

The datafication of e-sports players and specialty hotels as venues for online communities

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ABSTRACT

This study investigates E-sports hotels as hybrid environments where digital networks and physical infrastructures converge to transform leisure into data-driven labor. The purpose is to analyze how these venues shape gamer identity, social belonging, and economic participation through algorithmic governance and datafication. Using an interpretive framework grounded in media studies, sociology, and computational modeling, the paper conceptualizes E-sports hotels as nodes within a tripartite network linking players, platforms, and physical spaces. The methodology integrates theoretical synthesis with a formalized utility model that represents player decision-making based on convenience, belonging, environmental quality, and algorithmic influence. Findings reveal that players' perceived choices are strongly conditioned by data-driven recommendation systems and that a sense of belonging exerts greater influence on consumer behavior than traditional factors such as price or location. E-sports hotels convert this social validation into economic and algorithmic value, reinforcing a feedback loop between identity formation and platform visibility. The study concludes that these venues operate not merely as hospitality businesses but as infrastructures of platform capitalism, where user behavior continuously generates data capital. The practical implications suggest that understanding such hybrid spaces is essential for policymakers, designers, and cultural theorists seeking to navigate the intersections of leisure, data governance, and emerging digital economies.

Keywords: E-sports hotels, Datafication, Algorithmic governance, Hybrid space, Platform capitalism, Digital identity.

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Highlights of this paper

- This paper redefines e-sports hotels as hybrid spaces where leisure activities are transformed into data labor.
- This study develops a tripartite model that links players, platforms, and hotels within the framework of algorithmic governance.
- I find that social belonging outweighs price and location as the primary economic drivers.

1. INTRODUCTION

In recent years, the rapid expansion of technology has drastically transformed the ways people work, interact, and entertain themselves. Among numerous developments, e-sports a form of competitive video gaming, has evolved from a niche hobby into a thriving business industry, with particularly rapid growth in East Asia. This expansion has spurred the emergence of specialized venues known as e-sports hotels, which offer high-performance equipment, immersive environments, and opportunities for social connection for their customers. These establishments are more than just an additional accommodation option, as they represent a new social space where online and offline community bonding intersect.

E-sports hotels appeal to a young generation seeking both competition and psychological belonging in digital culture, as their identities are shaped by online interactions. E-sports players are no longer just individuals engaging in casual play, but are active participants in a vast, complex algorithmic systems that track their preferences, skill levels, and social networks. This phenomenon is known as *datafication*, in which every click, every gaming achievement contributes to a customized digital profile that influences how platforms and businesses engage with different individuals. Within this context, e-sports hotels operate as physical nodes in the digital world, allowing players to make their datafied identities a reality while experiencing a new form of socialization.

Unexpectedly, e-sports hotels have also evolved into a psychological refuge. This can be explained by *behavioral convergence*, where players subconsciously align their actions with observed peer behavior, creating a therapeutic effect. The physical presence of like-minded players helps provide social validation for young individuals who may otherwise feel isolated in their offline environments, reinforcing their sense of belonging within a space of shared understanding.

A key factor shaping this environment is *algorithmic governance*, where social media and streaming platforms collect large amounts of data to categorize users, predict their preferences, and even influence their decisions, including where they choose to game. This algorithm implicitly manipulates user behavior through personalized recommendations, advertisements, and other curated content. E-sports hotels benefit from this system by presenting themselves as ideal gaming destinations for players, strategically influencing digital trends to attract their consumers. However, this also raises questions regarding consumer autonomy: To what extent are gamers making independent choices in comparison to being influenced by unseen algorithms?

This trend is also deeply correlated to the modern *gig economy*, which has redefined how leisure activities like gaming are perceived from an economic perspective. In the past, competitive gaming was often dismissed as an unproductive recreation. Nowadays, however, e-sports hotels have played a critical role as spaces for players to practice, network, and even find career opportunities. The rise of e-sports has created opportunities for advanced players to transform this activity into a profession through monetization channels, such as streaming, sponsorships, and competitions. In doing so, such venues recognize gaming as a legitimate occupation, challenging former traditional perceptions of productivity.

This paper examines how e-sports hotels function as modern social venues, shaping identity, fostering community, and influencing power dynamics within the gaming world. By analyzing user behavior and stakeholder relationships, this study seeks to answer key questions:

1. How do e-sports hotels reinforce or redefine gamer identities compared to playing at home?
2. What unique social norms and communication styles emerge in these spaces?
3. Who holds power in this online ecosystem? Hotels, gaming platforms, or the players themselves?

