemic agents, such as fans, who are then charged a share that benefits both of them, as well as TOs, whenever attending an official event. Thus, the franchise league permits core stakeholders to gain a superordinate position, which they subsequently deploy to secure other important vertical ties with other stakeholders: for example, sponsors are more easily attracted to franchised teams, as their position inside the esports ecosystem is stabler and less dependent on external income sources (E. Johnson, n.d.; Scholz, 2019).

On the other hand, a hidden exploitative feature might be found behind such a kind of mutualistic bond: indeed, stakeholders that reunite under a franchise league significantly benefit from the precarisation of lower leagues and the continuous flow of un- or low-paid amateurs into the competitive scene, as this allow to maintain their power position without taking the risk to invest on fair salaries or other forms of revenue sharing with the user base (M. R. Johnson & Woodcock, 2021). This paradoxical yet extremely fruitful relationship, as we will see next, can be better framed as "parasitism."

Box 4. Home is where one streams from: the mutualistic tie between Paolocannone and Qlash.

Although scholarship on mutualism usually focuses on interfirm exchanges, I drew inspiration from the original biological definition of mutualism, which involves two or more organisms contributing to each other's well-being, to provide an example from my ethnographic observations. Specifically, I am referring to the story of Paolocannone and its relationship with Qlash.

As the streamer himself has said in many interviews (Calgaro, 2018; Cozzi, 2019; Pagano, 2021) and as he directly confirmed during the informal interview with me, Paolo "Paolocannone" Marcucci started playing LoL as a teen and turned professional "by chance." Indeed, it was a friend of his who suggested that he could transform his passion, born after watching a YouTube video from one of the best – and notorious – StarCraft and LoL players of all time, Brian "TheOddOne" Wyllie

(Cozzi, 2019). After becoming a streamer and content creator, in addition to a notable player, he decided to join his efforts with the founder of a famous esports bar in Milan, MOBA (MOBA Network, 2017), to create the nearly all-streamers team MOBA ROG (see Fig. 46). The team was a competitive and commercial success, attracting hundreds of viewers to the still relatively small Italian LoL scene (some source even speaks of viewership tripling after their entrance in the league; Cristofalo, 2019).



Fig. 46. MOBA ROG original roster, showcasing many popular faces among the “Orcs.” This team went about to gain an unexpected third place behind Team Forge (later to become Qlash, guided by Sirbone) and OutPlayed (guided by Pencil). In this photograph, taken at Lucca’s San Romano Auditorium during the ESL Vodafone Championship, we see Paolocannone (on the right), shaking hands with Emanuele “Khema” Conti (on the left), a player from Racoon, guided by Korax. In the background, on the right of Paolocannone, you can also spot Francesco “Deugemo” Lombardo, a notable figure in the Italian esports ecosystem. (taken from Calgaro, 2018)

Given the provenance of their fame, mainly stemming from content creation, and their overall bold attitude, they attracted bad blood from a significant part of the community, which even labelled the team a “meme.” Nonetheless, the team results, paired with their attractiveness to non-endemic sponsors (e.g., Adidas), forecasted their potential as one of the leading competitive powerhouses in the Peninsula. It was not a happy ending, though, for Paolocannone, as the increased pressure for

performance (up to 12 hours of play, 6 days a week) cost the streamer his mental equilibrium, triggering a spiral of anxiety and depression that ultimately made him leave the scene.

It is right here that he met Qlash, after three months out of the limelight, psychotherapy sessions, and the help of his fiancée, “Giusi.” The company is guided by Luca Pagano, one who is familiar with competitive pressure and media content as well, and Alessandro “Sirbone” Fazzi, who knew him while managing Team Forge (which faced MOBA ROG multiple times). The two decided to invest in Paolo, understanding his media potential. If Sirbone take the role of the protecting father when talking about the streamer, Pagano is much clearer on it: taking in such a famous personality was a market strategy which, on the one hand, secured notoriety to Qlash and, on the other, sent a message to the rest of the Italian scene. The message was that the esports ecosystem needed such a partnership between creators and esports organisations, and, most of all, had to invest in media content production to secure a future within digital industries (also, it was a way to disengage from publishers’ power and guarantee alternative revenue streams) – a message still cogent today.

This combination of ethical and market reasons led to the passage of Paolocannone to Qlash, which decided to offer the streamer a room inside its newly built gaming house in Treviso. Hence, Paolo moved to Treviso and started streaming from the gaming house, immediately boosting the media coverage of both the structure and the owning company. In return for Qlash’s placement within his streams (through advertisements, banners, and dedicated content) and a share of his livestreaming earnings, the company offered the player and his girlfriend a stay, plus in-house staff and support. As described by Paolocannone:

“Treviso has been an important turning point in my life: I felt appreciated again, and this gave me back trust. I don’t mean that all the healing process has to be attributed to Qlash, but here I surely found a more positive environment.” (translated from Pagano, 2021)

Paolo decided to remain in Qlash and its House for years, boosting the company’s media coverage through his community and brand reputation. At the same time, the streamer could leverage Qlash’s multiple connections with endemic and non-endemic stakeholders, such as publishers and sponsors. If the ecosystemic

connections allowed him to launch a series of community events that involved other famous Italian streamers, alongside fans and amateurs (e.g., Baolo Championship Series; BCS), the access to external investors fuelled both Qlash and his revenues, making him among the most profitable figures in the field.

I got to witness Paolocannone's everyday routine inside the gaming house, as he alternated between streams, chatting and playing casually, both with Qlash personnel and bootcamping players. While Qlash's coach and all players were not invited to stay with Paolo or do content with him, most of the time not spent on training or matches was indeed characterised by his presence, as the whole team seemed to have an enjoyable time with him. Some of the players even ended up playing with him on stream, obtaining exposure for themselves while entertaining (although their aim was surely not that of "audience sharing," as sometimes happens between creators; cf. Kaye et al., 2022). I even spotted some media managers, specifically Isabella (Pagano's girlfriend), asking Paolocannone for hints and advice on content creation, photo editing, and graphics settings. Moreover, Sirbone told me about the postural issues Paolo had been treating with his help (and those of the physiotherapist, sometimes crossing paths with Qlash), as I observed him training in the gym with other players (and even streaming one of those sessions). Finally, during my last visit, I had the opportunity to assist at one of the first bootcamp of the freshly assembled team, led by Paolo, which was again mostly made up of streamers and had him as the frontman. The team, later known as The Gulls, participated in BTL, Italy's third-tier league, eventually winning promotion to the upper tier and underscoring Paolocannone's ability to master both livestreaming and competition. Interestingly, the team was informally coached by San-Ha, the Korean hosted in Qlash, while looking for a new team. San-Ha, also "salvaged" by Sirbone (see Box 6), was indeed coaching Paolo for months, as, by his own words, "being a good player was part of the content he provided to his followers" (fieldnotes).

All in all, the relationship between Qlash and Paolocannone seemed to be among the most beneficial in the sector, lasting years and delivering positive outcomes for both sides, from support (technical and personal) to economic rewards. Moreover, the two displayed the ability to co-evolve, since Paolocannone turned from player to streamer to player again, going through roles he never covered before, such as stage presenter, community manager, and event organiser; evolutionary steps that

Qlash also took, as it shifted from a competition-only organisation to a media company, but also an event organiser and a title promoter through Paolo's streamer-based events with amateurs. Currently, Paolocannone is continuing his career as a player, but has moved to aNc Legends, detaching himself from Qlash (even though he still lives in Treviso, I could not confirm if he is still residing in the Qlash House).

Parasitism

The second relational pattern I wish to tap draws from the biological concept of parasite, defined by OED as: "an organism that lives on, in, or with an organism of another species, obtaining food, shelter, or other benefit; [specifically] one that obtains nutrients at the expense of the host organism, which it may directly or indirectly harm" (Oxford English Dictionary, 2025).

In business terms, parasitism refers to an interfirm relationship that yields positive effects for one or more parties at the expense of the other, which is harmed or negatively impacted. Note that the negative impact is necessary to define parasitism, as without such a noxious effect, we would be witnessing commensalism, or else (e.g., phoresy). Given this one-sidedness and harm, many authors found it difficult to frame parasitism within business symbiotic relationships (Yoon et al., 2022). However, Yoon and colleagues (2022) highlight how this practice is widely employed in the economic realm to reduce costs, ensure survival, and enhance market competitiveness (Yao & Zhou, 2016).

A classic example of parasitism, in Fayoumi's view (2016), was Henry Ford's "efficiency wages," which consisted of a double salary paid to their (most) productive employees. This allowed him to secure a high-producing (motivated) workforce at the expense of other competitors, who needed to follow his move in order not to lose their workers. If this parasitic relationship may not seem as straightforward as others, we can draw on more recent examples to clear things up. Drawing from platform studies and, specifically, the capitalist critique moved by authors like Gillespie (2010, 2017, 2018) and Zuboff (2019), we could define the overall relationship between Big Tech companies (most notably, GAFAM) and their users as parasitic, as the former heavily rely on extracting data from the latter to generate revenue. More precisely, we can identify how platforms like social media put users in production through content making and consuming (Hesmondhalgh, 2010; Hyysalo et al., 2016; van Dijck, 2009), ultimately transforming the aggregated data into an asset to be sold and exchanged

(despite the “original” owners, i.e., users). This, in fact, can be summarised by the quote: “If you’re not paying for it, you’re not the customer; you’re the product being sold” (O’Reilly, 2010; but tracing back to Andrew Lewis, Richard Serra, and Carlota Fay Schoolman). Ironically, this phrase became particularly famous through social media and blog communities, somehow contradicting itself by remaining inside that same extractive system that was parasitically taking advantage of their unpaid production (for further reading, see Alaimo et al., 2020; Alaimo & Kallinikos, 2017; Srnicek, 2017; van Dijck, 2014; van Dijck et al., 2018).

Yoon and colleagues (2022), however, underline how parasitic relationships may lead to disruptive consequences, with organisms being “eaten up” by parasites, either directly or indirectly through starvation. For instance, they take the cue from internet service providers (ISPs), which benefit from the increase in average revenue per user as each user increases its data usage (Yoon et al., 2022). This not only “harms” users and content providers – such as YouTube and Netflix, which have to pay ISPs for their services – but also affects ISPs themselves, who see their maintenance costs increase as they try to provide a stable provision. According to Yoon and colleagues (2022), this gives rise to a counter-directional parasitic relationship between content providers (i.e., hosts) and ISPs (i.e., parasites), as they must significantly intensify their maintenance-related expenses to keep pace with increasing content usage (Levine, 2011). This infrastructural stress may lead either to co-evolution, as the involved firms develop innovative solutions to their problems, or the demise of those stakeholders who are unable to accommodate the shock.

As this surely brings reflections on resilience and organisational robustness (Ens & Márton, 2024; Márton, 2023), ecological thinking also prompts wider reflections on how our entire capitalistic system is parasitically draining natural resources. Indeed, one of the most high-level parasitic links we can describe is that between industry (and humankind at large) and nature, as environmental resources continue to be consumed and returned to the Planet in a harmful form, such as pollutants and waste (Fayoumi, 2016).

Esports has not yet explicitly explored parasitism; however, game scholars have produced a series of interesting works on the extractive nature of the gaming and esports industries (Dyer-Witthford & De Peuter, 2009; N. Taylor, 2020; Woodcock, 2019). Notably, this scholarship has linked gaming with other digital industries, highlighting how it relies on a significant instrumentation of users’ activities (from

content production to playful consumption) to generate digital objects and data, which are then sold for substantial sums (Alaimo & Kallinikos, 2019; Arvidsson, 2016). The subsequent entwining of gaming with livestreaming habits has linked even more directly the research on users' content creation (e.g., Arcidiacono et al., 2018) with studies that explored the (self-)commodification of gamers' playing routines, intimacy, and appearance (M. R. Johnson & Woodcock, 2019a, 2019b; Ruberg & Lark, 2021; T. L. Taylor, 2018; Woodcock & Johnson, 2019b). More specifically, game studies have shown how media industries exploit free or immaterial labour to sustain themselves (Lazzarato, 2006; Terranova, 2000), crafting the term "playbour" (Kücklich, 2005) to define how the user base is strategically leveraged to extract innovations, data, and other assets that benefit producers, platform owners, and ecosystemic leaders (Dargonaki, 2018; Foxman, 2021; Goggin, 2011; Just et al., 2023; Tran, n.d.; Yuan & Xie, 2024; Zhou & Liu, 2021). This way, the passion of gamers is funnelled into value-creating dynamics that exploit their aspirational labour (Duffy, 2016) for the sake of the most powerful stakeholders in the ecosystem. Finally, we should mention the prominent work by Johnson and Woodcock (M. R. Johnson & Woodcock, 2021), who expanded on the seminal reflections of T. L. Taylor on the "professionalisation" of gaming as a leisure activity (2012) – which, in turn, she drew from Stebbins (e.g., 2013). In their influential article, Johnson and Woodcock (2021) describe esports as a labour ecosystem predicated on precariousness and exploitation.

Going into detail, they demonstrate how players endure intense pressure, short careers, and a lack of institutional protections, with only a few making it to the apex and becoming idolised as professional celebrities or streaming starlets (M. R. Johnson & Woodcock, 2021). Similarly, coaches, analysts, and other staff members suffer from work instability and income uncertainty. At the same time, organisers and publishers (plus a bunch of secondary stakeholders, such as Twitch and YouTube) control the ecosystem by monetising events, owning platforms, and retaining intellectual property over the esports games (Carrillo Vera & Antón, 2024; M. R. Johnson & Woodcock, 2021; Scholz, 2019). Overall, the esports ecosystem offers novel career paths to those wishing to transform their passion into a job (see the quote from Pob on p. 219); however, this reveals itself as a dangerously attractive mechanism that strategically appeals to users in order to sustain the entire industry through continuous flows of under- and low-paid workers (Boldi & Sanseverino, 2025; M. R. Johnson & Woodcock, 2021). While most remain, thus, excluded from the dream of becoming a professional,

those who make it find themselves caught in a downward spiral of extreme work hours, risk of burnout and injury, short-term contracts or freelance arrangements, and general job uncertainty (Bányai et al., 2020; H. J. Hong, 2025; Jenny et al., 2017; M. R. Johnson & Woodcock, 2021; Nagorsky & Wiemeyer, 2020; Witkowski & Manning, 2019). This, in fact, is true for all esports workers, even organisational actors like TOs and esports orgs, creating a financial volatility that, unlike traditional sports or media industries, has yet to achieve institutional protection – such as workers’ rights unions and other regulatory bodies (G. A. Alexander, 2023; Hollist, 2015; M. R. Johnson & Woodcock, 2021; Patel, 2019).

Hence, esports displays many parasitic relationships, as it steers its members’ passion into revenue-creating bottlenecks, such as streaming platforms, that exert top-down power dynamics that backfire on more fragile stakeholders, such as players and streamers (M. R. Johnson & Woodcock, 2021; Scholz, 2019; T. L. Taylor, 2012, 2018). On top of that, structural inequalities (e.g., hardware costs) match with gender and other social barriers to reiterate (or even expand) social exclusion and broader socioeconomic inequalities inside the field (Cassell & Jenkins, 2000; Christopher & Joseph, 2020; Ellis & Kao, 2019; McLeod et al., 2022; Svensson & Oppenheim, 2018; Uttarapong et al., 2021).

Box 5. Delicatessen: Autophagy and self-parasitism in the case of Macko self-sponsorisation.

Instead of describing high-level parasitic relationships, I want to draw again on my ethnographic data to provide an account of an “organism-level” kind of parasitism, namely the paradoxical “autophagy” actualised by Macko as a means of survival.

This esports company was founded in 2020 by Antonio “Macko” Todisco (CEO) and Alessio “Alessio99” Albanese (COO) in the wake of the COVID-19 pandemic (Calgaro, 2022a; Liquipedia, n.d.; Macko Esports, n.d.-a). Despite the global crisis, the businessman and worldwide famous tattoo artist Macko decided to invest in the esports industry, starting with two teams (R6 and LoL). In less than 2 years, the org reached a leading position in both titles, while also exploring other games (Dipasquale, 2025; Lombardo, 2021a). One of their best teams indeed came from the acquisition of an already existing Apulian org, Raccoon, which was managed by Andrea “Korax” Planamente and coached by Riccardo “Rharesh” Tata. Not

surprisingly, the two managers quickly made history with Macko, having previously demonstrated the ability to achieve great success on a low budget. Thanks to the significant outlays made by Todisco, Korax and Rharesh (alongside nearly 10 other staff members) were able to turn a "newbie org" into a national powerhouse, achieving a record streak of national titles won and many successful international appearances (Bortone, 2021; Dipasquale, 2025a, 2025b).

In line with its investments in the management side of the organisation, Macko decided to relocate the team headquarters to his property, a villa situated in an olive grove in Monopoli (Bari), just a 15-minute drive from the beach (Fig. 47). This way, Macko leveraged one of his main assets, which he also utilised for its other activities: part of the building had already been converted into luxury rental apartments, while nearly an entire floor was dedicated to Todisco's main hustle, tattooing. Near the villa pools, he had located the main offices of his tattoo shop franchise, as well as the space needed for his self-named tattoo academy, which offered a complete set of courses and constituted his second source of income (fieldnotes).



Fig. 47. A photo collage of Macko Gaming House, showcasing some of its core activities and usages. From the upper left, clockwise: Rharesh training in the gaming area during his period as part of LoL team that won the Italian league; the R6 team taking a selfie on the board of one of villa's main attractions, the pool; a night view of the villa, showing the apartments dedicated to players; another team simulating the non-gaming routines during bootcamp. As we can see, Macko's house does not offer separate rooms, nor many private

spaces; this might constitute a problem in the long run, but many esports orgs have decided to transition towards a “bootcamp model,” housing teams for only brief periods (on the contrary, Macko claimed its managers to live there also “off-season”; Lombardo, 2021a). (taken from Macko Esports, n.d.-b)

The 4,000 sqm compound has become part of the organisation's media content, which leveraged the lavish mansion to convey a narrative of an organisation that does things in style, without accounting for the expenditures required to achieve top-quality and success. Confirming the bold style of Macko itself, which is also echoed in the org's motto, “drawn to dare,” the company did not hide its objective to dominate the scene and establish a new standard for esports, both in Italy and abroad (Bortone, 2021).

Even though Macko drew inspiration from international sector leaders, such as Team Liquid and Fnatic, it rapidly learned to carve out its own aesthetics and rhetoric, heavily drawing on Todisco's experience – gained as a tattoo artist and entrepreneur – to establish its brand identity and business plans (Lombardo, 2021a). After Todisco's considerable (monetary) efforts, the CEO partnered with Korax, holding a master's in management, to draft a roadmap toward financial growth, not only for Macko but for the entire movement (Bortone, 2021; Lombardo, 2021a). However, they had to learn a lesson rapidly, as the Italian scene revealed itself to be callow, toxic, and generally naïve about business competencies. When asked about the impressions he made about the Italian esports scene after more than a year of experience, Todisco frankly replied:

“Regrettably, I was very disappointed: I found a sector organisationally confused under many circumstances. It is far from being sustainable, and it suffers from many issues, but we stand up to the challenge.” (translated from Lombardo, 2021a)

Indeed, during the informal interview, Korax restated the point multiple times, explicitly linking the overwhelming power of publishers over esports games to concerns about the future of the Italian scene and the company (given such ecosystemic uncertainties). In his opinion, the field was plagued by deregulation (e.g., the institutional lack of formal contractual categories) and economic insolvency, as Macko was one of the few organisations achieving what could be

called a break-even point, albeit it managed to do so only thanks to substantial sponsorship (Hype) and Macko's backing. Consequently, Macko's successive withdrawal from LIT (Italian LoL league) was the only logical solution to their growing concerns about sustainability and continued losses (Izzo, 2025; Morris, 2025). As Korax put it:

"After the first investment, which has to be personal [me: and here it was Macko, right?] Yes, sure, it was all him at the beginning, but then you have to achieve sustainability, and we can do it only through sponsors, as our partner Hype, or Sonogo, that gave us chairs." (translated from fieldnotes)

Hence, drawing from Korax and Todisco's claims, we can clearly frame the relationship between Macko and its founder's other activities as parasitic, or even autophagic, since the esports department was not only financed through the earnings of Todisco's tattooing and renting activities, but it also occupied some of their spaces inside Macko's property. If the relation initially had a considerable noxious impact on Todisco's main hustle, almost self-eating its creator, after the initial stage, it was Korax's ability to bring the teams toward competitive success that secured sponsorships and winnings, thereby relieving the pressure on the host organism. However, structural and economic difficulties inherent to the Italian eSports scene, and partially to the entire ecosystem (M. R. Johnson & Woodcock, 2021), did not cause the parasitic tie to disappear, but rather to shift its host, as sponsorship became the new lifeblood of Macko's survival.

Commensalism

The third and final example I wish to discuss regarding ecosystemic relationships is commensalism. Here, OED is a bit more confused in its definition, as it states that a commensal organism is: "an animal or plant which lives attached to or as a tenant of another, and shares its food (distinguished from a *parasite*, which feeds on the body of its host); also applied to the host itself" (Oxford English Dictionary, 2024a), going on to define commensalism as "a commensal condition" (Oxford English Dictionary, 2024b). However, if we look at the OED entry for "symbiosis," we will find the following: "association of two different organisms (usually two plants, or an animal and a plant) which live attached to each other, or one as a tenant of the other, and contribute to

each other's support; also more widely, any intimate association of two or more different organisms, whether mutually beneficial or not" (Oxford English Dictionary, 2024e). Albeit not mentioning commensalism, the definition presents a footnote: "also called *commensalism* or *consortism*; distinguished from *parasitism*, in which one organism preys upon the other. Rarely in extended use, including parasitism, or including mutually beneficial association without bodily attachment" (Oxford English Dictionary, 2024e). Hence, we can presume that OED defines commensalism through the meaning inserted in the symbiosis entry, which defines a state of "mutually beneficial association" where two or more organisms "contribute to each other's support."