These questions are interconnected. E-sports hotels reshape gamer identities by moving play from the private sphere into public, hybrid environments. At home, identity remains flexible and individual. In hotels, visibility, data collection, and peer comparison stabilize roles such as competitor or influencer. These spaces also cultivate distinctive norms and communication styles. Shared rituals, slang, and interactional codes emerge from constant co-presence, reinforcing belonging and collective identity.

2. LITERATURE REVIEW

2.1. Introduction

This chapter examines how e-sports hotels have emerged as hybrid social and economic institutions within the broader platform economy. It draws from four interconnected literatures: the evolution of e-sports as an industry, the datafication of digital leisure, the spatial dynamics of hybrid environments, and the cultural logics of algorithmic governance. Together, these works reveal that e-sports hotels are not merely entertainment venues. They are spaces where digital identity, social belonging, and platform capitalism converge.

2.2. Recognition of E-Sports

E-sports transitioned from informal competition to a recognized professional field during the 2010s. The transformation was accelerated by global investment, university programs, and large-scale tournaments. Scholars emphasize the social redefinition of gaming from leisure to labor, from pastime to profession (Taylor, 2012). The phenomenon embodies what (Castells, 2009) called a “network society,” in which connectivity becomes a primary mode of economic and cultural production.

Research in sport and media studies demonstrates that e-sports represent a collaborative, performative leisure practice rather than solitary play (Seo & Jung, 2016). This reconceptualization expands traditional sport sociology to include algorithmically mediated competition, new labor relations, and audience co-creation.

2.3. Datafication and Algorithmic Identity

The datafication of play transforms experience into measurable signals. Every keystroke, score, and interaction generates data that shapes how platforms perceive and reward players. These data systems do not simply record behavior; they produce the gamer as a category of value. Building on Bucher (2018) and Beer (2019), algorithmic power functions through prediction, personalization, and feedback loops. Gillespie (2014) describes such algorithms as “relevance engines” that quietly govern cultural visibility.

Couldry and Mejias (2019) extend this argument to “data colonialism,” the ongoing appropriation of human life through digital extraction. Within this framework, e-sports hotels operate as material extensions of platform systems: on-site play becomes both recreation and data production. The player’s actions generate information that refines platform analytics, and those analytics, in turn, influence where and how players choose to play.

2.4. Hybrid Spaces and the Production of Place

E-sports hotels exist at the intersection of online networks and physical co-presence. De Souza e Silva (2006) introduced the concept of *hybrid space* environments shaped by continuous connectivity between digital and physical

realms. Oldenburg's (1999) notion of the “third place” also helps explain their social function: neither home nor workplace, these hotels provide informal arenas for community.

Empirical studies show that LAN centers and dedicated gaming venues operate as “micro-communities of practice,” cultivating shared rituals and codes of interaction (Jenny, Manning, Keiper, & Olrich, 2013). Their design part hotel, part esports arena, translates the fluidity of online networks into tangible experiences. Lefebvre (1991), the theory of the *production of space* clarifies this dynamic: space itself becomes a social product structured by technology, labor, and consumption. Thus, e-sports hotels spatialize the digital network society described by Castells (2009) into localized, embodied practice.

2.5. Behavioral Convergence and Psychological Belonging

A striking feature of these venues is the cohesion they create among participants. Classic research on behavioral mimicry demonstrates that subtle imitation strengthens group solidarity (Chartrand & Bargh, 1999; Lakin, Jefferis, Cheng, & Chartrand, 2003). This “chameleon effect” appears in e-sports settings as synchronized play rhythms, shared gestures, and peer emulation. The result is an affective atmosphere of belonging, which (Rainie & Wellman, 2012) call a *networked public*.

Boyd (2014) similarly argues that online spaces provide identity scaffolds for youth seeking recognition. E-sports hotels materialize these networked publics, offering embodied affirmation within a culture often mediated through screens. The interplay of mimicry, co-presence, and feedback produces a psychological refuge that reinforces self-concept and community membership.

2.6. Platform Capitalism and the Commodification of Play

E-sports hotels also participate in a broader system of platform capitalism (Srnicek, 2017). The value they generate stems not only from hospitality revenue but also from the data, visibility, and engagement they funnel into digital ecosystems. Terranova (2000) described this as “free labor”: users’ unpaid production of cultural and informational goods. Taylor (2012) later observed that professional gaming transforms leisure into labor through streaming, sponsorship, and performance metrics.

Nieborg and Poell (2018) term this dynamic “platformization,” where cultural production becomes dependent on a handful of data infrastructures. Within such systems, players act simultaneously as workers and consumers. Their participation yields the very data that sustain the economy of attention. E-sports hotels embody this duality by monetizing both physical occupancy and digital presence.

2.7. Algorithmic Governance and Negotiated Agency

Algorithmic governance determines what becomes visible, desirable, or profitable within digital leisure. Yet, this power is never absolute. Players engage in what Hjorth and Richardson (2020) call “ambient play,” using improvisation and creative resistance to navigate structured systems. In the same way, e-sports hotel communities form localized cultures that occasionally subvert platform incentives through off-stream collaboration, team formation, or informal economies of reputation.

These micro-resistances illustrate that agency persists within constraints. As Van Dijck (2013) reminds us, connectivity is both enabling and disciplinary. E-sports hotels thus operate as contested spaces of algorithmic negotiation, where autonomy, belonging, and visibility are constantly recalibrated.

3. THE THEORETICAL FRAMEWORK

E-sports hotels are rapidly emerging across China. They offer more than a new form of lodging. They combine data, community, and power in ways that reflect both technology and social change. This trend cannot be explained only as tourism. It is not only a part of digital culture; instead, it is a mix of physical spaces, algorithmic systems, and human interaction. These forces create places for leisure and shape identities. They open new paths for economic growth. The framework here draws on media studies, sociology, and computational modeling. It sees e-sports hotels not just as businesses, but as agents that influence gamer identities, set new social norms, and shift power in China's fast-changing digital economy.

3.1. Datafication: The Identity Infrastructure

At the core of this framework is datafication, the constant recording, quantifying, and analysis of players' actions. In China, this process is highly advanced because gaming platforms are closely linked with payment systems like WeChat Pay and Alipay, streaming services such as Douyu and Huya, and social media platforms including Weibo and Bilibili. Every game played in a hotel, from a casual match in Honor of Kings to a ranked competition in League of Legends, adds to a growing dataset. This dataset captures skill level, genre preference, spending habits, and even social connections.

The data is active, not passive. It influences how platforms see and treat players. Algorithms assign matchmaking ranks, recommend purchases, and suggest content or competitors based on a player's profile. A skilled and frequent first-person shooter player, for example, may receive ads for hotels hosting Counter-Strike: Global Offensive tournaments. In this way, a player's digital identity is shaped both by their own actions and by algorithmic interpretation. E-sports hotels act as physical nodes in this network. They benefit from targeted engagement, and they contribute to it by producing new data from offline gaming sessions.

Methodological Role: This concept functions as the data-generating tool for the algorithmic governance layer of the final model, providing the information (user profiles, behavioral data) that defines the connections in the network model.

3.2. Hybrid Space Theory

The framework also uses hybrid space theory to explain how e-sports hotels work as spaces where online and offline life merge. In China, these hotels often combine the comfort of a mid-range hotel with advanced gaming setups. They feature ergonomic chairs, professional headsets, high-refresh-rate monitors, and fiber-optic internet. Guests can book rooms that function as both bedrooms and private gaming pods. This allows them to compete in games while meeting face-to-face with teammates in nearby rooms.

These settings blur the line between being online and being physically together. A League of Legends team in the same hotel might plan strategy in in-game chat and also over dinner in the hotel café. In this way, player identity exists in a blended form. Digital profiles built on gaming platforms sit alongside the physical presence of shared meals, gestures, and emotions. The hotel becomes a place where online reputation and real-world interaction strengthen each other.

Methodological Role: This theory provides the spatial and social context for the model. It explains the environment and primarily drives the "sense of belonging" within the utility, as social convergence occurs specifically within these blended spaces.

3.3. Behavioral Convergence and Psychological Belonging

A key dynamic in these spaces is behavioral convergence, where people adjust their actions to match those of their peers. In Chinese e-sports hotels, this is evident in the synchronized pace of play. Groups often log into the same games simultaneously, use similar tactics, or imitate the styles of high-status players in the venue. This shared rhythm fosters a strong sense of belonging, especially for younger guests who may feel isolated at home.