Nonetheless, such a framing of the concept would render commensalism substantially equivalent to mutualism, thereby creating further confusion. Hence, we may turn to other dictionaries for more precise definitions. For example, the Encyclopaedia Britannica (2025) states: "commensalism, in biology, [is] a relationship between individuals of two species in which one species obtains food or other benefits from the other without either harming or benefiting the latter." Similarly, the Cambridge Dictionary (2025) describes it as "a relationship between two species in which one gets an advantage from living closely with the other and the other is not affected by it." To summarise, we can take the definition from the Collins Dictionary (2025): "a close association or union between two kinds of organisms, in which one is benefited by the relationship and the other is neither benefited nor harmed." Taking such evidence into account, we can then understand commensalism as a type of unidirectional relationship, where one of the parties benefits from its proximity to another organism(s) without affecting it.

If even the OED partially overlaps commensalism with symbiosis, it should not be surprising that much of the business-related literature often conflates symbiotic, synergetic, and commensal relationships into a single concept (Fayoumi, 2016; Sun et al., 2020; Yao & Zhou, 2016; Yoon et al., 2022). Indeed, this term was initially employed to identify connections in which all participants benefited from the relationship, but has gradually shifted toward a more restricted definition that identifies those links in which one of the parties remains unaffected (Fayoumi, 2016). In broader terms, Fayoumi (2016) points to governmental and non-profit activities to illustrate commensal relationships, such as voluntary work, libraries, and other public services, which benefit their consumers without monetary compensation. Although the social

contract between the State and its citizens may be a bit more complex, we can apply the concept to business scenarios whenever we find (unexpected) positive effects (e.g., between keystone species and complements; Xie & Wang, 2021) or direct efforts to sustain firms (e.g., start-up incubators; Fayoumi, 2016).

Yoon and colleagues (2022) specifically restrict commensalism to “unconscious transactions of positive influences” between keystone species and other ecosystem participants, which benefit from the leaders’ residual outcome (Khanagha et al., 2022; Roma & Perrone, 2016). In this situation, they claim that value can be partially overlapped between participants (Khanagha et al., 2022; Majava et al., 2013), as illustrated by the revenue system of the video game industry: hardware companies such as Nintendo, Sony, and Microsoft struggle to secure their business ecosystems because they do not autonomously provide game content (i.e., games) directly to consumers. Hence, those firms need to invest in game development, either directly or through financial support to complementors. This, in Yoon and colleagues’ (2022) perspective, ultimately benefits both complementors and consumers, who receive the residual outcomes of such investments (Inoue, 2019).

I contend that commensalism should be expanded beyond the platform-restricted application by Yoon and colleagues (2022), embracing all those one-way business relationships that guarantee benefits to one side without harming the other (Fayoumi, 2016; Yao & Zhou, 2016; Yoon et al., 2022). Although in the abovementioned authors this appears to happen mostly at early growth stages, where leading stakeholders “incubate” others to grant ecosystemic viability (Yoon et al., 2022), we can broaden the concept to include all those unbalanced relations that fit the biological definition – from platform owners sustaining complementors to other kinds of investors promoting partnerships to gain a competitive advantage or secondary income (de Vasconcelo Gomes et al., 2018; Yao & Zhou, 2016).

Turning to esports, commensal relationships are prevalent, as many stakeholders indirectly benefit the ecosystem. As a first example, we should remember that we categorised non-endemic sponsorships as parasitic, since they effectively impose a “cost” on sponsors that is rarely repaid. Then, we can arguably frame endemic sponsors as commensally related to the stakeholders they sponsor (from streamers to events): usually offering free hardware as a “token” for brand advertisement, they can subsequently cash in on the feedback learned from “expert users” on their top-

level products through a relatively small expense (Huettermann et al., 2023; Pizzo & Hedlund, 2024; Scholz, 2019).

Another prominent example in this sense is constituted by community engagement (Burroughs & Rama, 2015; Gandolfi, 2016; Randhawa, 2015; N. T. Taylor, 2016). As a matter of fact, esports plunks its roots into internet participatory culture (Jenkins, 2006) and express a peculiar community culture (Castronova, 2006; A. Shaw, 2010), which means that most of the esports activities are grounded in a solid grassroots approach (e.g., Cestino et al., 2023). This base of amateurs and fans actively participates in discussions about the ecosystem's future and constitutes a significant (and historical) actor in the field (Hölzle et al., 2022; D. Y. Jin, 2020; Scholz, 2019; T. L. Taylor, 2012). In fact, stakeholders like publishers and esports organisations put to good use the passionate work from fans and amateurs, sometimes without “harming” them through exploitation: this happens when the fan base is compensated through direct or indirect rewards, as happened to Counter-Strike creators Minh “Gooseman” Le and Jess “Cliffe” Cliffe – as Valve bought the intellectual property of their mod and even offered them a work inside the company. This seizure of community-made content has indeed remained a firm stance, as CS is currently one of the few competitive environments actively prompting its user base to produce fan-made content to be tried, voted on, and (potentially) definitively included in the game. It should be noted that such an approach is rising in GaaS titles, as games like Grand Theft Auto (GTA; Rockstar Games, 1997) and Fortnite introduced the Creative Mode, where you can build your own map and, eventually, share it with others (see also the heavily user-driven strategy employed by Roblox; cf. Schlegel & Kowert, 2024). A move that engages users (even more) and makes players try new playgrounds (and even love them); in turn, the publisher grants itself a continuous flow of new content, seizing co-creative practices to innovate and gain a competitive advantage (Berndt et al., 2023; El Afi & Ouiddad, 2021).

The esports active audience, thus, is often mobilised as part of either productive processes (i.e., playbour) or as the core asset to be targeted (see also next subchapter; Kriglstein et al., 2020; Warman, 2015), substantially contributing to many of the core activities inside the esports ecosystem, from play to organising (Boldi, 2022; Boldi et al., 2022; Boldi & Sanseverino, 2025). On this line, authors have framed esports as fundamentally characterised by innovation and the co-creation of value (Hölzle et al., 2022; Kunz et al., 2021; Roth et al., 2023), given the intense intertwining

that links together many stakeholders, not always with direct rewards. This also extends from the digital realm to the physical one, as evidenced by the gaming industry's innovation hubs (e.g., Montréal; Cohendet et al., 2021) and major event sites (e.g., Katowice or Jönköping; Hlee & Lee, 2023; McCauley et al., 2020). These cities have become international innovation hubs, attracting creatives and firms that go well beyond the gaming industry.

My observational data, however, revealed that a counterbalancing influence might also be at play: indeed, OP Gaming House significantly benefited from being located in Milan's Forlanini neighbourhood, just a few minutes from Rogoredo, the headquarters of Sky Italia. Ultimately, the media behemoth's impact on its urban surroundings made it possible for OP to significantly reduce commuting costs and the difficulties associated with finding adequate services for its entertainment products (Pencil, fieldnotes). Moreover, Pencil stated that Riot itself relied on Sky's satellite activities, including private studios and media professionals, to conduct its local operations (fieldnotes). Hence, being located only a few minutes from these studios and 10 minutes from the Linate International Airport, OP leveraged the urban-driven complementarities to gain a competitive advantage over competing esports orgs, located in cities like Treviso, Monopoli, or Rome.

In conclusion, this final example suggests that ecosystemic relationships may, in fact, serve as a tool for the esports network to bridge with other media ecosystems, thereby mitigating its structural deficiencies through inter-network collaborations and interdependencies (Gawer & Henderson, 2007; Möller et al., 2020; Shipilov & Gawer, 2020). Moreover, the coexistence of multiple types of symbiotic relationships among the same stakeholders underscores the dynamic nature of the esports ecosystem, and digital business networks more generally (Möller et al., 2020; Rong et al., 2018; Yao & Zhou, 2016). This, once again, highlights the necessity of maintaining an ecological perspective when approaching ecosystems in order to appreciate their fluid and vibrant characteristics (Fayoumi, 2016; Márton, 2022; Sell et al., 2023; Tsujimoto et al., 2018). A perspective that may also suggest an attention to different "planes" of action, since the relationships we have reviewed so far may, in fact, operate at different organisational levels, ranging from micro- (between individuals) to macro- (among ecosystems) ones. If this complexity significantly detaches digital business ecosystems from alternative organisational and market arrangements (Alaimo & Kallinikos, 2022; Kapoor, 2018; Márton, 2022), it is also true that such systemic

wisdom reflects on the actors themselves, specifically on their composition and roles, as we will see in the next, concluding empirical chapter.

Box 6. Kiseiju: A South Korean inquiline, or the unexpected commensal relationship between Qlash and Sickness

Concluding this empirical part on relationships, I will again draw on my ethnography of Italian gaming houses to provide a micro-level example of a commensal relation between two esports “organisms.” Specifically, I will introduce a subcategory of commensalism, called “inquilinism,” which describes the condition of some organisms living inside or with another species without harming it. More precisely, the OED defines an inquiline as: “an animal which lives in the nest or abode of another; a commensal or guest” (Oxford English Dictionary, 2024c).

Exactly “guest,” or more precisely “our Korean guest,” was the term with which I was introduced to Kim “Sickness” San-Ha (Fig. 48) during my first visit to Qlash House. Although I was there to observe mostly the team’s and org’s activities, I was curiously attracted by this lonely figure that wandered throughout the Qlash compound. Not very relatable, the first information I got about him was from Alessandro “Sirbone” Fazzi, Qlash’s esports manager and co-founder. After pointing him out, hidden inside one of the two soundproof streaming booths, Sirbone briefly narrated the coincidences that brought San-Ha to stay in Qlash for nearly an entire year.



Fig. 48. One of the few, if not the only, photographs of Kim “Sickness” San-Ha, possibly reflecting his reluctance for social contact, as I observed in Qlash House. Although not

specified, the picture should trace back to his last appearances in South Korea (2019-2020), as interim head coach for APK Prince (disbanded). (taken from Leaguepedia, 2025)

To start from the beginning, Sirbone told me that he was an old acquaintance whom he had met during his trips and exchanges with the South Korean LoL scene. At the time, he was looking for people who could teach him how to emulate their ecosystem, which meant creating a thriving local scene with institutional support and top-level competitors (both orgs and players). During his search, he came across the University of Esports (as I could not find evidence of such an institution elsewhere, it may refer to the Chunnam Techno University): there, he learned the basics of the game and, as he told me, gained many crucial lessons on how to build effective training regimes for players. However, he was shocked by the lack of a structured curriculum in Korea, nor could he find a handbook outlining the fundamental steps for forming a new LoL team. If this led him to draft one of his own, attracting the respect of many Korean LoL members (Sirbone, fieldnotes), it also pushed him to pursue knowledge transfer in a more drastic way, i.e., by bringing some Koreans to Italy.

This was the backstory behind San-Ha's relocation from Incheon to Cagliari, as he moved to join the first team coordinated by Sirbone (Team Forge) as head coach, despite being only 23yo. To speak the truth, he had already transitioned to this role when he met Sirbone in Korea, a year before, using the experience abroad to abandon "mouse and keyboard" and become a full-time coach. After doing a successful split with the team, he returned to Korea but maintained his relationship with Sirbone. Indeed, the bond between the two grew stronger over the years: as the Italian manager put it, "he says I am his second father" (Sirbone, fieldnotes), also due to the emotional support Fazzi provided during challenging moments.

Indeed, in the following years, Sickness returned to Italy to join Team Forge again for another entire split, while also exploring other local scenes. After a brief period in Japan, he was hired by NASR Turkey (affiliated with the Emirati powerhouse Nasr Esports), a team playing in the Turkish Championship League (TCL), which is equivalent to the Italian Serie A but has already transitioned to a fully professional status (with even Riot forcing orgs to have gaming houses for their players; Can, 2018). After some flimsy performances and internal frictions, Sickness decided to

leave the team before the end of the split. This, matched with his contract clauses impeding him from joining another EMEA team until the next season, forced him into an involuntary hiatus from the competitive scene.

It was at that moment that I met him, as Sirbone decided to host him for free until he could “recover” (Sirbone, fieldnotes) and find a new team to coach. Given the overall attention of Qlash to business profitability, I was struck by this paradoxical “charitable” action. Nonetheless, Sirbone extensively talked about San-Ha, stressing how he was the perfect example of the “social awkwardness” that afflicted many of the top-level esports professionals: as they were “thrown in” an industry at a very young age and without much guidance, in Sirbone’s opinion, many of them found themselves without the necessary social skills to make the most of their short-termed career, often ending up squeezed in their top-performance years (from 15 to 20yo) and then abandoned to their fate. Instead, Sirbone claimed to be sincerely interested in the future and well-being of these talented youngsters, and took his “no-profit” hosting of Sickness as a way to demonstrate such an attitude. Indeed, although Sirbone’s words may have sounded paternalistic, given his age and much steadier working position, most players in Qlash and other orgs confirmed to me that he showed special care for players, which made him a name in the ecosystem.

Still, Sickness seemed a strange guest inside the gaming house. Although relatable to players during social dinners and spare moments, he spent the rest of his time in his room (freely rented by Qlash) and the streaming booth, making use of Qlash’s spaces and equipment, as he was part of the organisation. Sirbone and GUGLi (the Valorant team coach) told me he was coaching individual players online, something that many (unhired) coaches do to supplement their income, and streaming for his global, but mostly Korean, community. If this clarified the weird work schedules I watched him doing, I discovered that Qlash did not ask him for a share of this income, as he had with Paolocannone. On the contrary, Sirbone and the other players explained to me that streaming and online presence were the sole tools they (and, by extension, Kim) had to “remain in the loop” and find the next contract.

Specifically, rhagee and SparkeR, two Valorant players, confirmed to me that going on hiatus from social media may result in a “professional death”: given the rapid emergence of new talent typical of esports and the influencer economy (M. R. Johnson et al., 2019), people who are not playing or streaming tend to be quickly

superseded by new faces. Their opinion was significant, as rhagee was a streamer-turned-pro and hence knew both worlds (and ultimately quit professional play to remain a streamer), whereas SparkeR had more than 15 years of experience in the FPS competitive scene. Notably, he informed me about the changing habits of esports, which have shifted from a grassroots community where word-of-mouth was crucial to a much more media-embedded activity, where social media presence is key.

Given the importance of media reputation, I asked Sirbone with curiosity why they did not include him (a Korean) in their activities, since he had already been present in the House. The manager said that he was indeed helping them in many forms, such as privately coaching Paolocannone, but that they ultimately wanted to keep their relationship at a friendship level, thus not forcing formal collaborations if not necessary, also because of legal clauses that may prevent them, or Sickness, from having total freedom on their future. An answer that, I admit, impressed me for the ethical stance, but also hinted at a possible transition of Qlash and San-Ha's relationship from a pure "inquilinism," where he took advantage of the company's sociomaterial structure almost unidirectionally, to a more mutualistic link, where Qlash leveraged his knowledge more explicitly to nurture its in-house talents.

During my observation in Qlash, nearly a month after meeting San-Ha for the first time, I corroborated my feelings, as he was coordinating the bootcamp of Paolocannone's team, later to be called The Gulls (Fig. 49). Although he was still informally coaching them, as Qlash could not officially sign him, he transitioned from a mere "tenant" to a more proactive position. Notwithstanding the triviality of the occurrence, he also signalled this shift by cooking a Korean dish (kimchi) for all the house members.



Fig. 49. A picture of the just-formed Paolocannone’s all-stars team, called The Gulls. From left: Silverio “Deidara” Masi, Alessandro “Fragola” Zappalà, Antonio “Sadaz” Scalese, and Riccardo “Creon” Santarelli. The photo was published as leaked, hype-generating news by Deugemo (2024), signalling the beloved content creator’s return to the competitive scene after his 3-year hiatus. (taken from Lombardo, 2024)

Even though Qlash and San-Ha’s relationship remained on a micro-level with respect to broader ecosystemic links, it is an interesting case of how such symbiotic connections may evolve over time, also prompting involved actors to mutate and reposition to achieve emerging objectives. Indeed, Paolocannone took advantage of the inquiline presence to actualise a career transition, returning to competition after a three-year hiatus (Lombardo, 2024). As both architecture and ties work in the direction of reinforcing the part-of-ness of the ecosystem, it should not be surprising that these actors and their actions appear as increasingly nested and influencing each other, being shaped by their belonging to the network itself.

To conclude, I should mention that Kim “Sickness” San-Ha effectively made the most out of his Italian “buen retiro,” as he managed to find a new contract as head coach of KaBuM!, a Brazilian team playing in CBLOL, just some days after our last meet (Redação, 2023). Albeit joining the team with another famous Korean player, Sung “Flawless” Yeon-jun (Fig. 50), they were both released only a month later, with many

local esports journalists pointing toward the relative immaturity of the Brazilian scene behind this abrupt rupture (Alexandre, 2023; Corrêa, 2023).



Fig. 50. A photo of Flawless wearing the jersey of the Brazilian team KaBuM! during an official match of the CBLOL. The player was coached by Sickness also during his last experience in South Korea (with APK Prince; 2019-2020), following him both in the entrance and departure from the Brazilian team. (taken from Alexandre, 2023)

6.3. Agents: Ecosystemic entities through the lens of ecological thinking

The final section of this empirical part will provide a brief yet in-depth examination of the components of the esports ecosystem. These can be seen as the individual “organisms” inhabiting the system, that is, the (a)biotic parts taking their place inside the given architecture, and being connected by the ties we described in Chapter 6.2. Notwithstanding an intrinsically socio-material approach (DeLanda, 2009; Latour, 2005), this thesis has so far refrained from a punctual examination of the esports phenomenon through this ontological and epistemological approach. This final section, however, will more clearly draw on ecological thinking (G. Bateson, 2000; Guattari, 1989) to emphasise how one of the core actors of the ecosystem, users, is in fact the result of a collective action, rather than a given individual entity. The focus on users follows the praise by notable game scholars, such as Scholz (2019), as well as the current debate in user production studies (Hyysalo et al., 2016), to take into account more fully the role that consumers assume in contemporary digital(ised) market scenarios (Ritzer & Jurgenson, 2010). Nonetheless, I contend that other actors of the

ecosystem, too, can be seen through a more ecological lens, abandoning a modernist take on their ontology and agency to embrace more “networked,” post-humanist postures (Braidotti, 2019; Latour, 2005; Wilde, 2023). Albeit I will mostly concentrate on users and audiences, I will also try to demonstrate the worthiness of this approach by showing how other stakeholders overlap with players and fans, being created through the dynamic shifts this stakeholder undergoes, ultimately giving life to the entire esports ecosystem.

6.3.1. From users to assetised audiences

Ecosystemic and ecological literatures have helped us orient ourselves through the esports ecosystem, providing important theoretical tools to assess the making and role of network architectures and ties. However, the standard view on the inhabiting agents of such systems is one of fixed, connected yet individualised actors (cf. Bogers et al., 2019; Jacobides et al., 2018). The ecological critique of Márton (2022), though, suggested that, mainly through the principle of part-of-ness, ecosystemic agents should be considered not only always *as part of* broader networks, but themselves *as made of* and through relational interactions. Such a stance derives from the ontological and epistemological framework guiding Márton’s standpoint (G. Bateson, 1979, 2000; DeLanda, 2009, 2016; Latour, 2005), but remains challenging to apply to an empirical appraisal of the esports ecosystem, such as the one exposed in this thesis. To comply with such a view, though, I decided to focus on a single actor in the ecosystem (i.e., users) to expand its networked ontology, and to see how a different perspective on this agent might affect the entire ecosystem.

When talking about users, literature is ripe with examples regarding their progressive entailment and put into production happening inside platformised and networked arrangements (Alaimo & Kallinikos, 2019; Borner et al., 2023; K. J. Boudreau & Jeppesen, 2015; Hyysalo et al., 2016; Pais & Stark, 2022; Poell et al., 2021). More specifically, the increasingly central role that users assume in contemporary capitalism, epitomised by their function within social media platforms (e.g., Alaimo & Kallinikos, 2017; van Dijck, 2006), makes their involvement increasingly crucial to organisational processes. Indeed, Hyysalo and colleagues (2016) have crafted the notion of “new production of users” to describe how more and more industries incorporate “user engagement” and other strategies as ways to enrol consumers in

production practices, stimulating their creativity and innovation to seize potential income through free, crowd labour (K. J. Boudreau & Jeppesen, 2015; Hesmondhalgh, 2010). Still, recent sociotechnical developments have granted the possibility of making them part of the service or product itself, as the “production” becomes a two-directional process that also shapes users’ identities and behaviours (Alaimo & Kallinikos, 2017, 2019; Bruni & Esposito, 2019b, 2019a; Hyysalo et al., 2016). This makes users, and, chiefly, their aggregated form (e.g., the “audience” or “community”), particularly central in industries that rely on user-generated content and engagement as their core business models (Borner et al., 2023; Hesmondhalgh, 2010; van Dijck, 2009). Not surprisingly, media platforms leverage the size of their user base and their engagement ratio as vital parameters to assess their health (e.g., Balzam & Yuran, 2022; Ikram et al., 2017; Kassa et al., 2018), also because of the subsequent commodification of users’ data (in turn an effect of datafication; van Dijck, 2014) and the possibility of achieving revenue from it (Arvidsson, 2016; Gillespie, 2010, 2018; Poell et al., 2021; Zuboff, 2019).