For example, a high school student from a smaller inland city might travel to Suzhou for a weekend of competitive gaming. Surrounded by others who share the same passion, they experience acceptance and validation missing in their everyday life. Over time, the norms learned in these hotels, such as teamwork etiquette, communication habits, or even fashion choices, can flow back into their online play. This reinforces the feedback loop between offline experiences and digital identity.

Methodological Role: This social dynamic is quantified as the variable for “belonging” in the model, representing the social utility a player gains from being grouped with peers in the hotel.

3.4. Algorithmic Governance

Algorithmic governance overlays these social and spatial dynamics, and platforms use data-driven recommendations to guide user behavior. In China’s e-sports ecosystem, platforms like Tencent’s QQ and WeGame, along with streaming services such as Douyu, collect massive amounts of behavioral data. They use predictive modeling to decide which events, tournaments, or venues to promote to each user.

E-sports hotels place themselves inside this algorithmic network. A hotel chain might, for instance, sponsor a well-known Douyu streamer to broadcast from one of its flagship locations. This triggers platform algorithms to push the content to fans, increasing the likelihood they will visit. In such cases, a player’s choice of venue is often shaped less by spontaneous decision-making and more by a carefully designed digital pathway. This raises important questions about autonomy, how much agency the player truly has, and how much is guided by subtle, algorithmic nudges.

3.5. Mathematical and Network Model

This is modeled as the variable “influence of algorithmic recommendation” in the utility function and as the weighted connections “hotel-platform promotional ties” in the network model. It is a significant factor that externally influences player choices.

The interactions among players, hotels, and platforms can be modeled as a tripartite network.

Let

$P = \{p_1, p_2, p_3, \dots, p_n\}$ represent the set of players.

$H = \{h_1, h_2, h_3, \dots, h_m\}$ represent the set of e-sports hotels.

$S = \{s_1, s_2, s_3, \dots, s_k\}$ represent the set of streaming or gaming platforms.

Define

w_{ph} as the affinity of player p for hotel h .

w_{ps} as the affinity of player p for platform s .

w_{hs} as the promotional relationship between hotel h and platform s .

These weighted connections represent not only social or marketing ties but also channels of data flow and behavioral influence.

Player decision-making can be formalized as a utility-maximization problem.

$$U_{p,h} = \alpha_1 C_{p,h} + \alpha_2 B_{p,h} + \alpha_3 E_{p,h} + \alpha_4 R_{p,h} \quad (1)$$

Here, $C_{p,h}$ measures convenience factors such as location and price, $B_{p,h}$ measures the sense of belonging derived from peer presence, $E_{p,h}$ measures perceived (hotel) environmental quality, and $R_{p,h}$ measures the influence of algorithmic recommendations. The coefficients α_1 , α_2 , α_3 , and α_4 represent the relative importance a player assigns to each factor. The optimal choice is the hotel h^* that maximizes this utility.

Figure 1 describes the relationship.