Borrowing a financial concept, we can describe this process of translation of an immaterial element – e.g., the average spectators’ count of a streaming channel – to a rent-bearing, capitalisable good, as a form of “assetisation.” This concept, rising in economic sociology and critical geography, can be defined as:

“The transformation of things into resources which generate income without a sale.” (Birch, 2015, p. 122)

Unlike commodification, which makes intangible things into exchangeable goods (Appadurai, 1986), assetisation illustrates the effect of contingent and future-oriented valuation practices, which make such a good the object of a “viable market” only after these enclosing, calculative practices (Chiapello, 2018). Actually, the most notable authors behind such a concept reconnect such capitalisation on expected values to classical definitions of “asset” as a fundamental power-exerting tool (Commons, 1924; Veblen, 1908a, 1908b), which allows owners to cash in on the enclosure of a distinct capitalizable resource (Birch & Muniesa, 2020). Notably, Birch and Ward (2022) follow the Veblenian scholarship in stating that an asset’s value, given its potential capitalisation, may be described as an expression of “the extent of the control over the community that the asset secures” (Gagnon, 2007, p. 596).

A description that particularly resonates with the assetisation of user base and audiences happening inside contemporary media industries, since these technologies are exceptionally able to craft “shared expectations [which] create demand for the asset” (Beckert, 2013, p. 229; see also Elder-Vass, 2022), further increasing their potential value. This illustrates how such a value is anchored within our collective belief systems, ultimately linking these “ambiguous objects” (as they operate on multiple orders; see Williamson, 1979) to a collectively constituted practice. Notwithstanding, such collective practices need the deployment of sociotechnically embedded, calculative practices (MacKenzie, 2008; Muniesa et al., 2017) to “detach” or “derive” their intangible rent-bearing value (i.e., a legal and computational materiality) from physical materiality (Chiapello & Engels, 2021).

Once again, these preconditions appear totally in line with the datafication and extractive practices put into action by media platforms in order to “materialise” their user base through “likes” or “spect counts” (cf. Alaimo & Kallinikos, 2017; Arvidsson, 2016), but also with the moves engaged by esports stakeholders to “render manifest” the audience sustaining their practices, to subsequently sell them as a valuable rent-bearing property (cf. Bernevega & Gekker, 2022). This way, such “mobile actors” – i.e., detached from the need of a materialised, local production – exploit the immobile, territorialised activities of users – i.e., playing, spectating, and so forth – to generate intangible assets – e.g., a streamer’s community – which can then be capitalised (Boltanski & Chiapello, 2005, p. 360).

6.3.2. The ecosystemic making of a collective stakeholder

As part(ially overlapping with) of the entertainment and media industries, esports is not itself estranged by these forms of value extraction (D. Y. Jin, 2020; Richelieu, 2021; Tammy Lin et al., 2019; T. L. Taylor, 2012, 2018). Notable works have explored how video games, and esports specifically, contribute to both the datafication of human behaviour (N. Taylor, 2020) and the instrumentation of such metrics for market purposes (Seif El-Nasr et al., 2013). If, during my field chats, I had the feeling of a risingly aware mass of users (albeit more limited to pro players and other esports workers), most studies so far have limited to the side of publishers (Bernevega & Gekker, 2022; Nieborg, 2014, 2015), thereby unveiling how technical solutions entailed by developers contribute to the perpetuation of a regime of surveillance and

exploitation of users: either as consumers (Dyer-Witthford & De Peuter, 2009; Nieborg, 2021; Woodcock, 2019), as a commodity (M. R. Johnson et al., 2019; Nieborg, 2016; Seif El-Nasr et al., 2013), or as an unpaid labour force (M. R. Johnson & Woodcock, 2021; N. Taylor et al., 2015; Yuan & Xie, 2024).

Conversely, users can be arguably put at the centre of the esports ecosystem (Fig. 51) also because of the role they assume inside the network of relations, which often frames them as the “audience” of its market activities (Carrillo Vera & Aguado Terrón, 2019; Carrillo Vera & Antón, 2024; Scholz, 2019, 2020).

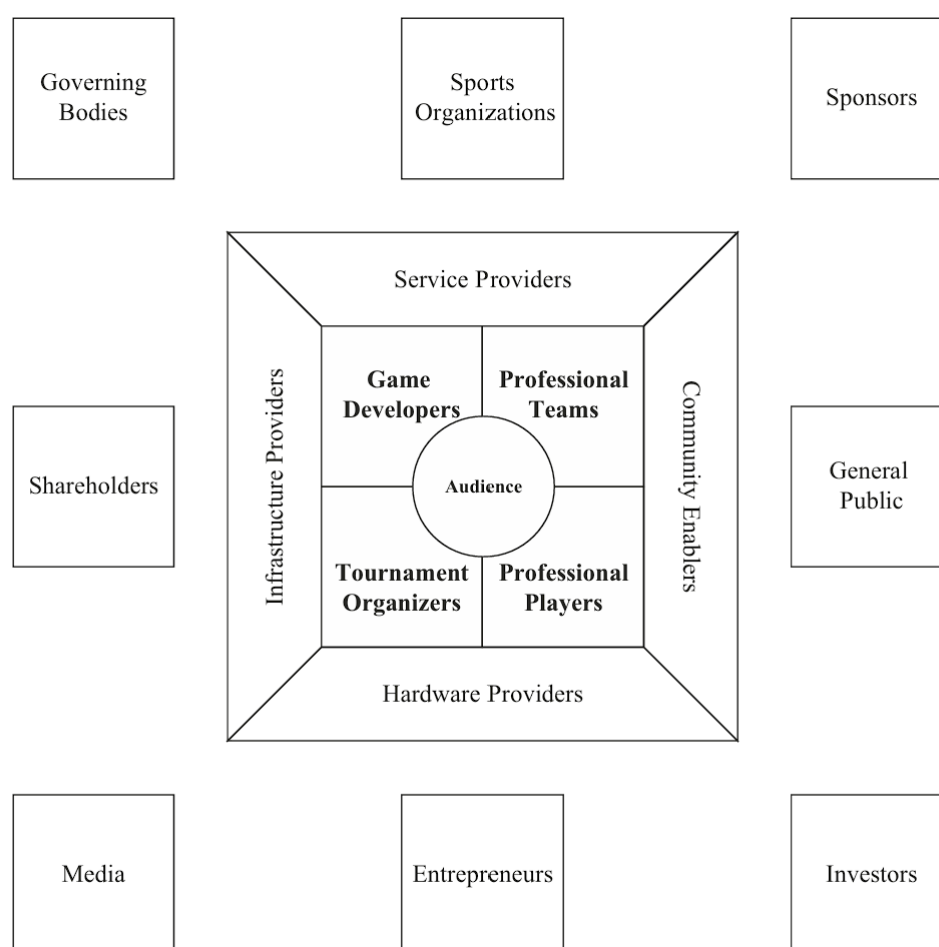


Fig. 51. Scholz’s model of the esports ecosystem (2019) concentrically organises primary and secondary around the audience, with the audience at the centre to underscore its importance across all ecosystemic activities (including monetisation strategies). (taken from Scholz, 2019)

Following Scholz (2019), then, we define esports users as sharing, on the one hand, a “self-professed passion” that makes them actively participate in the industry, and, on the other, as situated at the crossroads of most, if not all, the ecosystem’s monetisation

strategies (Carrillo Vera & Aguado Terrón, 2019; Scholz, 2020). If this exerts a significant extractive pressure on such a stakeholder, it also makes boundaries unravel, as users can easily transition between different roles within the network. In other words, an esports fan can find themselves rapidly enrolled inside an org of which they were the target audience (as happened to Pob and Leonardo “Rehnz” Renzetti in Qlash; fieldnotes), or simultaneously pursuing a career as a pro player while being involved in the operations of a local TO (as the story of Paolocannone demonstrated; see Box 4).

What I contend, thus, is that users’ integration inside the esports productive practices constitutes not only an expression of the inherent interdependency of ecosystemic actors (Scholz, 2019), but a more profound embedment of the relational nature that *creates* agents themselves (DeLanda, 2009; Márton, 2022). In philosophical terms, this means expressing an ontological primacy of the part-of-ness of agent subjectivities, which are thus generated on the fact of being, in the first stance, *in relation* to and with the other entities (DeLanda, 2016; Harries-Jones, 2002). In other words, the subjectivities of an ecosystem are predicated on their connections with other ecosystemic agents, as every entity in the ecosystem is merely a fictional (yet practical) individuality.

Henceforth, esports explicitly shows, through users, that singular entities are, in fact, networks themselves, as they are the result of momentary and transitional arrangements – which may, or may not, group entities coming from other stakeholders, queerly shape-shifting their identity to take on the role of another agency. In this view, esports ecosystemic entities are then emphatically individualised through their interaction with other so-formed entities. This way, the assetised audience becomes, as once, also part of the social practices that assetise itself, in a loop of self-capitalisation that fuels and substantiates the esports ecosystem (Nappert & Plante, 2023). Taking the form of other core stakeholders (such as orgs, TOs, or the industry’s free labourers), users enclose themselves within the category of audience and/or community, subsequently monetising this categorisation by transforming into a business-friendly, rent-bearing good (Birch & Muniesa, 2020).

If this might explain why the professional sector displays disenchanted awareness (if not open approval) about this strategic repositioning, it may also be the way in which the esports industrial stakeholders (audience-as-subject) get to deploy the sociotechnical affordances of valuation and calculation (Chiapello & Engels, 2021)

needed to secure control over a reified “financial product” (i.e., the audience-as-target). Not surprisingly, esports orgs rhetorically self-present as disposing of a fidelised “community” from which they can draw on (Calgaro & Cozzi, 2021; Lombardo, 2021b; Schiavella, 2021).

For example, both Qlash’s founder Luca Pagano and its crew (see p. 218) emphasised the importance of the “community” as the core business asset of the company and the entire esports industry (Qlash members, fieldnotes; see also Calgaro & Cozzi, 2021), echoing the literature’s praise for the pivotal role of the audience (Carrillo Vera & Antón, 2024; Scholz, 2019, 2020). Qlash and other ecosystemic actors, then, deploy this asset through intense engagement with stakeholders, which is necessary to turn passion for gaming into a valuable product and transform a leisure activity into something profitable. Specifically, Qlash do it through a double-sided move: a) it extracts value from the asset itself; and b) it attracts external investors through leveraging the asset (i.e., they monetise audience-as-asset). In a more straightforward description, the first operation means asking the esports audience to “pay” for their passion. This can be achieved through various means: tournament organisers set entrance fees for events and sell tickets to the public; esports organisations sell merchandise and other digital products (e.g., coaching lessons) to amateurs and fans; publishers earn revenue from the sale of copies of their games and through in-game purchases. However, this barely makes esports sustainable, as explicitly confirmed by Korax (Macko, fieldnotes) and Pencil (OP, fieldnotes). Indeed, it is the framing of the asset as valuable for external stakeholders that grants most of the income for core ecosystemic actors. This way, the audience is leveraged as a target for those seeking to promote their brand into specific sectors, as Rocket Mortgage did with 100Thieves (DBusiness Daily News, 2018). A move pointedly reinforced by depicting the totality of esports users (players, fans, spectators, etc.) as a “community” or “audience” that can be engaged with – something which is increasingly confirmed through “computing” sociotechnical tools like Twitch and the quantification processes it allows (Alaimo & Kallinikos, 2017; Boldi & Sanseverino, 2025; Burroughs & Rama, 2015). This significantly enhances the power of ecosystemic actors that are more directly linked to such an asset (i.e., esports organisations and tournament organisers), as they can act as intermediaries for both industrial stakeholders (e.g., Riot) and external ones (e.g., Motta).

At the same time, this process of assetisation also affects publishers: although they own the games upon which a competition is played, the shift toward a game-as-a-service (GaaS) model has made them ever more dependent upon the user base to deem a title viable (Bernevega & Gekker, 2022). While this means that, like platforms, they increasingly rely on users' datafication procedures (i.e., game metrics and analytics) to steer their productive strategies (Bernevega & Gekker, 2022; Seif El-Nasr et al., 2013), it also means they are more receptive to audiences' sentiments toward their products (see Box 6). In other words, while most competitive games are products *per se* – as displayed by titles like PUBG, EA FC, and Fall Guys, which do (or did) not rely on esports to maximise their revenues – the turn of these same games into proper esports disciplines (and their adoption as a form of sportainment) is almost entirely predicated on collaboration between developers, esports organisations, tournament organisers, and users (i.e., players and fans alike).

Indeed, it is a complex chemical match between these actors that forms the mixture promoting a title from casual play to (semi-)professional gaming (Carrillo Vera & Antón, 2024; Kunz et al., 2021; Scholz, 2019). For example, EA FC arose as a proper competitive title only after developers implemented an official system of non-casual online matchmaking and a fixed set of rules, something that tournament organisers (TOs) had been asking for years. The publisher, then, recognised the viability of their title by officially accepting the circumvention tactics that competitive players and TOs had employed to allow local unofficial competitions to occur, institutionalising the formal and informal regulations within the gaming community as part of a now-established esports scene. In other words, the efforts of amateurs, TOs, and fans who engaged in grassroots tournaments prompted the game's owners to step in, as they could not prevent the grassroots use of their game for competition anyway. Similarly to what happened with the unofficial mod named Counter-Strike and Valve, EA understood that its title was ready to transition into esports: this was made through a matching of user metrics' analyses, showing an increase in online gaming of their title, the surging media exposure given to unofficial competitive events, the interest displayed by some local sports institution to join the competitive landscape, and the rising critiques associated to the publishers loot boxes' strategy, which was then "fair-washed" by the creation of a well-regulated and institutionally-recognised set of national leagues. Hence, this led EA FC (then still known as FIFA) to partner with local football federations, such as Lega Serie A, to establish an official competitive scene.

Concluding this example, it is essential to note the fundamental role core stakeholders played not only at the inception of EA FC's new esports scene, fostering the emergence and awareness of a community to be established, but also after the institutionalisation step. Indeed, many esports orgs were ready to offer their rosters to partnerships (e.g., Qlash with Milan, Dsyre with Juventus) that boosted the transition towards a (semi-)professional scene (AC Milan, 2020; Juventus, 2022). This way, EA FC leaned on local esports orgs to reach out to interested audiences and further capitalise on them through the involvement of overlapping demographics, such as traditional football fans (Bertschy et al., 2020; Gawrysiak et al., 2020; Scholz et al., 2021).²²

Box 7. Geschichte eines Untergangs: The closure of the Italian Valorant League (VCL Rinascimento).

To illustrate how users are collectively (self-)assetised in order to assume their role as the focal product for the entire ecosystem, I will take the paradoxical route of displaying an example of the failure to achieve such a unity of purpose. Drawing evidence from the impact that a rupture of this kind of collaboration had on the Italian Valorant community, this Box will examine what led Riot to abandon the semi-professional Italian scene.

Even though the local tournament organiser PG Esports worked two years with Riot to create a national league, the first cracks between top teams and the publisher emerged since the first seasons of this Challenger League (VCL), ultimately making them leave even after dominating the scene and even accessing top-tier international events (Bortone, 2024; Lombardo, 2023). The organisations behind these teams, among which stood GMT (two-time winners of Italian VCL in the last 4 years) and Macko (through the management of Korax), were indeed accusing Riot of neglecting lower tiers by ignoring increasing roster costs and the difficulties of turning pro without a steady income (Giani, as cited in Lombardo, 2023).

An interesting point, here, was made by GMT's CEO, Leonardo Giani, who stated that Riot's declarations openly disrupted the possibility of transforming the Italian

²² Note that the history of EA FC's transition toward esports has been partially based on the information and historical accounts coming from my fieldwork, since Italy has been one of the most active Countries, competitively approaching this title since the opening of its multiplayer mode. Indeed, many notable streamers in the Peninsula were, and still are, tightly involved with it (ZanoXVII, Marzaa, ilMasseo, etc.).

(still) amateur scene into a professional one (Giani, as cited in Lombardo, 2023). For Giani, Riot's sole interest was toward Ascension, the international tournament offering a potential slot in the Valorant franchise league, as testified by the pages-long TPAs (i.e., third-party administration procedures that certified the business "health" of the org) they were asked when admitted to it (as winner of the Italian league). On the other hand, Riot's modifications to VCL (e.g., introduction of the third split), paired with a scarce to null investment in fostering a sustainable semi-pro level (confirmed by declarations of Leo Faria, head of Valorant Esports sector for Riot), brought many organisations to reflect on their involvement with the title.

Notably, Giani noted how the feeble revenue expectations prompted many other VCL leagues to turn to streaming and other community-engaging moves to gain sustainability (Giani, as cited in Lombardo, 2023); instead, Italy lingered on a more amateurish approach, as the lack of clear regulations from the publisher, alongside the scene's still relatively low appeal to external investors, made it hard to gather the resources needed to turn professional. More straightforwardly, Italian orgs still cannot afford to pay players full-time salaries, nor sustain their costs during non-split periods (off-season), leaving them without economic support for nearly half the year. For Giani, this means players are left with only one choice: to pursue a career in the Italian Valorant scene as a hobby or side job. Conversely, he pointed out that more thoughtful strategies involving the community to foster a bottom-up evolution of the competitive landscape proved sustainable for their organisation (Giani, as cited in Lombardo, 2023). This prompted them to abandon the Italian scene to increase their involvement as tournament organisers in the amateur league of Azerbaijan and Switzerland, where they could leverage engagement rates to attract sponsorships and, at the same time, be free of the restrictions imposed by Riot on semi-professional leagues (e.g., the requested TPA and entrance fees; Giani, as cited in Lombardo, 2023).

However, critiques of Riot's management of the Italian Valorant scene did not end with the abandonment of GMT and Macko, but continued through the high churn rate of involved orgs (which suggests a fragile ecosystem; Giani, as cited in Lombardo, 2023) and the final decision by Riot to close the Italian VCL (Ciocchetti, 2024). The decision to incorporate only one Italian team (with the possibility of extending to three due to the wildcard and open-qualifier positions available) into

the Spanish league certainly limited teams' ability to rely on community engagement to enhance brand value, indirectly impacting external revenue strategies, such as securing non-endemic sponsorships.

A cut that became even harsher when Riot announced that the league would not change its name (remaining VCL Spain) and would continue broadcasting in Spanish, thereby substantially leaving Italian fans without an appetising entertainment product (Ciocchetti, 2024). This prompted many other important teams to withdraw their investments, as their efforts to engage the Italian esports community were substantially made fruitless. Even though Riot seemed to ignore the effect of this move on its audience in Italy, it remains to be confirmed how this will affect, for example, streaming spectating rates from the Peninsula, a critical indicator for brand marketing strategies (Scholz, 2019).

While the example of the Valorant league was mentioned during interviews with all three managers (Korax, Pencil, and Sirbone), a more poignant reflection on why the community plays such a central role was prompted to me after I discovered that Macko had decided to abandon the LIT, the same-level LoL Italian League of VCL (Izzo, 2025). This not only raised concerns among the entire European scene about the future of the Italian LoL landscape (e.g., Charn "s3rius2k1," 2025), but also revealed the importance of core stakeholders' collaboration in transforming the audience into a valuable asset.

On the one hand, these examples also signal that this co-creative assetisation of users may, in fact, re-shuffle power relations within the ecosystem, as it underscores the still-informal nature of many of the interconnections that form the esports ecosystem. If the sector's instability fosters a continuous movement of resources among different stakeholders, with many players repeatedly changing organisations during their careers or even within the same year, it also reinforces the connection between stakeholders as co-participants and co-creators of the ecosystem itself. Not surprisingly, many of the observed persons tapped into these features of the esports ecosystem, particularly praising the role of gaming houses as loci of exchange of these kinds of interconnective relationships (Qlash, fieldnotes). Specifically, managers like Sirbone and Korax emphasised the ability of these spaces to accommodate different professionals (e.g., streamers, technical staff) in order to facilitate productive

practices, as well as the possibility of opening their doors to external actors and benefiting from such partnerships (from branded areas to joint events).

Similarly, observed physical events, such as the Milan Games Week, boosted the interconnection possibilities of esports actors (see Fig. 52). Indeed, not only did these events allow fans to meet their heroes and cheer their favourite teams, but they also significantly entailed amateur-level events and playable spaces, designed by the industry stakeholders among the possible “entry points” to the (semi-)professional scene, functioning as audition-like scenarios where trying to step from a side to the other of the stage. This made convention-like events function as spatialised loci of assetisation, actively bridging the gap between esports professionals and the audience through physical proximity and contact (something that, actually, historically characterises esports; T. L. Taylor, 2012).



Fig. 52. A screenshot depicting the concert by the rapper Nitro at the 2019 Milan Games Week. As can be seen, the rapper sang among the competitive PC stations, symbolically manifesting Machete Gaming’s belonging to the esports scene. Moreover, their entrance into the ecosystem was backed by Red Bull, a prominent stakeholder in the global esports landscape. This picture visually demonstrates the vested interest that many (non-endemic) stakeholders manifest toward community engagement, and how they are explicated through convention-like, physical events as MGW. (taken from Red Bull Team, 2019)

On the other hand, my fieldnotes also describe these events as places of inter-organisational exchange, as I observed numerous managers' meetings aimed at creating new business opportunities and strengthening existing collaborations within the industry. The sparkling atmosphere also involved me personally, as, while roaming between MGW exhibition stands, I was invited by a Lega Scolastica Esports (LSE) representative to participate in a social project aimed at empowering people with disabilities through esports. At the same time, physical proximity was used to reinforce (and signal) collaborative relationships, as the event organisers often placed collaborating firms in neighbouring stands. This was the case of Machete Gaming – an org comprising a mixture of well-known Italian rappers and a rising set of gaming streamers – in proximity to Qlash Stage, as the Treviso-based org already had collaborations with Machete and some streamers involved in their more pop-oriented org (fieldnotes).

7. Conclusions: Re-wiring metaphors to counter the naturalisation of exploitative models

Approaching the closure of this (loopholed) journey, I wish to retrace the road that brought us here, summarising and reflecting on both the theoretical and empirical material revised so far. In the following lines, I will provide a recap of the thesis's content, from the steps that led us to espouse a “truly” ecological stance in ecosystem conceptualising to its application to the empirical case of esports. Finally, I will leave the door open to a final, unconventional chapter that suggests how this ecological posture may, in fact, represent an innovative framework for organising, pointing to future directions that make use of similar starting points to expand the impact of ecological thinking across the entire human society.

7.1. Wrap-up: Setting the stage

This work was incited by a fundamental question regarding the nature and functioning of the ecosystem metaphor as applied to digital business scenarios. Indeed, the literature on the theme seemed to widely adopt such a term to describe networked organisational arrangements, but still lacked a thorough analysis of the concept that could draw together the different sources from which it derives.

Hence, first of all, it was necessary to understand why scholars employ metaphors as heuristic and explanatory tools in their theorising. The works by Black (1993, 1955) and Kuhn (1993) helped us appreciate how metaphors constitute a fundamental tool in scientific reasoning, capable of sparking new ideas and reintroducing theoretical innovation within well-established conceptual frameworks. If contemporary philosophers expanded such generative features to understand metaphor as one of the fundamental modes of human thought (Ortony, 1993), I could rely on such an epistemological step to underscore the importance of assessing the use of the ecosystem metaphor in scholarly literature. As a matter of fact, to harness metaphors' generativity, one must indeed be able to distinguish their uses (e.g., as a heuristic versus an additive proposition) and grasp the underlying message hidden behind the metaphorical juxtaposition (Eco, 1986). Yet, as highlighted by Cristofari (2024), unpacking metaphors is a vital effort to seize their explanatory and innovative potential, which also helps us critically recognise when they are functioning “by lying” (Gillespie, 2010, 2017).

The historical tracing of the ecosystem metaphor, then, revealed that such a term did not inherently bear “truth,” but was the result of intricate and even contrasting perspectives (Golley, 1984, 1996). The term’s troublesome background, indeed, exposed how the ecosystem’s semiotic networks evolved through the use of the metaphor itself, partially explaining the heterogeneous application of the concept in contemporary usage (Cristofari, 2024; Krivý, 2023). The first thorough definition of the concept corresponded to the appliance of the term within biological studies (E. P. Odum, 1953), prompting not only the birth of modern ecosystem studies but also the entrance of calculative and quantifying paradigms into ecological research (Golley, 1984, 1996). On the one hand, these significantly enhanced the understanding of natural environments, which could draw on mathematical reasoning and causal relations to disentangle the functioning of biotic and abiotic elements inside a given milieu (Golley, 1996; Hutchinson, 1948). Works on networks, present in the rising field of cybernetics (Wiener, 1948), ultimately inspired such a reliance on quantification, which strengthened the technocratic optimism on the positive outcomes coming from looking at the world through circuitry, noise, and feedback mechanisms (McNaughton & Coughenour, 1981; Patten & Odum, 1981; P. J. Taylor & Blum, 1991).

Here, we can spot a first, seminal attempt to employ the ecosystem as a metaphor to naturalise capitalism (Z. Ç. Alexander, 2014; Haraway, 1976; Wyatt, 2004), even though one operating not *ex post*, but *a priori*. In fact, the quantification of ecosystemic interactions is not simply a way of “justifying” monetary or financial exchanges about environmental services; on the contrary, such a posture (ontologically) poses “capital” as the core energy guiding ecosystemic processes themselves, thus making it the universal organising force of the Planet (H. T. Odum, 1971; Patten & Odum, 1981). This was reflected by a rapid adoption of ecosystemic thinking by (environmental) policymakers, which leveraged such a shared semiotic field to align ecosystemic analysis to neoliberal strategies of natural domination for human, exploitative purposes (Dempsey, 2016; Nelson, 2015).

On the other hand, typically natural features, such as self-organisation and adaptability, expressed a backwards influence on technological studies, from which ecosystemic thinking first blossomed. This way, cybernetics and information sciences came to encompass notions about holism, loose coupling, and flexibility (of roles and structure) through the reincorporation of the ecosystem as a conceptual, biology-inspired metaphor (Bogers et al., 2019).

Thus, the field employed “ecosystem” as a buzzword to describe self-organising (and even self-generating) technical environments (Boley & Chang, 2007; K. Kelly, 1994; Whelan, 2010). Not surprisingly, this “fuzzy” understanding of digital networks matched with a philosophical reworking of ecology (DeLanda, 2009; Guattari, 1989; Haraway, 2013) to push forward a new, liberating perspective on (reticular and fluid) organising, and society at large (Castells, 1996; Harries-Jones, 2019; van den Eede, 2019).

7.2. Wrap-up: A metaphor to rule them all

The take-up of the ecosystem concept by business and organisation studies has resurfaced the naturalising tendencies shown in the early phases. Indeed, the application of ecosystemic thinking to emerging digital scenarios, where interorganisational interdependencies matched with fluid network arrangements, resulted in a two-fold outcome: on the one hand, it imbued management studies with notions about flexibility, demand-driven self-organisation, mutual dependency, and so forth (Jacobides et al., 2018; Kapoor, 2018); on the other hand, the utilisation of the term has been widely adherent with neo-naturalistic views of market functioning, justifying exploitative or obscure governance structures through natural metaphors (e.g., “fitting of the best”; Iansiti & Levien, 2004b; Moore, 1993).

The implicit naturalisation of existing capitalist forms, then, was achieved through the incorporation of the ecosystem metaphor by a rising strand of business literature, known as platform studies. This scholarship employed the notion of ecosystem to describe the platformised environments, where firms dynamically revolve around the central product (the platform) to symbiotically enhance their mutual revenue possibilities (see Appendix II; Kapoor, 2018; Thomas et al., 2024; Tiwana, 2013). If such a description does not imply, *per se*, exploitative capitalistic practices, it does indeed include them once we acknowledge the overpowered position assumed by platform owners, which, in fact, dominate the market they create through opaque governance procedures and sociotechnical enforcement (Gillespie, 2017, 2018; Gorwa, 2019; Poell et al., 2019, 2021).

Thus, and once again, the conceptual ambiguity of the term allowed for a strategic implementation of its wider semantic field about interdependence and dynamicity, becoming a byword to describe how keystone species work inside platform

ecosystems, linking themselves to complementors and other peripheral actors (Nieborg, 2021; Pais & Stark, 2022; Srnicek, 2017).

However, a closer look reveals how this scholarship “betrayed” the ecosystemic metaphor, as it consciously downplayed its organic decentralisation to describe, instead, environments with clear-cut, albeit not traditional, hierarchical arrangements (Gillespie, 2018; Zhang et al., 2022). This brought authors like Krivý (2023) and Cristofari (2024) to openly speak about an explicit naturalising resolution behind the comparison between natural and digital ecosystems, further reinforced by the detachment of such “digital ecosystems” from the actual functioning of their biological counterparts. Hence, restricting digital (business) ecosystems to platforms may not only result in an impoverishing move, that leaves out interesting, more decentralised occurrences of digital ecosystems which do not organise themselves strictly around a single, focal product; on the contrary, it also represent a theoretical fallacy, since it forces the ecosystem metaphor to a rigid, mostly centralised organisational scenario, which was precisely the target against which ecosystemic modelling was adopted in the first stance.

7.3. Gaming the (eco)system: An ecological understanding of the ecosystem concept through empirical data

The photograph coming from the literature review leaves two crucial points dramatically open:

- 1) What exactly do we mean when we apply the concept of ecosystem to digital business scenarios?
- 2) How can we draw from ecological thinking to recover the decentralising, liberating features that nature imbued in the notion?

My work attempted to address the first question about ecosystem ambiguity by providing a well-reasoned clarification of the concept’s evolution, from its inception to more contemporary applications. To recover the original conceptions related to the term and make them coherent with more contemporary perspectives on the matter, I opted for an expansion of the ecological critique stemming from the work of Attila Márton (2022, 2023; Mikołajewska-Zajac et al., 2022).

Indeed, the widespread diffusion of the metaphor heightened the ambiguity surrounding its essential meaning, thereby reducing its explanatory potential (Márton,

2022). The platform conflation, for example, nearly led ecosystem modelling to lose all the reflections associated with its original antimonopoly perspective, as well as its inherent inclusion of sustainability and resilience as two core tenets to be considered (see Appendix II; Krivý, 2023; Márton, 2023). To speak the truth, adopting a truly ecological stance allows for the inclusion of both perspectives, as it still treats more rigid kinds of ecosystems as deviant, schismogenetic occurrences of “proper,” more balanced and sustainable networks. Consequently, in stiffer platform scenarios, equilibration mechanisms, such as interoperability and distributedness, are transformed into platform-adherent “developers’ packages,” centrally supervised APIs, and other sociotechnical tools crafted by platform capitalism to retain control over its ecological niche (e.g., Nieborg, 2021).

Due to this ecological posture, a wider stance emerged, able to account for more rigid and hierarchical views of the ecosystem metaphor, not as incorrect applications but as problematic and unsustainable ecosystemic forms. Hence, the stronger reference to ecological thinking (e.g., G. Bateson, 2000) permitted the inclusion of less “ecological” ecosystems, such as platform ones, without diminishing the explanatory force of the concept. On the contrary, the comparison between such usages and the original, more liberating, understanding of the ecosystem concept, allowed for the sharpening of theoretical tools applicable to the study of such systems, hopefully bringing novel insights in the future (as advocated by Márton, 2022).

This way, the definition of ecosystems draws from earlier definitions (e.g., Boley & Chang, 2007) and more contemporary takes (Kapoor, 2018), to enlarge Márton’s description: “organized, unbounded complexes of heterogeneous relationships of processes” (2022, p. 251). More specifically, I operationalised such highly theoretical sketch to define ecosystems as:

Open and organised networks of loosely coupled, demand-driven, proactive agents that can arrange themselves into various hierarchical structures and exhibit tendencies toward self-organisation and collaboration²³ around one or more focal elements.

Hence, the subsequent analysis of the esports ecosystem involved identifying the specific elements characterising the gaming network, operationalised through an

²³ Here, broadly intended as any form of joint behaviour by agents, be it positively (i.e., cooperation), negatively (i.e., competition), or neutrally connoted (e.g, proximity).

analysis of its architecture, ties, and agents. Drawing on secondary data and direct observation, I effectively demonstrated my ecological definition of an ecosystem, which introduced the possibility of reflecting on the network's adaptive properties, such as self-organisation, collaboration, and agency. A stricter interpretation of the concept as a network of "interdependent firms" would have necessarily excluded such reflections, failing to account, for example, for the "symbiotic relationships" that underlie esports actors' dependency (Basole & Rouse, 2008).

Still, the application to the esports ecosystem has proven particularly significant, given the peculiarities that characterise this network. First, the re-reading of esports' ecosystem architecture through the lens of tridimensionality and layering has permitted us to accept, without an analytical short circuit, the paradoxical coexistence of vertical relations – such as those typical of capital-driven sports management (e.g., franchise binding and fragile contractualization; Numerato & Baglioni, 2012; Svensson & Pargman, 2024) – with more horizontal, grassroots flavoured collaboration – significantly distancing esports from single-product, platform(ised) environments as well as linear interfirm collaborations (Carrillo Vera & Aguado Terrón, 2019). A multiplication of relationships that not only enabled the comparison of different local arrangements, but also prompted the need for a more thorough examination of the nature of such links. Indeed, the use of biological descriptors (e.g., Yoon et al., 2022) enabled this research to identify the asymmetrical hierarchic and heterarchic organisations that arise among ecosystemic agents, as well as the fluid repositioning to which these are subject. At the same time, the shift on relationality underscored that it is not (always) individual profit which guides ecosystemic interactions, as previously stated by business scholars (e.g., Iansiti & Levien, 2004b; Moore, 1993), but more complex tensions based on interdependence and (perceived) co-destiny (Scholz, 2019; T. L. Taylor, 2012). The result is that such links often foster innovation and knowledge sharing, underscoring the inherently participatory nature of the esports environment. Here, the concept of assetisation helped us understand the collective making of agents' personae, especially in networks where users play a core position, from production to revenue generation. In line with the theoretical axiom of part-of-ness, then, every actor must be read in light of the relationships it entertains, as "nothing is isolated but only exists as part of its unbounded environment of dynamic relationships" (Márton, 2022, p. 260). An ecosystemic view that appears much pregnant as we apply it to platform scenarios, where complementors are not only

nudged to produce a compliant product for the focal platform (Agarwal & Kapoor, 2023), but users themselves are often given “developer packages” to crowdsource innovation (K. J. Boudreau & Jeppesen, 2015; J. West & Sims, 2018).

Still, such a move appears twofold, as it both creates new complementors and constrains them inside the given technical affordances, thereby “assetising” them for the sake of the platform’s quantitative parameters (K. Boudreau, 2010; Tiwana, 2013, 2015). Hence, following Márton’s (2022) praise for a more ecological view on ecosystems means not only acknowledging the ontological primacy of relations, but keeping an eye out for possible “runaway dynamics” that may arise from (even innocent) ecosystemic actions. In the esports and platform case, this means considering how single agents might be the product of strategic practices operated by other stakeholders: if this ultimately aims toward sustainability, we should not overlook the potentially extractive purposes that lie beneath assetisation, especially as it turns into capitalisation and achieves mis-distributed revenues at the expense of the least powerful actors (e.g., users). Indeed, esports represent a dramatic example of how a power-giving dynamics (putting users at the centre of the ecosystem) might rapidly shift into a strategy perpetuating imbalance and exploitation, as free and low-paid labour exerted by players and avid esports fans becomes commodified for the sake of the few (M. R. Johnson & Woodcock, 2021).

7.4. Exit: Assessing the impact on organisation and IS literatures

This final section assesses the implications of the ecological framework developed in this thesis for organisation and IS literatures. Rather than positioning esports as an exceptional or idiosyncratic case, the aim here is to articulate how the analytical devices, refined through this empirical terrain, contribute to broader debates on digital organisation, platforms, and ecosystems (e.g., Alaimo & Kallinikos, 2022; Comunello & Mulargia, 2023). In doing so, this section foregrounds three interrelated dimensions that emerged from the empirical analysis of gaming houses: ecosystemic tridimensionality and layering, ecological relationality, and processes of assetisation understood through assemblage theory. Together, these dimensions provide a conceptual toolkit for rethinking how digital ecosystems are studied, moving beyond flattened representations of networks and towards a more materially grounded, relational, and politically attentive understanding of organisation in digital contexts.

A first contribution concerns the critique to the “flatness” that has characterised much of the ecosystem literature so far (e.g., Adner, 2017). Despite frequent acknowledgements of complexity and interdependence, ecosystems are often analytically rendered as two-dimensional configurations in which actors are positioned on a horizontal plane of complementarity and exchange (Agarwal & Kapoor, 2023; Gillespie, 2010, 2017; Senyo et al., 2019). The empirical analysis of gaming houses matched recent research on platforms to challenge this tendency, demonstrating how digital ecosystems can be structured through layered, three-dimensional arrangements that combine vertical and horizontal relations (cf. Thomas et al., 2024). By examining gaming houses as architectural anchorings, this thesis showed that organisational power, dependency, and coordination can be distributed across multiple spatial and infrastructural layers. Hence, governance, labour, and technological infrastructures do not simply coexist; they stack, overlap, and condition one another. This tridimensional perspective allows organisation studies to move beyond metaphorical invocations of “ecosystemic structuring” and towards an empirically grounded understanding of how organisational arrangements are materially stabilised. For IS research, instead, this contribution resonates with recent calls to re-centre infrastructure and materiality in the study of digital platforms and ecosystems (Márton, 2022). Rather than treating systems’ infrastructure as a background condition, the notion of ecosystemic layering foregrounds how architectural elements actively organise relations, delimit agency, and produce asymmetries. In this sense, tridimensionality becomes a way to analytically reconnect digital architectures with organisational hierarchies, governance mechanisms, and embodied practices that abstract ecosystem models often obscure.

A second contribution lies in the re-specification of relationality, more closely tied to precise ecological differentiation than to generic “interdependence.” Indeed, ecosystem research, both in organisation and IS studies, has only recently moved toward more accurate definitions of actors’ relationships (e.g., Yoon et al., 2022), having long been satisfied with concepts such as interdependence, complementarity, and co-creation (e.g., Agarwal & Kapoor, 2023). However, such notions often remained underspecified, collapsing qualitatively distinct relationships into a generic vocabulary of collaboration or competition, only lightly ameliorated by theoretical introductions, such as “coopetition” (Brandenburger & Nalebuff, 1996; Mathias et al., 2018). By mobilising ecological categories such as mutualism, commensalism, and parasitism,

this thesis advanced a more differentiated and analytically precise account of ecosystemic relations. Applied to the esports ecosystem, this ecological relational lens revealed how different actors inhabit (even simultaneously) structurally distinct positions, experiencing the same ecosystem through uneven dependencies, benefits, and vulnerabilities. Importantly, these relational forms are not static labels but dynamic patterns that can shift over time as infrastructures, governance arrangements, or market conditions change. This approach reinforces research patterns that move organisation studies beyond normative assumptions about cooperation and structure, aiming towards a more conflict-aware and power-sensitive analysis of organisational fields (e.g., Alaimo & Kallinikos, 2022; Burrell & Morgan, 2019). On the other hand, IS research can benefit from the ecosystemic rethinking of network and platform relations, without defaulting to more static, linear systemic representations. Indeed, ecological relationality foregrounds how technical affordances, data flows, and infrastructural dependencies shape (asymmetric) relational modalities that cannot be fully captured through extant models (Sell et al., 2023).

The third and last contribution concerns the conceptualisation of ecosystemic agents. In fact, much of the ecosystem literature treats actors as relatively stable entities, whether firms, users, or platforms (e.g., Senyo et al., 2019; Tiwana, 2013; van der Vlist, 2022). The empirical analysis presented in this thesis challenged this assumption by showing how agents are better understood as assemblages of human, technical, organisational, and informational components that are continuously reconfigured. Through the lens of assetisation (Birch & Muniesa, 2020), the thesis demonstrated how users (and organisational participants, too) are progressively transformed into assets within the ecosystem, not merely through commodification, but through processes of measurement, standardisation, and infrastructural integration (cf. Boldi & Sanseverino, 2025; Rapp & Boldi, 2026). Gaming houses exemplified this dynamic by functioning as sites where bodies, technologies, data, and organisational routines are assembled into performance-oriented configurations. A perspective that also echoed observations about how technologies (read, digital ecosystems) actively produce and stabilise specific forms of agency (Alaimo & Kallinikos, 2017, 2019; van Dijck, 2009; van Dijck et al., 2018). Consequently, this implies a shift away from actor-centric models towards an understanding of organisation as the ongoing alignment of heterogeneous elements, in line with more recent takes about organising (Alaimo & Kallinikos, 2022; Cooren, 2020; de Vaujany et al., 2021). Technologically speaking, it

instead suggests reframing users and technologies not as separate categories, but as co-constituted within (assetising) infrastructures that blur the boundaries between participation, labour, and value extraction.

Taken together, these three dimensions reposition ecosystems not as ready-made explanatory frameworks, but as analytical problems that require careful empirical and theoretical work. The ecological critique developed in this thesis challenges the tendency, in both organisation and IS literature, to adopt ecosystem metaphors as descriptive conveniences, instead insisting on their political, infrastructural, and relational consequences (Cristofari, 2024; Krivý, 2023; Márton, 2022). By grounding ecosystem analysis in tridimensionality, ecological relationality, and assemblage-based assetisation, this thesis contributes to a growing body of critical work that seeks to re-politicise digital organisation (Alaimo & Kallinikos, 2021; Kallinikos, Aaltonen, et al., 2013; Pais & Stark, 2022; van Dijck et al., 2018). This work demonstrated that an ecologically informed usage, rather than an abandonment of the ecosystem metaphor, might in fact restore its analytical sharpness, preventing its capture within naturalising or technoutopian narratives. While significantly impacting esports, thus, this thesis expands toward broader digital domains, offering a way to study digital ecosystems as contested, layered, and materially grounded environments, where organisation emerges through patterned relations rather than abstract coordination.

8. End credits: An ecological coda on metaphors, power, and institutional responsibilities

The last empirical evidence has shown that esports, alongside other digital business ecosystems, are not exempt from inconsistencies and dissonance (e.g., gamers' exploitation), as they are traversed by unrecognised dynamics (as the field still lacks ecological lenses to understand them) that might trigger runaway dynamics and systemic collapse (Ens & Márton, 2024; Márton, 2022; Mikołajewska-Zajac et al., 2022). For this reason, I want to conclude this thesis in a less conventional sense. Instead of pointing generically to possible directions, I want to reopen the analytical frame to address a problem that emerges *because* this work is coming to its end. Specifically, I want to address the risk that its core concepts, once stabilised in academic form, may themselves be absorbed into the very ecosystemic, naturalising imaginaries they were meant to critique.

As shown throughout this dissertation, metaphors do not merely describe reality but actively participate in its construction, delimiting what can be seen, said, and governed (Black, 1955; Eco, 2007; Kuhn, 1993). The ecosystem metaphor, in particular, exhibited a strong capacity for semantic capture, allowing critical vocabularies to be reappropriated within managerial, technocratic, or policy-oriented discourses (Cristofari, 2024; Krivý, 2023; Márton, 2022). Indeed, more or less explicit (and conscious) uses of the ecosystem concept have been employed to naturalise extant forms of capitalism (Z. Ç. Alexander, 2014; Wyatt, 2004), obscuring artificiality to legitimise current power relations. In fact, we should agree with Krivý (2023) as he notes that:

“the digital ecosystem is clearly not a product of natural evolution but a plan of action shaped by uneven capitalist development.” (Krivý, 2023, p. 7)

This does not mean that, in an anachronistically Romantic posture, we refuse to acknowledge artificiality in nature, or even that we justify natural evolution as the purest form of progress (Haraway, 2013). At the same time, we should not indulge in a passive reappropriation of “bucolic” (read, nature-coming) depictions without critically examining how they are streamlined, altered, and redeployed to serve political stances (Krivý, 2023). Neither should ecosystemic thinking function as a technoutopian or ecomodernist belief in capitalist technological solutionism (Krivý, 2023; McLean, 2020).

On the contrary, the ecologically informed reframing given in this work should bring into focus the qualitative difference that digital networks bring to our societies (Floridi, 2014, 2015; van Dijck, 2006; van Dijck et al., 2018), such as their ability to “*inform*” processes (Zuboff, 1988) and organise them into data- or information-driven routines (Alaimo & Kallinikos, 2022; Kallinikos, Hasselbladh, et al., 2013). For this reason, this last chapter adopts a reflexive stance consistent with STS-informed organisation studies, which have long emphasised the performativity of concepts and analytical frameworks (Bowker & Star, 2000; Latour, 1987; Law, 2004). This way, these lines will not invalidate the ecosystem framework developed so far, but instead situate it explicitly within the politics of knowledge production surrounding digital systems, trying to (ecologically) gain back the reins of our future (Guattari, 1992; R. Shaw, 2015; van den Eede, 2019). In doing so, this chapter asks a final, uncomfortable question: what does it mean to *use* the ecosystem metaphor critically in a scholarly environment that increasingly depends on the same metaphor to legitimate extractive, precarious, and platformised arrangements?

8.1. Defusing critique: Esports as a diagnostic case for digital capitalism

A recurring tension encountered in this research concerns the infrastructural role of critique itself. As organisation and platform scholars have noted, critical concepts often travel rapidly from analytical tools to operational vocabularies, becoming embedded in governance practices and strategic discourse (Boltanski & Chiapello, 2005; Gillespie, 2018; Muniesa, 2014).

The ecosystem metaphor exemplifies this process, operating simultaneously as an analytical tool and as an infrastructural imaginary. Initially mobilised to account for complexity, interdependence, and non-linearity, it has ceased to “merely describe” (digital) systems and is increasingly being deployed as a normalising strategy (Cristofari, 2024; Krivý, 2023). By shaping how these networks were designed, governed, and justified, it nurtured instability, precarity, and asymmetric dependency as unavoidable ecological conditions (Ampuja & Koivisto, 2014; Krivý, 2023; Srnicek, 2017). In this context, critique risks being rendered compatible with the very systems it seeks to interrogate, which echoes earlier warnings in organisation studies and STS, where notions such as resilience, adaptability, and flexibility were shown to function as techniques of governance rather than neutral descriptors (Chandler, 1962;

Pedersen & Lewis, 2012; Zundel et al., 2013). When detached from their ecological and historical grounding, such concepts can legitimise exploitation and other existing conditions (e.g., gig economy) as a “natural” feature of systemic functioning. Within such a framing, precarity appears not as a political condition but as an ecological feature, an inevitable by-product of adaptation and competition. The danger, then, is not simply that ecosystems naturalise exploitation, but that ecological language itself becomes a means of rendering critique compatible with managerial or technocratic agendas (as the one expressed by Fiorina, 2000).

Reconsidered through this lens, esports appears less as an exceptional case (within digital cultural industries) and more as a diagnostic environment for contemporary digital capitalism (M. R. Johnson & Woodcock, 2021; Scholz, 2019; T. L. Taylor, 2018). In fact, esports’ skyrocketing cultural legitimacy and overt youth orientation confirmed its function as a testing ground for broader ecosystemic logics, as it heavily emphasised visibility, accelerated professionalisation, and asymmetrical interdependence (e.g., platform dependency). A vision I confirmed through my empirical examination, which, while representing a significant advancement in the esports literature – both for its global scope and its focus on a still-overseen local environment (i.e., Italy) –, has also reinforced the employment of biological metaphor to unpack the industry’s configuration (and inherent exploitative practices). Without forgetting that this represents one of the few, if not the only, studies tackling the Italian esports scene from its structural dimension, it also represented a discovery of how much the “born digital” (Scholz, 2019) industry of esports (still) relies on spatial, affective, and local(ised) infrastructural arrangements (N. Taylor, 2022; T. L. Taylor, 2009b). Although this material substrate remains systematically undervalued (e.g., Benn, 2025), gaming houses indeed constitute key infrastructural sites where ecosystemic tensions are rendered manifest. By spatially anchoring what Star and Ruhleder (1996) described as the “invisible work” of infrastructure, these performance tools absorb uncertainty, redistributing risk “downward” – i.e., toward players (interiorities) – and blur the boundaries between care and control.

On the other hand, gaming houses also exemplify what Dale and Burrell (2008) conceptualise as the affective and disciplinary role of space in organisational life, as they coagulate organisational identity while stabilising competitive performance as a (deployable) asset (Birch & Muniesa, 2020). In this sense, esports does not merely illustrate ecosystemic organising; it accelerates and amplifies its dynamics by “techno-

economically governing” (Birch, 2024) actors’ behaviours, thoughts, and even intimacies (Foucault, 1977; Gregg, 2011; Ruberg & Lark, 2021). The compression of labour, leisure, identity, and visibility within gaming houses makes visible processes that operate more diffusely elsewhere, mirroring trends in digital industries and platform-mediated work (Gill & Pratt, 2008; Hesmondhalgh & Baker, 2013; Woodcock & Graham, 2020), and making esports a particularly revealing empirical site.

For example, the last empirical chapter included substantial references to strategies for community engagement and user integration implemented by esports orgs and other stakeholders (e.g., Berndt et al., 2023; El Afi & Ouiddad, 2021; Hamilton et al., 2014). To a deeper consideration, these strategies may be framed both as contributing to assetising processes by esports stakeholders (thus serving mainly exploitative purposes), but also as ways to reclaim power from game publishers, underscoring the contingency of relying on organisational actors and players to constitute the esports ecosystem (Carrillo Vera & Aguado Terrón, 2019; Carrillo Vera & Antón, 2024; Hölzle et al., 2022; Kunz et al., 2021; Scholz, 2019, 2020). Although this may seem to conflict with our considerations on assetisation, drawing on the ecologically informed work by Callon and colleagues (2025b, 2025a) helps us understand how these strategies might lead to an ecological re-equilibration of the ecosystem concept, thereby supporting its future viability (Márton, 2022). These authors, indeed, proposed a comprehensive view of assetisation as both a power-exerting and power-freeing process. This was achieved by shifting from a view of assets as fixed and passive (i.e., property rights) to recognising their agency in enacting and evolving arrangements of living and non-living systems, which they define as “assets-actifs” (Callon et al., 2025a). These active, value-generating entities are subjected to economisation, that is, being labelled and organised “as economic” (Çalışkan & Callon, 2010; see also “financialisation” by Chiapello, 2018). Still, they remain in need of being “ecologised,” that is, cared for through maintenance practices that respect their distributed agency and relational dynamics (Callon et al., 2025a). Such care practices, in the authors’ view, are the sole way through which assets-actifs (i.e., forests, infrastructure, software, or even communities) can avoid exploitation and continue to act over time (Callon et al., 2025b). Hence, framing esports audiences as an asset-actif means shifting the sociotechnical devices surrounding them from active instruments for their quantification and capitalisation (Carrillo Vera & Antón, 2024; N. Taylor, 2020) to “valuemeters,” that is, tools (such as accounting standards or sustainability indices)

able to measure how well assets are cared for, and the effects that economic choices have on them (Callon et al., 2025b) – or, in Márton’s terms, following the ecosystem’s “runaway dynamics” (2022). Such a strategic shift, in my and the authors’ opinion, might be the only way out of our Anthropocene capitalism, rebuilding (digital business) ecosystems that nurture, rather than deplete (Callon et al., 2025b).

Practically speaking, this would mean, for example, promoting sustainable models for player contracting and industry revenue generation through institutionalisation, thereby introducing controlling entities similar to those present in traditional sports (Abanazir, 2019; Summerley, 2020; Svensson & Pargman, 2024). As esports authors have already emphasised, this also entails reinforcing gender policies and addressing toxicity, which remains a significant issue in the field (Beres et al., 2021; Svensson & Oppenheim, 2018). On the other hand, such a move would significantly put at the centre experiences like those of collegiate esports, where the career transitions and long-term sustainability are often regarded as core tenets to take into account (see Appendix III; Fisackerly & Hwang, 2024; B. C. Harris et al., 2022; Türkay et al., 2020). A notable step in this regard has been adopted by the non-profit association AnyKey, which published a guiding whitepaper (subsequently adopted by major stakeholders, such as Intel) to advance sustainable, equal, and inclusive collegiate esports programmes (AnyKey, 2016).

8.2. Post-credit scene: The ecological cost of metaphorical comfort

Directly linking with the organisational impact of the devised empirical material, we should once again state that this thesis does not want to reintroduce (theoretical) comfort through the adoption of an ecosystemic language. Instead, studying digital ecosystems requires more than methodological sophistication; I contend it requires a refusal to participate in the naturalisation of exploitative arrangements, but most of all, a heightened need for critical scrutiny.

As we frame digital (business) ecosystems as organic, adaptive, and self-regulating, the metaphor should not encourage acceptance of inequality and exploitation, but rather emphasise instability and change as natural features of complex environments (E. Fisher, 2010b; Haraway, 1976; Márton, 2022). We must refrain from allowing digital systems to appear simultaneously inevitable and unaccountable, to transform design choice into structural immutables, or conflate labour relations with evolutionary

outcomes. In other words, we should not surrender any attempt to legitimise the current power asymmetries. Instead, we must fight what Zuboff (2019) has identified as the normalisation of extraction and asymmetry within digital capitalism, where structural conditions are rendered opaque through technical or naturalising narratives (Mirowski, 1994). Ecosystem metaphors, when stripped of ecological specificity, contribute to this opacity by collapsing political decisions into environmental givens. Against this tendency, ecological thinking foregrounds fragility, conflict, and dependency as intrinsic dynamics (G. Bateson, 2000; Márton, 2022, 2023). Far from celebrating harmony, ecology insists on accounting for differential exposure to risk and the uneven distribution of costs across ecosystemic components.

The implications of this analysis extend beyond esports to the *practice* of digital systems research itself, even those we are less aware of. Indeed, as scholars embedded within academic ecosystems shaped by metrics, platforms, and institutional incentives (Espeland & Sauder, 2007; E. Jin & Jiang, 2024), we are not external observers but participants in the environments we study (Bourdieu, 1978, 2003). Refusing the naturalisation of exploitative arrangements, therefore, constitutes not a moral position but a methodological one, as the task becomes reflexivity rather than purity. This requires sustained attention to how analytical categories travel, mutate, and become operationalised within governance regimes (Bowker & Star, 2000; Haraway, 2013; Law, 2004). This means that, if digital ecosystems are to be taken seriously as analytical objects, they must be examined as environments whose consequences extend beyond efficiency, innovation, or growth. On the contrary, their analysis must account for infrastructural dependency, relational unevenness, and the political economies in which ecosystems are embedded (Márton, 2022; van Dijck et al., 2018).

Ending with this coda is therefore not an attempt to reopen the thesis, but to prevent its conceptual stabilisation from becoming a form of complicity. Ecology, in this sense, operates not as a language of reconciliation, but as a disciplined mode of attention to what systems make possible, and to whom. Rather than offering a final model or a replacement metaphor, this thesis deliberately leaves the ecosystem open and unsettled, aligning with ecological and post-structural approaches that resist closure in favour of sustained critical attention to relations, contexts, and power (DeLanda, 2006; Haraway, 2016). Indeed, I am firmly convinced that a more nuanced ability to unpack digital business ecosystems will be of little use if we, as scholars and privileged

observers, do not take the opportunity to leverage such insights to work toward restoring degrees of freedom to the subjects we encounter (cf. Steinberg, 1994). This is to say that future research will, of course, expand and test the ecological re-reading of the ecosystem metaphor I attempted to define with this work, while also carving out spaces for operational intervention based on the evidence gathered from these ecologically driven snapshots of ecosystemic functioning.

I want to conclude this reflection and my thesis by once again stating how these considerations not only speak to the still-open possibility of recognising and countering exploitative drifts detected in the esports ecosystem, but also make this a crucial focus for future research about organising, digital economies, and ecosystemic arrangements.

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Disclosure on the use of collaborative and digital support tools

This doctoral thesis is the result of a long and situated research process that unfolded across multiple institutional, geographical, and intellectual contexts. In line with principles of academic transparency, this section discloses the forms of collaborative, peer-based, and digital assistance that contributed to the drafting, revision, and refinement of parts of the manuscript.

First, it is essential to state that the intellectual conception of the research, its theoretical framework, methodological design, empirical material, analysis, and interpretative claims are entirely my own responsibility. The research questions, data collection, fieldwork, analytical categories, and conclusions presented in this thesis were developed autonomously and remain entirely attributable to the author. That said, portions of the text were drafted, revised, or stylistically refined with the support of others, reflecting the fundamentally collective and relational nature of academic knowledge production (Bourdieu, 1984/1988; Pickering, 1995). In particular, selected sections of the thesis benefited from feedback and discussion with academic peers encountered during conferences, workshops, and research visits across Europe. These exchanges, often informal and opportunistic, played an important role in sharpening arguments, clarifying conceptual distinctions, and stress-testing analytical choices. Additional feedback and collegial support were provided by academic colleagues within the University of Milan, who contributed through discussions, comments on draft materials, and methodological advice at different stages of the writing process (Becher & Trowler, 1999). Furthermore, parts of the drafting and revision process were supported by an artificial intelligence–based language model, ChatGPT 5.2 by OpenAI. This tool was employed primarily as a writing aid, assisting with tasks such as syntactic clarification, structural reorganisation of arguments, stylistic smoothing, and the refinement of academic prose. In some cases, it also functioned as a dialogical device to test the coherence, consistency, and positioning of arguments already developed by the author (Mollick, 2024). The AI tool was not used to generate empirical data, fabricate sources, introduce original theoretical claims, or substitute scholarly judgment. All content produced with its assistance was critically evaluated, edited, and integrated by the author, who retains full responsibility for the final text.

The use of such a tool should not be understood as exceptional or external to contemporary academic practice. Rather, it reflects broader transformations in scholarly work, in which writing, thinking, and revising increasingly occur within hybrid environments composed of human and nonhuman actors, digital infrastructures, and distributed forms of expertise (Law, 2004; Mollick, 2024; Suchman, 2006). In this sense, the writing process itself mirrors the thesis's core analytical concerns. Indeed, one of the central arguments advanced in this dissertation is that knowledge, value, and organisation in digital contexts are produced ecologically, through patterned relations among heterogeneous agents rather than through isolated individual action (Bateson, 2000; DeLanda, 2009, 2016; Latour, 2005). The conditions under which this thesis was written are not separate from this insight. In fact, this manuscript emerged within an ecosystem of interactions involving supervisors, peers, institutional settings, conferences, digital tools, and writing technologies, each contributing in different ways to the stabilisation and articulation of ideas (Bateson, 2000; Becher & Trowler, 1999). By explicitly acknowledging these contributions, this disclosure aligns with the ecosystemic perspective developed throughout the thesis: just as the esports ecosystem analysed in this work cannot be reduced to a single actor or linear process, the production of this doctoral research cannot be meaningfully attributed to a solitary, autonomous author detached from their sociotechnical environment (Barthes, 1967; Foucault, 1969). Instead, the thesis should be understood as the outcome of a situated, relational, and materially mediated research process, in which responsibility and authorship remain clearly defined, but never abstracted from the conditions that made them possible (Suchman, 2006).

This disclosure is therefore not intended to diminish authorship, but to render visible the infrastructures, collaborations, and tools that supported it. In keeping with the critical ecological stance of the dissertation, making these relations explicit is part of an effort to resist the naturalisation of solitary knowledge production and to foreground the collective, assisted, and contingent nature of contemporary academic work.

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Appendices

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Appendix I: Core terms and concepts within the esports ecosystem

Given the niche dimension that esports still occupies in academia and the mainstream public sphere, most of the terms associated with this practice sound like unintelligible jargon to those not accustomed to gaming. Although I will try my best to decipher such netspeak and make it understandable to non-natives, the following list may help the less confident reader by providing some more widely used terminology.

Pro player

Esports' basic unit, this concept identifies (semi-)professional gamers, who have turned their passion for playing video games into a job. This means participating in (more or less) official tournaments, signing to an org (see below), and training for an insane amount of hours (up to 12 a day). In addition, an increasing number of pros now incorporate livestreaming into their daily routine, as it has become one of the most widespread paths to achieving economic sustainability.

Casual player

The opposite of a professional, the term identifies amateurs who approach gaming (and sometimes competing) explicitly in search of entertainment, rather than wishing to turn the hobby into a more serious pursuit. In esports, the term is often used derogatorily to refer to those who are not entirely committed to the scene or are considered outside the "élite" of pro players.

Org

A shortened form of "esports organisation," it refers to any organisational body that deals with (more or less) professional teams and players. If most orgs are focused on providing the necessary structure to make gamers approach esports as a competitive endeavour, some have transitioned into proper media companies, branching out into side activities such as tournament organising, talent management, and software development. Others, instead, have focused on users and amateurs, becoming proficient in community management and content production.

Scrim

Again, a shortened form, this time coming from “scrimmage.” The term, originating in FPS and MOBA games (see below), is often used in place of “solo queuing” and refers to the practice matches that players and teams undergo as part of their training. Given the complexity of in-game actions and unpredictability of situations, most players and coaches regard it as a fundamental tool for testing one’s abilities before official matches.

FPS

Acronym for “first-person shooter,” it categorises those games in which the players have a first-person perspective (often seeing only the arms and gun of their playable character) and must primarily shoot at their opponents to win. Most of the early esports titles were FPS, such as Doom (id Software, 1993), but the style is still regarded as highly influential, given that two of the most recognisable esports titles are FPSs (i.e., Counter-Strike and Valorant; respectively, Valve, 2000; Riot, 2020).

MOBA

Acronym for “multiplayer online battle arena,” this type of game has rapidly taken the lead of esports titles, given the success of titles like League of Legends (in short, LoL; Riot, 2009) and DOTA 2 (Valve, 2013). For many insiders, MOBAs are the quintessence of esports, as they eschew imitating traditional sports (such as sports and racing simulators) or war-like face-offs (as in FPSs). Their distinctive playstyle, combined with the incredible abilities of some of their players, makes MOBAs a distinct genre, with most players dedicating themselves solely to these titles and practising for hours to master them.

RTS

Acronym for “real-time strategy,” these games were the pinnacle of esports during the early 00s, only to fall behind MOBAs and FPSs as new titles emerged. The most prominent title of this category, StarCraft (Blizzard Entertainment, 1998), gave birth to the very first professional scene, launching South Korea as the leading Country for the years to come. Nowadays, RTSs have largely fallen out of use as esports titles, leaving space for new categories, such as online card games like Hearthstone (Blizzard Entertainment, 2014).

Triple-A (or AAA) games

Industry lingo for identifying top-level games by production costs and quality. Almost exclusively issued by corporate publishers, these high-quality, big-budget games are often the most popular titles, even though “indie games” (i.e., independent, low-budget productions) are carving out a niche in the gaming community. Nonetheless, very few triple-As manage to become esports games, as this requires them to remain in the market for years, necessitate a dedicated maintenance and development department, and demand significant resources to become viable esports titles (e.g., infrastructure, regulations, fair gameplay, etc.). Nonetheless, the current esports scene is dominated by triple-A titles (e.g., *Call of Duty*; Activision, 2003), even though the most prominent games come from publishers that explicitly specialise in offering competitive titles (e.g., Riot).

F2P

Standing for “free-to-play,” this term describes games that are not sold for money, but offered for free to players. This “game-as-a-service” (GaaS) model has been increasingly adopted by competitive titles, attracting significant numbers of players through the elimination of entrance barriers and the constant updates and additions to the game. However, most F2P games hide their commercial potential behind their lack of an initial cost, relying on subscriptions or microtransactions to achieve profitability. Some of these take the form of paid “downloadable content” (DLC) to unlock full or new features. Microtransactions, instead, often involve “skins,” i.e., decorative in-game items, or “loot boxes,” i.e., randomised reward packages that have been accosted to addiction-inducing mechanisms (Macey & Hamari, 2019). For the competitive advantages that some of these purchases bring, “whales” (high-spending users) are often deemed to be less proficient than those who obtain rewards through “grinding” (repetitive play in order to accumulate experience or in-game currency). Titles that allow whales to more easily surpass stages or outperform non-buyers are called “pay-to-win” games (P2W).

LAN

An acronym for “local area network,” the term describes wired networks that enable multiplayer gaming. Given the technical limitations of the early esports days, physically

linking computers in the same room was the only way to compete, a significant leap forward from arcade-based “taking turns” or “highscore” practices. Nowadays, this term refers to in-person tournaments, often to mitigate online delays (e.g., ping problems or “lag”) and provide a spectacle for attending fans. However, most competitions are now held online, as amateurs are also becoming accustomed to online matchmaking.

Clan

An early-day organisational form, but still present today. Born in massive multiplayer online role-playing games (MMOs, or simply RPGs), such as World of Warcraft (in short, WoW; Blizzard Entertainment, 2004), clans were large groups of players who coordinated to achieve game objectives. However, many of these communities evolved into proper social groups, meeting outside the game (i.e., in real life; IRL) and becoming wide-ranging, informally managed organisations, even loosely tied to gaming. If this attracted the interest of academia (e.g., Chen, 2010; Nardi, 2010), clans ultimately paved the way for subsequent and more structured esports organisations – from orgs to tournament organisers (e.g., ESL). Although not used as frequently now, the term is still part of the gaming lingo, as most orgs and players still start their journey toward professionalisation under this label.

Team comp

A shortened form of “team composition,” a term that has come to describe the roster of a team. Given that most esports titles are team-based, orgs spend significant resources building a competitive team, including on internal dynamics and communication. When used alone (i.e., “comp”), it may refer to a more general “competitive.”

PvP and PvE

The two main game styles that characterise online gaming. The first stands for “player-versus-player,” whereas the other is “player-versus-environment.” If the former is more straightforward and includes nearly all esports titles, the latter describes those games where the opposite side is played by “the CPU,” which here does not refer to the computer’s central processing unit, but extends this meaning to denote game-controlled characters (a form of AI, indeed). Even though esports “purists” still deem

PvP the ultimate competitive form, in the early days players competed only against the CPU to set high scores, which were then compared to determine the winner. Curiously, many recent titles have begun to blend these subdivisions, integrating PvE elements into mostly PvP environments, as seen in LoL.

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Appendix II: Nearby concepts and platforms

The three-dimensional approach to ecosystems enables the integration of scholarship from diverse disciplines that have explored the concept, from IT studies to anthropology. However, this is not the sole metaphor employed to describe networked arrangements. This Appendix, in particular, explores alternative models developed within (mostly) technology studies and business research, usefully highlighting the differences that make the ecosystem metaphor stand out from other conceptualisations. Notably, this section will end with a more thorough analysis of the platform metaphor, which can be considered today the most widely used concept to describe networked arrangements, both within tech- and market-related discourses.

I. Technologies: Client-server environments, peer-to-peer (P2P) architectures, and web service networks

The first example in this sense is the client-server architecture, which prompted the rise of computer technologies. In such a network, communication is centralised, giving rise to a command-and-control environment where service requesters (clients) ask service providers (servers) for resources or services (Boley & Chang, 2007). Hence, servers host, deliver, and manage resources and services to the network, granting a high degree of centralised control and hierarchical organisation. The resulting arrangement of actors is precisely defined, has a limited set of allowed actions (depending on their allocated role), and relies on a linear, top-down architecture with mostly unidirectional links.

Another structure, peer-to-peer (P2P) architectures, involves a more horizontal, distributed organisation. This arrangement fragments the hierarchy by allowing each network node to share resources with others without needing a central coordinator (i.e., server). By relying on direct communication, decentralisation, and resource sharing, this architecture enables high degrees of scalability – since every entry in the network augments its computational power – and collaboration, making nodes equipotent and equivalent in their access privileges. On the one hand, horizontality guarantees flexibility – indeed, many P2P networks are left unstructured and self-organise – and resilience, as the absence of one or more nodes does not preclude the rest of the network from functioning (though it still negatively impacts its performance). On the other hand, such shareability makes P2P networks weak and insecure, as the

highly porous nature of the limits separating agents makes them easy to breach. Computationally speaking, what differentiates P2P from ecosystem architectures is that, in a P2P network, agents can assume only one role (i.e., client or server) at a time. In other words, P2P networks do not support multi-role identities, whereas ecosystems can accommodate “ambiguous” nodes, meaning they can simultaneously receive and exchange information or resources.

Ecosystems do not need centralised or distributed control, since the self-organising network can dynamically rearrange itself in response to contingent environmental needs. Given this ability to connect autonomous agents, ecosystems have thus been equated with grid architectures, but they differ in that ecosystemic agents can maintain their separateness. Partially solving what is also a weakness of P2P architectures, ecosystems are able to “stitch partners together” (Boley & Chang, 2007) for sharing and collaboration, but avoid the risk of counter-free riding on such linkages, as grid computing virtually makes agents part of a single “supercomputer” (i.e., eliminating all boundaries between them). Grid assemblages guarantee scalability and computational power while remaining cost-saving solutions. However, they also need a controlling node that distributes tasks and resources within providers (parallel or chained nodes that “borrow” their resources and capabilities). Conversely, ecosystemic agents maintain high degrees of independence and autonomy – indeed, such networks are defined as loosely coupled (Boley & Chang, 2007; Whelan, 2010). Finally, ecosystems have been compared to Web service networks, which we commonly employ to communicate and exchange data through the Internet. In these computational arrangements, “brokers” are intermediary agents that connect service providers and requesters (i.e., servers and clients) and can be distributed across a hybrid architecture. Hence, brokers act as proxies, or centralising operators that exert control over service exchange and guarantee trust and service quality. Indeed, without brokers, clients would be unable to locate the correct provider and send a precise request (i.e., with the necessary data to perform the service). Ecosystems bypass such intermediary actors due to the autonomy of their agents, which also eliminates the need for an external regulator or authority: in fact, the shared semantics adopted by the ecosystem and the relative freedom in the collaboration make the network simultaneously open (i.e., all agents understand each other without the need of a proxy), resilient (i.e., failures of communication or availability are obviated through redundancy and behaviour flexibility), and efficient (i.e., the network does not rely on

proxies to function). To conclude, these comparisons led IT scholars to propose digital ecosystems as organisational structures that embody specific computational characteristics, granting them high degrees of flexibility, openness, collaboration/interdependence, efficacy/redundancy (i.e., domain clustering), and purposefulness (i.e., demand-driven).

I.I. Markets: Value networks, two- and multi-sided markets, and entrepreneurial ecosystems

The second category of theorisations compared with ecosystems comes from business, management, and organisational studies. These fields have always been interested in developing practical frameworks to analyse, anticipate, and govern market environments, employing various metaphors as “disposable theories” (Stalder, 2006) to highlight specific aspects of the research objects they target. Indeed, some of the terms I will shortly explore have been more than mere “reductions of complexity” (a.k.a. heuristics) enunciated to describe (and select) a particular set of relations, either economic, social, or of other nature (Cristofari, 2024; Luhmann, 2012); instead, they became ingrained in ways of thinking about phenomena (i.e., they became “imaginaries”) and, more importantly, proper “engines of order” steering our comprehension of reality (Bourdieu, 1991; Rieder, 2020).

If I will let aside classical metaphors, like Karl Marx’s “metabolic rift” or Adam Smith’s “invisible hand” (Mirowski, 1994; Sheehan & Wahrman, 2015; Wark, 2015), as well as up-to-date imaginaries (e.g., Dyer-Witherford’s “digital vortex”; 2015), it is because they do not directly correlate with the topic of ecosystems as treated in the previous chapters, which means as an organisational form comprising both human (individual or collective) and non-human (organisational, algorithmic, etc.) actors. Focusing only on nearby concepts, we can then frame value networks, two- or multi-sided markets, and entrepreneurial ecosystems as competing models, to which I want to add a special note about platforms (see the second part of Appendix II).

Value networks

Starting from value networks, these can be traced back to conceptions of the last century regarding the first modern reflections on complementary assets (Teece, 1986), such as third-party software (Saloner, 1990). However, the first mention of value

networks as a peculiar organisational form dates back to Rosembloom's expansion of Porter's (1985) definition of "value chain" (Chesbrough & Rosenbloom, 2002; Christensen & Rosenbloom, 1995; Rosenbloom & Christensen, 1994).

In his conceptualisation, Porter described linear "chains" of firms, from producers to suppliers, and the flow of products and services from designers to customers, often including feedback mechanisms such as those that solve the famed "Weaver's problem" (Hyysalo et al., 2016; Porter, 1985). The novelty introduced by Rosenbloom and his colleagues was to consider such a flow within a system of producers and markets, thereby adding lateral and complementary value-creating relationships (Rosenbloom & Christensen, 1994). Similar concepts had already appeared in literature before Rosembloom's definition, such as "value constellation" (Normann & Ramírez, 1993; Vanhaverbeke & Cloudt, 2005), "value net" (Brandenburger & Nalebuff, 1996), "value web" (Chesbrough, 2010; Jaworski et al., 2000), and "development web" (Staudenmayer et al., 2005). The latter underscores the derivation of these conceptualisations from innovation studies, which explored how firms can create value or innovate by leveraging network effects (Adner & Kapoor, 2016). Reconnecting with Chapter 2.3.1, we can detect here the seeds that later exploded into the studies talking about the "Silicon Valley effect" (Bahrami & Evans, 1995; Krivý, 2023), that is, all those scholars who employ the Californian cradle of Big Tech as a prototype for local network functioning as an entrepreneurial breeding ground.

Crucially, though, we can distinguish ecosystems from value networks as the latter ignore the interdependence among multiple actors, let alone their effects on value creation (Bogers et al., 2019). We saw how computational and business theorisations posit interdependence, or co-dependence (as it is sometimes defined in ecology; Bateson, 1979), as one of the core elements characterising ecosystems. Even though such networked business models have found space in management literature (e.g., Chesbrough & Rosenbloom, 2002; Zott et al., 2011), when employing the ecosystem metaphor, we go "beyond the need for the network sponsor to attract members to the network" (Bogers et al., 2019, p. 5), trying instead to depict complex arrangements in which value is an emergent quality of actors' interconnectedness. This latter point brings together ecosystems and platforms, whose reliance on ICT and modular interfaces (Baldwin & Clark, 2000) creates a need for coordination and interdependence (Jacobides et al., 2018).

Two- and multi-sided networks

Another concept often used to talk about interlaced webs of firms and customers is that of two- (Rochet & Tirole, 2003) or multi-sided markets (Evans, 2003), also called “two-sided networks” by some authors (Parker & van Alstyne, 2000).

Since most platforms function as (at least) two-sided markets where sponsoring firms seek to link bi-directionally with both end users and complementors (Eisenmann et al., 2006, 2008). The further evolution of platforms into more complex networks and the rise of a reflection upon their governing processes has led some of the same researchers to move toward a definition of multi-sided markets as environments where value is transactionally created by matching different sides (i.e., buyers and sellers) through complementary assets and communication channels that guarantee a network of linked firms and individuals (Evans, 2003; Poell et al., 2021; J. West & Wood, 2014). The matchmaking power (Evans & Schmalensee, 2016) of intermediaries inside this kind of network can range from simple mediators, as in two-sided markets, that extract value from connecting producers with customers, to more complex governing entities that create, steer, and regulate a market, as platforms do in multi-sided scenarios (Evans & Schmalensee, 2016; Poell et al., 2019).

What differentiates multi-sided markets from ecosystems, once again, is the lack of interdependence: even though some of the firms involved in these networks need each other to produce value (e.g., complementors need the supporting platform), the transactional nature of connections is not meant to foster affiliation and mutuality between actors. Therefore, two- and multi-sided markets are architecturally prone to converting interdependence into a product, and consequently, do not enable actors to form a web of mutual interconnections (Bogers et al., 2019). On the contrary, online communities often do display such interconnectedness (Boudreau & Lakhani, 2009; J. West & Sims, 2018), which leads us to the final overlapping stream of research: entrepreneurial ecosystems.

Entrepreneurial ecosystems

Probably the nearest concept of the list, entrepreneurial ecosystems, formed part of the historical evolution of the ecosystem metaphor into what we know now. However, they also established a specific field of study that explored regional entrepreneurial networks and their “ecosystemic” power to fuel the emergence of innovation and success (Autio et al., 2014; Bahrami & Evans, 1995).

Scholars investigated the rise of highly technological clusters (Finegold, 1999; Pitelis, 2012) and their linkage with local entities, such as universities and companies (Cohen, 2006; Hayter, 2016; Stam, 2015). Once again, studies were guided by the model offered by Silicon Valley's ecosystem, in which networks of firms intertwined with non-profit organisations, online communities, regional infrastructure, training centres, and investors to form a web of interdependent entities mutually sustaining one another. Finegold (1999) emphasised that, typically, regional clusters foster interdependence between firms that both utilise and provide infrastructural services, promoting the creation of a fertile environment for new businesses to emerge.

However, only industry-specific clusters display joint value creation, a characteristic that explicitly characterises ecosystems (since they are domain-clustered). Moreover, complementarity in entrepreneurial ecosystems can only be achieved through interdependent supply chains, which then enable the dampening of marketing and coordination costs (Porter, 2000). Nonetheless, such interconnection is not required to define an entrepreneurial ecosystem, which ultimately brought few authors to adopt the ecological lens to discuss these clusters (Ahn & Meeks, 2008).

Wrap-up

This section has offered a bird's-eye view of some competing models for analysing complex networks of interconnected actors, highlighting how some elements of the ecosystem metaphor resonate with other conceptualisations. For example, we saw how entrepreneurial ecosystems contributed to the current definition of a digital business ecosystem, drawing on the ecological notion of local proximity to emphasise the power of interlinking and collaboration. However, none of the depicted models integrates all the elements that characterise ecosystems, lacking either interdependence (especially in market scenarios) or dynamism (as in technological layouts). Thus, ecosystems represent a peculiar mixture of bonding and looseness, which leverages unique features – such as the duality of their actors – to enable self-organisation and value creation that would be impossible without the presence of all the building blocks outlined above (see Chapter 2.4).

Nonetheless, so far we have left out one of the most widely used metaphors for describing networked arrangements nowadays, that of the platform (Gillespie, 2017). Since platforms have colonised both academic and vernacular discussions of

interconnected systems, the following section will be dedicated entirely to comparing these perspectives.

II. Platforms: From multi-sided markets to ecosystems

The platform metaphor has found a steady place both within academic inquiries – as confirmed by its autonomous field of study – and within the colloquial imaginary about media technologies and late capitalism (Cristofari, 2024; Steinberg, 2019). Notably, the reflections sparked by the work of Tarleton Gillespie (2010, 2017, 2018) gave rise to a wide-ranging discussion over the subtle implications that such a metaphor carries, particularly when discursively mobilised as part of corporate strategies and institutional tactics (Cristofari, 2024; Gillespie, 2017). Similarly, the following lines will stem and follow Gillespie's track, unpacking platform studies to disentangle the concept's specificity, its inherent organisational structure, and how it can be compared against the ecosystemic proposal.

II.1. History of the concept

The term “platform” started to take momentum at the beginning of the Millennium, when tech behemoths like Google and Facebook made their first steps toward global dominance in key sectors of everyone's everyday lives (Comunello & Mulargia, 2023; Poell et al., 2019). Although the concept was already present in academia, it was still contesting its dominance as a descriptive metaphor in scholarly debates, battled by some of the alternatives we saw above, mainly the “network” perspective (Apprich, 2017; Lovink, 2003; Powell, 1990). This latter organisational form was deemed a revolution linked with digital technologies, able to influence and change our conventional epistemology about the world and (non-)human relations (Ampuja & Koivisto, 2014; Castells, 1996; Latour, 2005; van Dijck, 2006). However, studies about networks failed to convey the specificity of digitalised systems, an opportunity that was rapidly taken by the platform metaphor (Steinberg, 2019).

The need for a framework was not solely institutional, as emerging technological firms sought a cultural imaginary that would allow them to carve out an ecological niche (Wyatt, 2004). In this sense, internet-related industries were not just seeking survival in their burgeoning market but were trying to build a world in which their services and products were necessary or taken for granted (Gillespie, 2010; Wyatt, 2004). To

achieve this objective, media companies and their heralds, such as the controversial Tom O'Reilly, employed a set of discursive devices and managerial strategies aimed at promoting "platform" as the keyword for reading the phenomena related to the upsurge of Web 2.0 economies (Gillespie, 2010; O'Reilly, 2005). By shaping the words with which lay people and scholars called such technologies, firms assured the establishment and continuation (i.e., "instituted") of a way of thinking and "being" that encompassed them among the existing order (Bourdieu, 1991), particularly influencing regulatory and business discourse on them (Benkler, 2003; Poell et al., 2019).

Indeed, a growing body of works started talking about "platforms," defining this object through field-specific lenses: for example, Montfort and Bogost guided software studies toward a sociomaterial appraisal of the concept, employing it to study centralised networks based on reprogrammable interfaces and modularity (Bratton, 2015; Helmond, 2015; Montfort & Bogost, 2009). On the other hand, business and management scholars paired with firms in adopting it as a descriptor for their services and products, further attracting users and complementors and, at the same time, silently eroding the imaginary of the internet as democratic and communitarian (Couldry, 2015; Gillespie, 2010; Langlois et al., 2009). For Poell and colleagues (2019), these parallel streams of research were, in fact, reinforcing each other: the computational approach explored the economic potential of technological systems like modular interfaces, granting firms the tools of the trade needed to transform into two- or multi-sided markets upon the adoption of technical networks, and allowing complementors and end-users to be connected through their intermediary role (McIntyre & Srinivasan, 2017; Rochet & Tirole, 2003). Conversely, business reflections on multi-sided markets and centralised governance informed the construction of platformised networks, as well as giving insights into the "productive" power of incorporating users inside proprietary environments where they could be part of companies' extractive processes (Cristofari, 2024; Ha et al., 2023; Poell et al., 2019).

II.II. Defining platforms: Characteristics and platformisation processes

The previous lines showed how platforms became a widely accepted concept, denoting intermediary organisational forms that operate between two or more sides, infrastructurally enabled by technical solutions (e.g., APIs) to enable interactions between different groups (Schüler & Petrik, 2021). More straightforwardly, we can

adopt Poell and colleagues' (2019) definition, which comprises the abovementioned scholarship to depict platforms as:

“(re-)programmable digital infrastructures that facilitate and shape personalised interactions among end-users and complementors, organised through the systematic collection, algorithmic processing, monetisation, and circulation of data.” (Poell et al., 2019, p. 3)

Therefore, platforms comprise capabilities of programmable, data-driven infrastructures with extractive features typical of multi-sided markets and user production. Indeed, platforms made two different phenomena converge: they fuelled and benefited from the widespread distribution of reprogrammable interfaces among the world population (i.e., our smartphones and digital devices) to promote and learn from a shift in managerial thinking, which moved from centrally controllable market to a three-folded structure putting together communities (i.e., users), infrastructure (i.e., platform), and data (Choudary, 2015).

It does not surprise, though, that the companies behind these computational tools tried to obfuscate their way of generating value (i.e., business models) through such a term, as it eroded the distributed power of online communities to promote the appearance of proprietary for-profit territories, a cybernetic world gradually incorporating all aspects of its users' lives (Balestrieri, 2021; Bonini & Magaudda, 2024; Bratton, 2015; Steinberg, 2019). Such a gradual process of infiltration has been called “platformisation” (Caliandro et al., 2024; A. Chia et al., 2020; Cristofari, 2023; de Kloet et al., 2019; Helmond, 2015; Poell et al., 2019). Platformisation can be seen as the successful result of the discursive devices entailed in the platform metaphor. More specifically, we can follow Tarleton Gillespie (2010, 2017) in noting how the impetus for such a concept in contemporary media stems not only from the notion's undecidability – which allows speakers to discursively use the metaphor in a wide range of contexts without compromising its applicability – but especially from the semantic fields it can draw on: the computational, the architectural, and the political. Computationally, it linked platforms to the historical evolution of technologies and placed its technical innovations within the model of putative technological revolutions, such as the introduction of television (Gillespie, 2010; RX France, 2008), since the term was adopted to describe technical reprogrammable environments. A strategic move that could explain, on the one hand, how they technically operated their

businesses to interested stakeholders, presenting themselves as innovators (Gillespie, 2010). On the other hand, it granted firms an aura of democratising force, since it reconnected platforms with the empowering stance inherited from earlier technological introductions (e.g., radio, computers).

Secondly, the term included a reference to an architectural device that was both “levelling” and “upraising” people: platforms are, architecturally speaking, elevated surfaces that raise something or someone above the standard level, but flat and sturdy enough to host people, even thousands of them. If such a figurative connotation is in line with the previous application of the computational platform, it must be noted how it was heavily employed in discursive configurations, stressing the “empowering” nature of platforms (Benkler, 2003; Bruns, 2008; Gillespie, 2010).

A discursive weapon that was effectively deployed with users, advertisers, and clients by pairing with the last semantic dimension, politics. Here, platforms abandon their neutrality to denote the raised surfaces used for public speaking, thereby taking on the meaning of a political programme. In Gillespie's words (2010), the result of this semantic intricacy is that:

“‘platform’ emerges not simply as indicating a functional shape: it suggests a progressive and egalitarian arrangement, promising to support those who stand upon it.” (Gillespie, 2010, p. 4)

In Gillespie's thought, the flexibility of this keyword allowed firms operating a platform to discursively shift among egalitarian and market-wise positionings, leveraging different aspects of their technical apparatus to match the audience's interests (Gillespie, 2010).

However, from a much more critical standpoint (Gillespie, 2017), the same author warned against the obscure side that such a term was hiding. First, the platform metaphor downplays the fact that these services are flat, but are centralised arrangements based on structured and measured information flows; as put by Gillespie, “they are intricate and multi-layered landscapes, with complex features above and dense warrens below [that] can change at the whim of the designers” (Gillespie, 2017). The allegedly equal and meritocratic activity the platform allows, in truth, is fenced off within proprietary and private spaces, populated by diverse, sometimes overlapping and often contentious communities (Gillespie, 2017). Visibility, identity, and collectivity issues clash with platforms' strategies to elide corporate

responsibility for the content they host. In this sense, platforms reconnect with classical metaphors of technology as “carriers” or neutral “conduits” of human activity, which can be potentially illegal (see, for example, the use of YouTube to share copyrighted content; Gillespie, 2010). Such an impartial “between-ness” has been leveraged by (and accepted by) policymakers, who have delegated internal governance to platforms’ algorithmic moderation rules.

Finally, platforms hide the enormous amount of labour needed to create and sustain their (business) model, which relies on a complex organisation, categorisation, and channelling of information to sustain the platform itself (Gillespie, 2017). Most importantly, this hiding puts under the surface also the “human-in-the-loop” work (Vuarin & Steyer, 2025) needed for these arrangements to function, which often takes the form of immaterial, low- or un-paid exploitation (Beverungen et al., 2013; Lazzarato, 2006; Terranova, 2000; van Doorn, 2017).

II.III. Comparing platforms to ecosystems

The preceding lines have presented a brief history of platforms, plus a general description of their main characteristics and transformation processes. Critically evaluating the literature, we can note how platforms share commonalities with the ecological metaphor, as the two frameworks have been pragmatically mobilised for similar purposes (Cristofari, 2024; Krivý, 2023).

Even though some authors put ecosystemic imaginary inside the declinations of the platform metaphor (see Cristofari, 2024), the latter pertains to a class of structural/structural attempts to guide policing around emerging technologies (Gillespie, 2010; Horwitz, 1989). On the other hand, ecosystems fall under the tradition of “naturalisations”, that is, the deployment of neo-naturalistic representations to legitimise digital post-capitalistic arrangements that allegedly mimic natural arrangements (Z. Ç. Alexander, 2014; Krivý, 2023; Mirowski, 1994).

The difference between the two, however, is not only semantic: the two metaphors mobilise divergent aspects of both the technologies and the organisational structures they entail, with the result that they are applied in even contrasting ways. Platforms stress centralised governance and structure themselves around a sponsoring firm or market leader that leverages complementarity, modularity, and data-rich exchanges to profit from the other entities, such as complementors or users (Plantin et al., 2018;

Poell et al., 2019). This arrangement makes internal competition a matter just for complementors, who struggle to promote their products or services to users under the strict vigilance of the platforms' owners. If competition inside platforms is artificially policed, the external one can be ferocious: as exemplified by computational "platform wars" between Microsoft (or PCs) and Apple (Macs), gaining the technical competitive advantage of building a platform does not guarantee continual survival of one's oligopoly in the landscape of potentially overthrowing platforms (Gillespie, 2010; M. Thomas et al., 2021).

The diverse applicability of the ecosystemic concept, in contrast, permits the insertion of competing ecosystems within a larger framework, maintaining the same perspective in a scalable analysis that adds up as the picture enlarges (Bogers et al., 2019; Golley, 1996; Márton, 2022). Moreover, ecosystems do not imply internal centralisation, which grants the use of this framework to read both platform-like and decentralised networks (Bogers et al., 2019).

Such bi-directional readability has prompted an interlacing of the two metaphors, with more complex platforms that have been repetitively framed as ecosystemic (Alaimo et al., 2020; Hein et al., 2020; Tiwana, 2013; van der Vlist, 2022). Platform ecosystems, thus, rely on the ecological metaphor to move the accent toward the interdependence of auxiliary services and products (e.g., health sensors for Apple Health's system), but still maintain as a core element the centripetal force of the platform leader (Bogers et al., 2019; Poell et al., 2019; Tiwana, 2013). The sponsoring firm provides infrastructure to the adhering clients, which in turn can benefit from the network effects of gathering large user bases (Plantin et al., 2018). Conversely, the ecosystem metaphor is more agnostic about how the relations inside the network are structured, allowing researchers with a lens that does not a priori exclude distributed arrangements (Bogers et al., 2019; Kilamo et al., 2012).

Ultimately, the concept of an ecosystem appears to be more flexible and can rely on sufficiently abstract terminology that permits its adaptation to multiple contexts without losing analytical rigour. Another example in this sense is the openness that this ecological metaphor displays toward emerging networks, whereas platforms must be specifically designed to operate (Cristofari, 2024; Plantin et al., 2018). This element will be fundamental to the following analysis, since the esports ecosystem has not been hierarchically imposed (except for some delimited areas), but has emerged as a self-organising feature of market relations, technologies, and human agents.

In conclusion, the ecosystem metaphor is a less politicised framework that, albeit with the risk of naturalising existing capitalistic relations, easily reconnects with systemic (or holistic) ontologies, allowing the researcher to keep open the perspective on both centripetal forces (governance processes, complementarities, etc.) and centrifugal ones (open communities, reticularity, etc.) to describe the functioning and composition of an interdependent network of human and non-human actors (Castells, 1996; Latour, 2005; Márton, 2022, 2023; van Dijck, 2006).

Nevertheless, I contend that the full potential of an ecological reading of contemporary technical networks, intended as both market and technological organisational arrangements, has yet to be fulfilled. Consequently, I hope that the ecological critique (see Chapter 2.5) incorporated into this work can significantly help academia move in that direction.

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Appendix III: Non-endemic entities supplement: Betting companies and varsity stakeholders

The chapter on the esports ecosystem's components (i.e., Chapter 3) has provided a richly detailed account of the number of core and peripheral actors that comprise global and local competitive scenes. Nonetheless, I decided to omit some stakeholders, especially in the peripheral section, to avoid oversaturating the exposition and to retain only those that resonated best with the rest of the work (and the empirical part, specifically).

Still, two peripheral actors deserve additional attention, as they constitute an increasingly important part of the esports environment: betting companies and educational institutions. Their rising importance has at least three motives: 1) their entwinement with some local esports scenarios (e.g., varsity teams now form independent leagues in the US); 2) the concerns they raise when joining their venture with esports (e.g., gambling has been indicated as a rising issue within younger audiences); and 3) the specific developments they introduced in eSports (e.g., bookmakers are behind the “skins betting” mechanic, whereas universities investing in esports prompted the birth of varsity level contracts, leagues, and sponsoring).

Bookmakers

Betting and gambling have been widely identified as a growing sector within new, highly mediatised sports disciplines, and esports specifically, with providers regarding the field as one of the most profitable worldwide (Richard et al., 2021; Sweeney et al., 2021).

Actually, esports gambling represents one of the most significant revenue streams for many esports stakeholders. Yet, it is also one of the most debated issues in the field (e.g., Melbourne & Campbell, 2015). Although research on the topic is still in its early stages (Griffiths, 2017; Sweeney et al., 2021), estimates place esports betting at around \$20 billion per year (Grove, 2016). If this number already seems considerable, juxtaposing it with the \$40 billion, which represents the current size of the entire U.S. legal wagering market, makes it even more significant (Gray, 2019). This market sector is dominated by esports-specific betting sites (e.g., VPgame.com and EPG.com), but traditional betting companies (e.g., Betway and Unikrn) are increasingly taking an interest in the field, either through sponsorships or by opening esports sectors on their websites.

However, esports gambling also presents an interesting topic due to its structural characteristics, namely the possibility of betting with virtual currency. While most common types of esports bets include money line and proposition bets (a.k.a., “prop bets” or “side bets”), a wide variety of games do allow for what is called “skins betting” (Cleghorn & Griffiths, 2015; Melbourne & Campbell, 2015; Sarkar, 2016). Structural elements also force the choice between these betting modes: for example, money line bets – where the money is gambled on the outcome of a match, following a traditional odds system – are necessarily superseding point spread betting – in which a bettor places a wager on the difference in score between teams or players – as most esports titles lack a clear scoring system (Sweeney et al., 2021).

Still, skins betting is a unique phenomenon in esports, since it employs cosmetic in-game items to place wagers. Players can purchase these items either by purchasing them (e.g., through in-game stores or external stores) or randomly through gameplay. Even though skins rarely provide a competitive advantage, they are often used as status symbols within gaming communities (Griffiths, 2017; Lahti, 2015b; Sarkar, 2016). Moreover, skins are often available for resale on open marketplaces, either for virtual currency (e.g., the Steam Marketplace) or for actual money (e.g., unofficial online markets). Some esports gambling companies have begun employing cosmetic items such as “casino chips” (Sarkar, 2016), using their (highly volatile) market value to determine odds (Sweeney et al., 2021). Using an example from Sweeney and colleagues (2021) to make it more straightforward, if a bettor places a skin bet on a certain team through a skin worth \$5 in a competition set at 2 to 1 odds, if their chosen team win, they would receive \$10 market value worth of skins (in addition to their original skin back), excluding the bookmaker’s commission. Furthermore, skins’ value fluctuates over time, increasing the risk and complexity of using them as gambling wagers.

This system complicates the understanding of the esports gambling market, as it makes it difficult to compare it with traditional sports markets (Sweeney et al., 2021). Moreover, not all esports titles allow skin betting, as publishers set the limitations on the circulation of these items (Macey & Hamari, 2019; Sarkar, 2016). Drawing on Sweeney and colleagues (2021), we can see that Valve’s *laissez-faire* approach also extends to skins betting, as its open marketplace, operated through Steam, enables easy trading among players and even “bots.” Such automated programmes, written specifically for this purpose, collect digital items from players on behalf of esports

bookmakers, utilising the game and Steam's infrastructures (APIs and trading system). On the other hand, both Blizzard (OW) and Riot (LoL) not only prohibit users from trading but also prevent online bookmakers from accessing their API data (Sweeney et al., 2021). Overall, Sweeney and colleagues (2021) found that the effect of such esports-specific systems can be observed in bettors' behaviours, with differences between the two modes (i.e., traditional gambling and skins one). While real money wagers display a similar tendency with traditional sports bets – i.e., a preference to overbet underdogs, called favourite-longshot bias –, skins bettors seem less biased and show less tendency to overestimate teams based on their provenance or odd rates (Sweeney et al., 2021).

This leads us to another significant theme arising from gambling studies: the paucity of demographic data on esports users, and bettors particularly (Griffiths, 2017; Richard et al., 2021; Sweeney et al., 2021). Indeed, studies on the esports gambling market have displayed regional disparities in team support, with European teams being considerably overbet compared to teams from other regions (Sweeney et al., 2021). This might be a result of a more developed market ecosystem, as the European esports landscape has seen significant advancements in the number of tournaments, media exposure, legal framework, and overall legitimization (Ludwig & Lachmann, 2024; Scholz, 2019; Sweeney et al., 2021). The derived familiarity with European organisations and players may be behind the reason for these region-based differences in betting behaviours, which can also be seen as a form of support for their favourite teams (Sweeney et al., 2021).

Nevertheless, scholars still praise for a deeper understanding of esports betting audiences, since insiders' reports suggest that there might be an underage gambling problem (Melbourne & Campbell, 2015). Moreover, research has found an overlap between gambling and gaming addictions, further complicating the discussion over in-game mechanics (i.e., loot boxing) and the surrounding business ecosystems (Macey & Hamari, 2019). Indeed, both gaming journalists and academics highlighted a general need for regulation around esports betting, due to the significant number of scandals arisen in the ecosystem around match-fixing, youth gam(bl)ing disorders, and other similar outrages (Chalk, 2015; Holden et al., 2016; Melbourne & Campbell, 2015; Sinclair, 2015; Zohn & Bleakley, 2023).

Nevertheless, betting companies have also proven to be valuable providers, enhancing the audience's viewing experience through ancillary services such as

analytics and insider information (Scholz, 2019). Moreover, companies like Betway and Unikrn have established long-term sponsorships with other esports stakeholders, which may represent a counterintuitive yet beneficial approach in the volatile esports market (Scholz, 2019). In any case, esports remain an interesting case for gambling firms, as they go beyond cash bets or fantasy sports by incorporating innovative features such as in-game skins and other virtual items (Hippeau, 2018; Macey & Hamari, 2019).

Universities and other educational partnerships

In recent years, the esports ecosystem has seen another prominent author stepping into the limelight: varsity. Since the first scholarship-based varsity esports program was established in 2014 by Robert Morris University (RMU), the field of collegiate esports has evolved into a distinct subset of gaming competitions, primarily rooted in the American varsity sports landscape (Foxman et al., 2024; Kauwelo, 2021).

Not surprisingly, a more detailed analysis of the current educational esports scenario reveals that collegiate esports shares the original grassroots-flavoured pedigrees of its non-educational counterpart, having evolved from informal groups into recognised educational programmes (Kauwelo, 2021; Kow et al., 2014). Moreover, the collegiate movement shares another important element with the primordial American esports scene, as both trace their roots to the very first competition that can be accounted for, which took place on the prototype game *Spacewar!* between graduates of MIT and Stanford in 1972 (Foxman et al., 2024; Kauwelo, 2022). Indeed, most examples of collegiate leagues are US-based, such as IvyLoL, the College Starcraft League (CSL), the Texas eSports Association (TeSPA), and the Varsity eSports League (VeSL). Although many of these initiatives were short-lived, their role in legitimising esports as a viable educational sports discipline was significant (Foxman et al., 2024; Kauwelo, 2021).

While early research on the theme identified three main modes of including esports inside higher education institutions – namely, a) representing a varsity programme, b) forming a club team, or c) privately forming a recreational team (Baker & Holden, 2018, p. 64) –, more updated literature specifically subdivides educational esports initiatives into the different tiers usually found in collegiate sports (see Tab. 1).

Program Type	Definition	Primary Goal for Players	Relationship to University	Example Program
Varsity	Highest-tier teams, supported by and representing the university	Competition	University-run & supported	<i>Boise State:</i> “[H]osts competitive videogame teams (Esports) as an officially sanctioned varsity activity for undergraduate and graduate students.”
Junior Varsity	Developmental teams where students practice in hopes of joining varsity	Competition	University-run & supported	<i>Old Dominion University:</i> “Several game titles require a specific rank to be eligible for the tryout. Players that fall below the specified rank can still be part of junior varsity level teams or the ODU Esports Club.”
Competitive Club	Formal or informal group focused on organizing tournaments	Competition	Student-run or grassroots	<i>York University:</i> “[A] club that aims to connect York University’s passionate and competitive students to the Esports scene and gaming industry.”
Recreational Club	Formal or informal group focused on casual play	Recreation & Socialization	Student-run or grassroots	<i>Augustana College:</i> “To create an open and accepting environment that allows anyone and everyone to come and enjoy a lighthearted atmosphere of friendship and gaming.”

Tab. I. The table displays typical collegiate esports programmes and team types, organised through common categories found in collegiate sports studies. The table highlights how different types of esports programmes correspond to diverging aims underpinning team formation and participation, prompting reflection on the role of esports for higher education institutions. (taken from Foxman et al., 2024)

Such subdivision highlights how different interests might lie behind the establishment of collegiate esports programmes, especially if we confront bottom-up student initiatives (B. C. Harris et al., 2022) against the top-down administrative efforts of employing esports for institutional purposes (Foxman et al., 2024; Lee & Lee, 2025; Lu et al., 2024). Examining the organisational charts of different tiers, we can observe how varsity teams employ a variety of students and administrators (see Fig. 13), and are typically located within intercollegiate athletic departments or universities’ sports sectors.



Fig. I. An exemplary varsity esports programme’s organisational structure, highlighting the different roles involved. If top-chart roles are usually filled by specialised workers, most commonly from administrative or teaching university staff, low-tier roles are often a prerogative of students, who frequently utilise ancillary clubs to promote students’ post-educational career opportunities and experiential training. (taken from Foxman et al., 2024)

On the other hand, recreational clubs retain the grassroots flavour of early collegiate esports teams, prompting students to get involved in a series of ancillary services that can subsequently be integrated into the esports ecosystem, not least because of the legitimacy they bring to the possibility of a proper job within the esports industry (B. C. Harris et al., 2022; Keiper et al., 2017).

However, when comparing their prototypical organisational structure (Fig. 14) with those of the upper tiers, we can see how the diffused desire to “go pro” and become professional often clashes with institutional demands, like the availability of university spaces and the co-existence of competitions with other collegiate endeavours (Fisackerly & Hwang, 2024; B. C. Harris et al., 2022; Schaeperkoetter et al., 2017). Nonetheless, many universities are looking at esports as “the next varsity draw” (Karsenti, 2020), heavily investing in it as a way to foster their brand and retain new generations of students (Fisackerly & Hwang, 2024; Keiper et al., 2017; Lee & Lee, 2025; Scott et al., 2022).

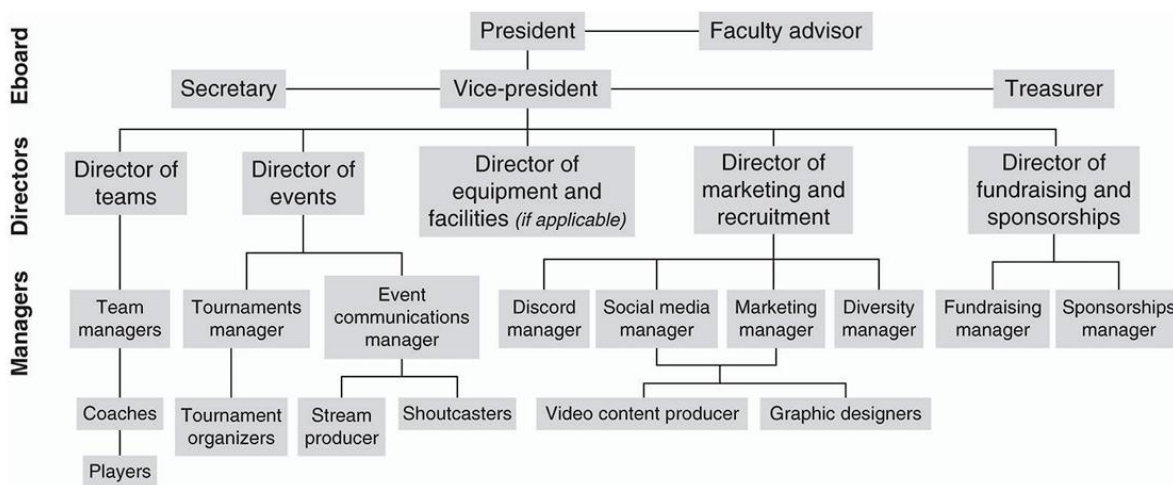


Fig. II. Example of an organisational chart for a club-based collegiate esports team. As shown in the picture, clubs can achieve complex organisational structures even without the considerable institutional support found in varsity teams; however, they heavily rely on the unpaid work of passionate students wishing to “go pro” (Schaeperkoetter et al., 2017) for an effective deployment. (Foxman et al., 2024)

The relative cost of starting a varsity team – approximately \$41’000 in 2019 (Cunningham, 2019) – lead to varying degrees of institutional support by worldwide educational institutions, which rapidly engaged in an esports arms race to obtain State funds, private investors’ support, and media exposure (e.g., ESPN’s “Heroes of the Dorm” series; Barnett, 2016; Kauwelo, 2021). If this increasing interest brought investments to rise significantly, with current estimates indicating that approximately \$16 million has been infused only by U.S. higher education bodies into the esports ecosystem (Flannery, 2021), it also spurred the attention of game publishers, which became actively involved in the collegiate landscape through specific associations (e.g., the Riot Scholastic Association of America, or RSAA) and collegiate-level restricted leagues, often employed as junior leagues for the benefit of top-tier professional teams (Scholz, 2019).

Indeed, professionalising varsity players might result in an unsustainable situation for the esports ecosystem, risking the launch of a mass of scholarship-waged players into precariousness and overwhelming competitive gaming with wannabe professionals. Indeed, the precarious and often unpaid role of users has been variously demonstrated by esports scholars (e.g., B. C. Harris et al., 2022; Johnson &

Woodcock, 2021), who underlined the difficulty of the ecosystem in proposing sustainable business models for the lower levels of its landscape – i.e., users (Bayliss, 2016; Costa, 2020; Scholz, 2019). Not surprisingly, most universities and lower institutions do not employ esports for the sake of professionalising their students into a competitive career, as happens with other collegiate sports programmes, although a rising stream of educational curricula is starting to be aimed at that purpose (Jenny et al., 2021; Jenny, Gawrysiak, et al., 2024; McClellan et al., 2023; Rothwell & Shaffer, 2019; Scott et al., 2022; Zhong et al., 2024). Instead, colleges often market their agendas in terms of social, technical, and professional skills development (Foxman et al., 2024), with community-building motives at the centre for many institutions. For instance, the University of Washington's (2023; as cited in Foxman et al., 2024) esports program is explicitly focused on three pillars: building community, developing a career development pipeline, and cultivating a competitive gaming brand.

This is not the sole institution emphasising social or community outcomes, as many others offer wellness advisers for players or promote inclusivity, in a strive to counteract negative stereotypes associated with gaming (Foxman et al., 2024; Kauwelo, 2021). Codes of conduct and minority-promoting initiatives address one of the main issues affecting collegiate esports: diversity, equity, and inclusion (DEI) goals. These issues ultimately resulted in the withdrawal of the U.S. National Collegiate Association (NCAA) from investing in organising esports competitions, citing concerns about compliance with the U.S.-influential Title IX's gender equity statutes, misogynistic gaming cultures, diffused amateurism, players' health issues, and violence permeating video games (Schad, 2019). Indeed, independent governing entities, like the National Association of Collegiate Esports (NACE), which organises the Starleague competition, still struggle to provide equal space for minorities. Although NACE Starleague has partnerships with thousands of institutions (254 as of 2024; Foxman et al., 2024) across a wide range of titles (Valorant, Super Smash Bros., Hearthstone, etc.), difficulties persist in representing both genders equally, for example. Both insiders and scholarly reports claim esports to have a drastic gender imbalance, with nearly 90% of varsity e-athletes being male (Schonbrun, 2017).

Thus, alongside rising scholarship prizes (reaching a total of \$165'000 in 2022; PlayFly Esports, 2022), NACE and other intercollegiate organisations are partnering with a range of stakeholders to promote the sportification (read, institutionalisation) of esports as a viable varsity athletic activity (Fisackerly & Hwang, 2024; Summerley, 2020). An

example in this sense is represented by partnerships with traditional sports conferences (e.g., the Big 10 Conference) and the creation of a platform for regional tournament organising (e.g., the American Esports League, or ACEL).

However, the game-changers in this topic come from the esports ecosystem, specifically from representatives of the broader gaming industry who are interested in promoting gender and minority inclusion in the field. An example is the non-profit organisation AnyKey, founded by two prominent game scholars (T. L. Taylor and Morgan Romine) and backed by influential esports stakeholders (e.g., ESL and Intel; McKeand, 2016). This organisation actively promotes inclusion, diversity, and equity inside the esports industry, advising stakeholders on research-driven solutions to reduce intersectional obstacles and empower marginalised players (AnyKey, n.d.).

Among their proposals, we can find a white paper specifically tackling collegiate esports environments, able to go “above and beyond compliance with the law” (AnyKey, 2016, p. 5) to foster a more inclusive culture in gaming (Kauwelo, 2021). By using “case histories, successful prior interventions, learning from failures, and empirical data”, the organisation aims to transform official esports programmes into opportunities for “mentorship and multi-level skills training” (AnyKey, 2016, p. 1). A range of American universities, then, employed the document as a guideline for building safer esports curricula, leveraging the realistic objectives it outlined to nurture inclusive grassroots initiatives (AnyKey, 2016; Kauwelo, 2021). For example, the Crimson Gaming club, founded at the University of Utah, hosted girls’ night events to foster community building, overcoming overly formalised esports structures to break down the “structural and cultural barriers” women face in gaming (Romine, 2019). Concurrently, the spread of esports-specific training courses will foster knowledge on how to create welcoming environments for people of colour (POC) and LGBT individuals, who are also significantly underrepresented in other collegiate sports programs (Foxman et al., 2024; Harrison et al., 2024; Kauwelo, 2021; N. Taylor & Hammond, 2018).

Nevertheless, other hidden dangers lurk inside collegiate esports, such as the alarming datafication and instrumentation of movement that increasingly inhabit esports and sports studies (N. Taylor, 2020)²⁴. Significant work remains to achieve

²⁴ On this point, however, it should be noted how the study by Nick Taylor (2020) also underlines that the digital nature of esports, paradoxically, achieves to explicitly unveil datafication and, as a consequence, the algorithmic surveillance we are increasingly subjected in more and more areas of our

sustainability and inclusion in collegiate esports, particularly given the increasing hurdles that late adopters face as they enter this ecosystem. In fact, backing such initiatives requires a combination of facilities, equipment, coaching, and scholarships. For example, the growing market for gaming venues (Jenny et al., 2018) prompted Ohio University to invest \$723'000 in its arena (Popke, 2022). In contrast, the University of North Carolina, Greensboro, received \$2.4 million in state funds to establish an esports facility (UNC Greensboro, 2022). Ultimately, these difficulties further complicate a professionalisation of collegiate esports members, who remain caught in-between the dream of pursuing a career in competitive gaming and the necessity of continuing their educational path (Foxman et al., 2024). A situation further complicated by the reticence displayed by some university administrators, who often refrain from allowing esports teams to use the university's brand in gaming merchandise, logos, and broadcasts, due to the permanence of negative stereotypes related to violence-generating play and other biases regarding competitive gaming (Foxman et al., 2024). Additionally, prize money and individual sponsorships might complicate students' financial aid packages, leaving them excluded from one of the primary revenue sources of the field, in fear of losing the educational support they need to pursue their training career (Foxman et al., 2024; Ludwig & Lachmann, 2024; Scholz et al., 2021).

To conclude, we can observe that, although university esports initiatives are spreading globally and local leagues continue to pop up (e.g., the Dutch College League, Malaysia Campus League, Esports Association Ghana, etc.), integrating esports into collegiate programmes still results in significant internal costs and infrastructural challenges (Foxman et al., 2024; Kauwelo, 2021). Moreover, the inclusion of esports within college athletic departments has sparked a renewed discussion over the nature of competitive gaming, with many scholars and institutions baulking at granting esports the legitimacy necessary to enter varsity associationism (Fisackerly & Hwang, 2024; Kane & Spradley, 2017).

everyday social reality (Floridi, 2014, 2015; Hardt & Negri, 2001; Pais & Stark, 2022; van Dijck, 2014; Zuboff, 2019).

Appendix IV: A hurdle run: Conducting research among personal and field constraints

Doing ethnographic research from a reflexive and interpretivist stance (cf. Cardano, 2023), I naturally reflected on my own positionality regarding the other research participants and academia, as well. What I mean here is that, in addition to my previous acquaintance with the topic (see the following lines), I also actively reflected on the peculiarities of doing on-site research while living with a severe disability, such as the one I have had since birth. Hence, the following lines will present a summary of my personal reflections on this condition, especially underscoring the impact of my physical impairment on both academic and field movements (i.e., on my knowledge production). Then, I will connect these reflections to the extant literature on ethnographic positionality, drawing parallels with other “edge” situations in fieldwork.

I. Scholar dream on wheels: Transforming everyday disability routines into a differential identity

Have you heard my wheels scratching during the reading so far? The question may seem unexpected, but I suspect even the most sensitive scholars could discern my personal condition while scrolling through the thesis. This is not a casual effect of a particularly well-written piece of academic writing (which, by the way, I doubt my thesis to be), but the (un)desired effect of the authorial style promoted within scholarly institutions at this time and in this part of the world (cf. Haraway, 1988). If ethnographers prompt reflections on the idiosyncratic positioning of a researcher with respect to their chosen object of study, the academic postures I had to contend with were far less permeable to concerns about the impact of individual and social elements on research practice, at least explicitly. Before resuming the schizoid tendencies I encountered during my doctoral pathway, it may be useful to disclose my personal condition, also to avoid the perils of competitive victimhood (Noor et al., 2008) or, even worse, to justify the limitations of this current work. On the contrary, this appendix aims, once again, to reconstruct the inherently networked nature of knowledge production (Bowker & Star, 2000; Law, 2004; Morton, 2010), further contributing to the dismantling of the myth of the “lone researcher” (or anthropologist, ethnographer, etc.), launched in a holy war against the unknown and the subjective (Bourdieu, 1984/1988; Knorr-Cetina, 1999).

This brings us to the first and most prominent element of my positionality, something that so closely relates to who I am that it ultimately impacts every sphere of my being. I am referring to my physical disability, which has shaped me as a human being (not a man, but a cyborg) and has accompanied me throughout my life course. To be precise, I live with a chronic condition of impairment due to a congenital disease called Spinal Muscular Atrophy, commonly nicknamed “SMA.” The effects of this disease are multiple and biologically stratified, but they primarily involve faulty neuromuscular transmission between my nerves and my muscles (Lunn & Wang, 2008). The severity of my condition has forced me to use medical aids since childhood and has hindered my muscles from developing properly and my joints from maintaining their usual shape and functionality. Additionally, I often experience breathing difficulties and require the help of a caregiver for nearly every daily routine, from eating to toileting. As I mentioned, I move with an electrically powered wheelchair (i.e., a powerchair) within delimited spaces, which means I can do so until I encounter an insurmountable hurdle – such as a closed door, a restricted passage, or a small step. Even within those areas, I need help or special devices to perform my intended actions, including the simplest ones (e.g., pouring myself a glass of water).

Nonetheless, my disability is also a substantial part of my identity: using sports as a proxy for empowerment, growing up, I transformed my diversity from a way to “stand out” from the commons to a more complex tool to promote social inclusion, participating in activist campaigns and morphing into a model for a possible escape route from stigmatisation (Berger, 2009; McGillivray et al., 2021; Moola & Norman, 2014). Indeed, I not only found personal realisation (and satisfaction) from becoming a top-tier athlete in two different disciplines (powerchair hockey and football), winning a long series of individual and team prizes, but I rapidly turned this success into the chance to launch educational programmes for younger generations, going into (local) schools to teach about disability, equity, and inclusion (DEI). In fact, during the doctorate, I transitioned from the position of athlete to that of coach and Paralympic representative, initiating a career within national and international institutions ruling my sports and their social initiatives. As will become clear later on, though, this identity as a disabled athlete and activist suffered a significant repercussion after my ethnographic journey, resulting in a profound personal transformation.

Going back to my physical impairment for a moment, I think it may be useful to stress how my condition impacted my academic life. I already mentioned the amount of

assistance I need to perform even the simplest daily tasks, but this also means that most of the taken-for-granted behaviours constituting academic life were completely out of reach for me. Situations I was constantly confronted with, even during my doctoral lessons. For example, I could not get to classrooms autonomously: public transport was not sufficiently prepared to accommodate my powerchair, nor was there the possibility of taking an apartment nearby (economically speaking); moreover, the university's transport service let me down three times in two weeks (note that lesson attendance was mandatory) before I decided to quit it and go by car (with my assistant driving). Let's continue with this example: if the PhD coordinator fortunately managed to get a parking space for me (informally at first, more officially some time later, but not without a constant battle to find it available), it should be noted that the entrance to the building where classrooms were located was positioned at the middle of a grating and tight (I occupied it entirely) sideways with only one ramp (on the far end, of course), and that the first of the two entrance doors was locked (to be opened with a badge on the door handle). All this, and we are yet to enter the university offices: add to it the proverbial Milan-related distress and the fact that half of the lessons were to be held in Turin (nearly 1.5 hours from my Milanese flat), where I needed to rely on a hotel (for two, since I also need nighttime assistance), and you will get at least part of my routine for the first PhD year (and my life, more generally). If, for trivial tasks such as photocopying or clearing a space in the co-studying area, I could rely on social support (i.e., my colleagues and structure janitors), it was exactly during interpersonal exchanges that the social stigma emerged most prominently: during discussions with the course instructors and in the empirical field. Of course, this frailty was not solely mine, since the entire doctoral process (at least in Italy) puts you in a precarious position, both economically and personally (Bozzon et al., 2017). However, this leads to the second part of this positionality statement: feeling a stranger within academia, and later becoming an insider within a field.

II. Back on track: Bringing my disabled identity to the field and making it a tool for co-constructing meaning

Let me be clear: as a trained psychologist and social scientist, I was prepared to confront the emotional impact of conducting qualitative research, profoundly interacting with (more-or-less) human beings, and even facing dangerous situations in

my scholarly work (Boellstorff et al., 2012; Clifford & Marcus, 1986; Davies, 1998). What I did not expect was to experience these feelings of displacement and “strangeness” within the walls of academia. If it is true that academic “fear” signals a need to normalise diversity and incommensurability within the regimentation of “scientific” categories (Bowker & Star, 2000; Remotti, 2011), during my doctorate I suddenly discovered what it feels like to *be*, to incarnate, that difference. I was the known element (a “common” PhD student aiming for ethnographic fieldwork) forced to become an unknown (a “powerchair” entering a non-disabled environment, observing, or even just reflecting on doing field research). Generally, I found my instructors to be scarcely prepared to answer questions about the viability of a participant observation “on wheels.” I do not blame them, since I personally struggled to find literature that collected the experiences of disabled ethnographers. Of course, my failure does not mean I am the first, nor that I am the sole one facing these problems globally, as many others have to (or will) face the hurdles of doing research through some impairment. However, instead of lamenting the difficulties of being accepted as a “sufficiently good” scholar by peers, which means facing subtle stereotyping and ostracism (by which I was only tangentially touched), I would like to take the opportunity to reflect more intimately on my disabled positionality. To be honest, the first time I was asked, given my choice of adopting an ethnographic posture, whether I would consider including reflections on disabled gamers, I did not think of it as a stigmatising move, nor did I the second or even third time the argument was brought up. Yet, after stacking a pile of similar clues, I started to feel uncomfortable whenever such a theme was thrown in. In a reflexive move, I decided not to frame this as mere superficiality by my older colleagues (for them, I was a person with disability, so it was obvious that I was an expert, and interested in pursuing at least side-research, on the topic), nor to dismiss my uneasiness with the effect of patronising, demeaning, or other socially excluding behaviours. Unearthing my deepest fears, I discovered that the source of this silent load of discomfort was more the process of internalisation of this “differential identity.” In other words, I was worried that this “stand out” effect among scholarly peers would just anticipate being unable to be accepted by the field and its participants. What was once one of my strongest points, that is, living constantly in what Simmel called the “sociological form” of the “stranger” (Simmel, 1908/2018), always suspended between two or more social realms, became also a crucial hurdle toward the realisation of my “me-as-a-researcher identity.” I was caught in a psychological dilemma: to confront my

disability directly, as I always did, and force it as a reading lens for the surrounding world; or, instead, to start working on silencing my difference, learning to camouflage my being and go unnoticed, in order to avoid perturbing my observation and, hence, my results. What those nudges on disability were suggesting to me, ultimately, was to choose between being a researcher or a person with (and proud of) his disability. It was not, anymore, a matter of “insurmountable barriers” or social isolation; on the contrary, it was a matter of deciding what to prioritise. I felt a (mostly implicit) pressure to decide whether to put scientific objectivity front and centre, or to leave it aside for a more partial, yet personal, way of knowing. A dilemma that surely affected many other researchers, for this and other reasons, whenever they had to confront an ineliminable difference between them and their field (Williams & Treadwell, 2008). With the support of colleagues and, most importantly, my supervisor (as well as the literature), I decided to adopt a more interpretivist and reflexive posture (Altheide & Johnson, 1994; Davies, 1998).

Instead of ignoring that I was not able to directly observe or talk with some (even substantial) parts of my field, I decided to pursue a two-pronged approach: co-construct knowledge and emphasise its inherently ecological nature. This was not only a methodological choice but also a coherent decision in line with the theoretical reflections on ecology and the co-construction of meaning that I exposed during this thesis (cf. Bateson, 2000). Moving beyond the “insider-outsider” positioning well-known in ethnographic literature (Hodkinson, 2005), I placed my disability as a discussable element for both the participants and me, often prompting personal disclosures (as well as some awkward embarrassments, too). My disability, indeed, took no more than five minutes for it to emerge (as a problem to be dealt with) when I first visited the Qlash House (my entry point to esports’ gaming houses). Since a conspicuous part of the House was blocked off by staircases (something I was warned about during my introductory calls), I openly asked the manager to describe that part of the building and to allow my assistant to go take pictures. As this was the opportunity for the manager to disclose their familiarity with people with disabilities (describing himself as “sensitive” on the topic), this clearly helped to frame the relationship as mutually enriching and collaborative. This prompted a much more proactive posture from all participants, from managers to players, which enthusiastically provided insights (and even material help) to refine my fieldwork observations. This, of course, was not without awkward moments: from initial stiffness about the topic of disability, to

the fear of explicitly manifesting the typical toxicity of online gaming, which often takes impairments as an element to (negatively) joke about. Still, bringing up the element more explicitly, as well as overtly asking for help on manifold occasions (from opening doors to “classical” explanations), forced participants to step into the research process, actively (and materially) shaping what and how I could observe. Again, such a move was not an entirely made-up choice, as literature is rife with examples of co-constructed studies guided by interpretivist epistemology (cf. Charmaz, 2014). Then, treating data not as objective “facts” but as co-fabricated subjective accounts of how participants understood and navigated the blurred boundaries between home and work. On the one hand, this was facilitated by two elements: first, the icebreaking rupture caused by my overt demands for help; second, the fact that such requests were made in the jargon of esports (Bucerius, 2013). Indeed, I had previously researched and immersed myself in gaming culture before entering gaming houses, thus having sufficient literacy to understand most of the participants’ in-jokes (mostly memes; Consalvo, 2012; Varis & Blommaert, 2015). If this facilitated entry into “esports ranks,” my disability also helped maintain the distance needed to confront the participants’ points of view, thereby balancing my positionality between “going native” and preserving researcher objectivity (Boellstorff et al., 2012; Cardano, 2023).

I want to conclude this appendix by focusing on an episode that occurred during field observation, once again prompted by my condition. It was my last visit to a gaming house, and after visiting the field multiple times in northern Italy, I was at Macko’s Gaming House, a very famous mansion in the southern region of Apulia. I had my first contacts with the Macko team during peak Italian events, especially the Milan Games Week, where I had the opportunity to meet and arrange a visit with the owner, Antonio Todisco. Since our first encounter was face-to-face, I had already introduced him and his loyal manager, Andrea “Korax” Planamente, to my physical disability, finding both to be sufficiently laid-back on the subject, at least on the surface. In fact, Antonio quickly overcome its initial doubts about the accessibility of its structure, even proposing that I stay in the residence attached to the gaming area. In the meantime, Korax remained silent on his side, making a strange contrast with the expansiveness of the owner. At first, I thought it was due to the high-pressure moment I experienced after winning a major accolade from the Italian esports community, surrounded by fans eager for a pic or an autograph from their LoL roster. However, Korax’s more cautious positioning was confirmed through our second contact, this time through a call, when

I finally managed to get his personal contact through Francesco “Deugemo” Lombardo. In this second chat we were having, he expressed doubts about internal spaces, denying the possibility to reside or sleeping in their structure (an offer that, anyway, I already declined), claiming that most parts of their structure were “mandatorily accessible,” whereas the offices remained less prone to be navigated by a powerchair. Appreciating his honesty, I finished arranging the visit by already warning the manager about the possibility of needing his help throughout the research process. At this point, his answer was surprisingly open: he not only granted me any support I needed, but also offered help for any other project I might pursue. An offer that, after some reflection, I decided to seize: shortly after that call, I entered a new phase of a collaborative project with a postdoc scholar from Turin, Arianna Boldi, which required interviewees for a qualitative inquiry into the working conditions of Italian esports practitioners. Hence, I asked Korax about the possibility of leaving his contact information to my colleague, who was appointed to the interview process (even though we had long discussed the possibility of interviewing him myself to enhance my doctoral studies). Korax’s interview corresponded with one of the most unexpected disclosures of my (and my colleague’s) research experience, since he openly talked about his medical condition and the frailty associated with it. A point that, when I finally got to visit Macko House, he brought up himself, adding further details and even explaining to me why he tried to warn me about the barriers within the building: having been on the “opposite side of normalcy” (sic.), he knew that, sometimes, goodheartedness does not correspond to respect (Korax, fieldnotes). With this, he meant that he wanted me to make the most of the visit, thereby criticising the forced structural choices they had to make about office dimensions and internal spaces. If this prompted him to reveal and detail his side-business activity as owner of a gaming café and watchparty arena, he also proved to me to be prepared on the bureaucratic and legal dimensions of his role. On the one hand, such a need for confirmation was something Arianna and I were actively discussing when analysing his interview, finding it an element that connected with struggles of recognition (and legitimation) that colours the esports environment. On the other hand, it was also the springboard for a nearly hour-long exchange between Korax and me, in which he tried to apply such a managerial approach to the entire Italian esports scene. While I, of course, benefited from his point of view on the lack of regulation in the esports industry (even though I confronted that with some first legislative moves made by the Italian government), I

could not help but notice that all this enflamed discourse about precariousness was sparked by the initial introduction of his personal frailty as he, himself, a “stranger” between his colleagues. After resonating with him about the side-eyeing of fellow players (or scholars, in my case), he found the ability and the words to open up about the injustices related to the industry’s crookedness in esports, and to talk openly about precarity without fear of being judged for his position as a minority. Yet, what Arianna and I spotted in his posture was sometimes a risk of assuming moral superiority over his peers, always on the verge of transforming his (like mine) point of view into a privileged perspective. A risk that I feared many times of slipping into, thereby reinforcing my reflexive critiquing of employing my impairment so overtly as a research tool. Indeed, taking this co-constructive positioning on the ethnographic process did not exempt me from being instrumentalised by the research participants: from leveraging my scholarly background for their own reputation to transforming me into a dummy for some “inspiration porn” for their e-athletes (Haller & Preston, 2016), my disability did not save me from fighting constantly to maintain my position as both an objective observer and part of the field (Pandeli et al., 2022; Taylor, 2022).

III. Embracing oneself: Accepting a scholar’s individuality through the research process

In conclusion, this appendix aimed to draft seminal reflections on the impact of one’s disability not only on the research process but also on academic life and occupational possibilities. Instead of constructing my “scholar-on-wheels” differential identity as a privileged positioning, I wanted to insert my posture alongside the other possible fragilities that (early-stage) researchers might encounter along the way. Given that most of academia seems ill-prepared on how to confront such (structurally) precarious positionings, this brief piece aims to stress the importance of acknowledging the opening possibilities of a more ecological, yet reflexive, positioning. By accepting, co-constructing, and critically appraising one’s personal inclinations, conditions, or even frank preferences, one might, in fact, result in a more equal and transparent research process, one that could also restore the participant’s possibility to affirm a subjective positioning and pursue their own, out-of-research interest. Indeed, we are not but a part of our participants’ life network; hence, we should always look at them both through the disturbance we may produce as well as through the possibilities we may

offer them, from venting to bringing plain disturbance. Still, a truly ecological (or even just qualitative) posture cannot avoid (critically) considering one's impact on the surrounding network, since the research itself becomes a linked environment of intra-acting agencies. While we should always look for possible hints of the driveaway dynamics we might have generated by entering the field, we should also acknowledge that (many elements of) our individuality constitute an unavoidable part of ourselves. Hence, this appendix should be read as a strong shout-out for a more personal, even intimate way to look at our research choices (from theory to methodologies), since we are well past the time when the (simulated) objectivity of a “normative scholar” was the sole legitimising criterion for scientific excellence (Pascoe, 2022; Venäläinen, 2023).

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Appendix: List of Figures and Tables

Number	Caption	Page
Tab. I	The table displays typical collegiate esports programmes and team types, organised through common categories found in collegiate sports studies. The table highlights how different types of esports programmes correspond to diverging aims underpinning team formation and participation, prompting reflection on the role of esports for higher education institutions. (taken from Foxman et al., 2024)	p. xxv
Fig. I	An exemplary varsity esports programme's organisational structure, highlighting the different roles involved. If top-chart roles are usually filled by specialised workers, most commonly from administrative or teaching university staff, low-tier roles are often a prerogative of students, who frequently utilise ancillary clubs to promote students' post-educational career opportunities and experiential training. (taken from Foxman et al., 2024)	p. xxvi
Fig. II	Example of an organisational chart for a club-based collegiate esports team. As shown in the picture, clubs can achieve complex organisational structures even without the considerable institutional support found in varsity teams; however, they heavily rely on the unpaid work of passionate students wishing to "go pro" (Schaeperkoetter et al., 2017) for an effective deployment. (Foxman et al., 2024)	p. xvii

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