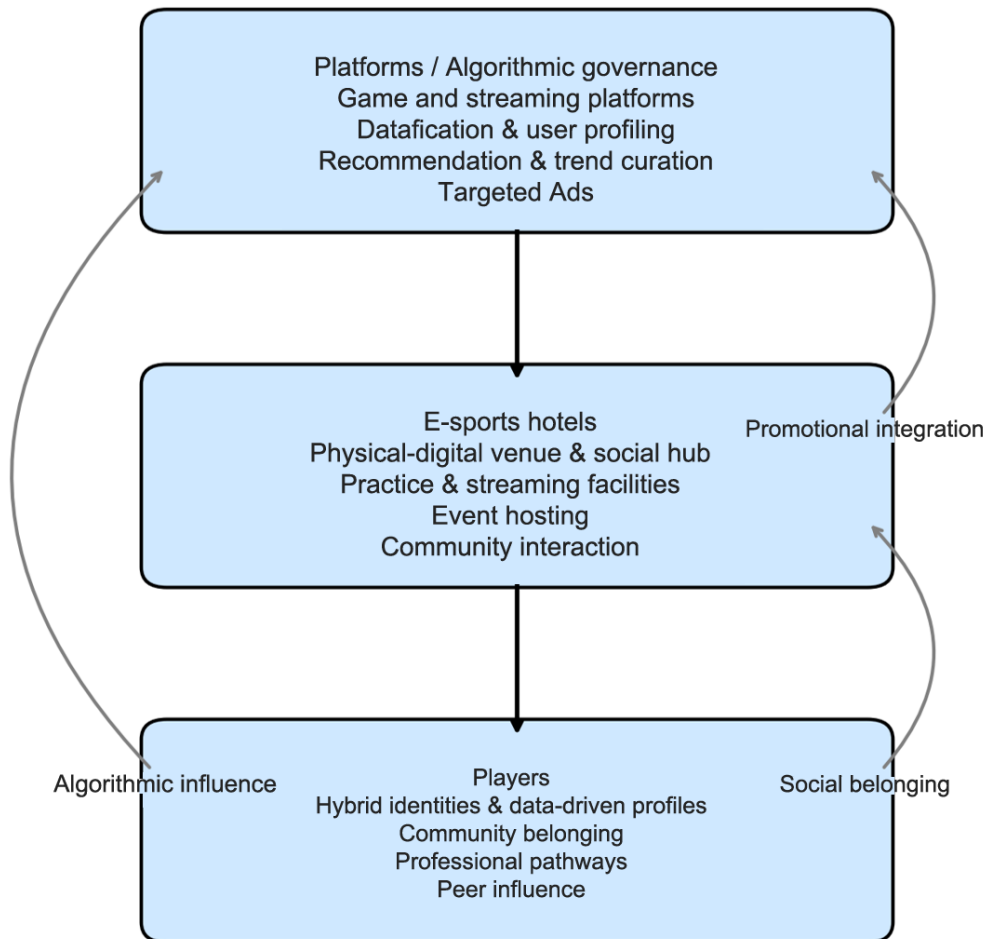


Figure 1. Theoretical framework.

We expect that:

$$\alpha_1 = \frac{\partial U_{p,h}}{\partial C_{p,h}} > 0 \quad (2)$$

$$\alpha_2 = \frac{\partial U_{p,h}}{\partial B_{p,h}} > 0 \quad (3)$$

$$\alpha_3 = \frac{\partial U_{p,h}}{\partial E_{p,h}} \text{ sign not intuitively determined} \quad (4)$$

$$\alpha_4 = \frac{\partial U_{p,h}}{\partial R_{p,h}} \text{ sign not intuitively determined} \quad (5)$$

This framework captures a system of mutual influences: players and hotels are linked through reciprocal social and experiential ties; hotels and platforms exchange promotional value; and players and platforms are locked in a cycle of data production and algorithmic feedback. Algorithmic governance operates as a meta-layer that both

shapes and responds to these interactions. The model thus provides a formalized basis for investigating how identity formation, community building, and economic participation are mediated in China's e-sports hotel sector.

4. RESULTS AND DISCUSSION

4.1. *Effect of the Framework*

The system demonstrates that benefits accrue to those controlling the network's significant connections. Hotels with strong platform partnerships receive preferential algorithmic promotion, pushing them to be more visible and appealing to players. These hotels then attract more users, generating more behavioral data, which further improves their platform status. This creates a loop where successful hotels become increasingly dominant. Though players perceive their choice to be constrained by such systems, in that the most promoted become the most socially legitimate, they grow to perceive them as natural and not algorithmically favored results.

4.2. *Creating Value from a Sense of Belonging*

The utility function reveals that social belonging operates as a primary driver of consumer choice, often outweighing traditional factors like price and location. Players will accept higher costs and potentially inferior locations to simply access communities that validate their identities. Hotels capitalize on this by developing settings to attain the ultimate social interaction, i.e., perceived natural intermingling is actually carefully conceptualized for controlling customer loyalty and data generation. The successful hotels are similar to those that convert psychological need to economic value.

4.3. *The Illusion of Choice in Algorithmic Systems*

The model illustrates the restricted horizons of consumer agencies. While consumers make individually rational choices based upon their own preference functions, choice sets are usually winnowed for them by algorithmic procedures. The recommendations that influence decisions are also products of ongoing data patterns and commercial partnerships, making seemingly free choices turn out to be selections from an extremely limited number of options. This explains the rapid standardization of offerings across successful hotels, as algorithms learn to promote what works and reduce the diversity of choice even as the number of possible options increases.

4.4. *Data as the Final Product*

The system discloses the hidden business process of e-sports hotels: interaction of players generates data, and data generates revenues through various routes. Hotels gain not only from sales of rooms but also from being points of data accumulation in the system. Various gaming sessions, social interactions, and consumption habits all become valuable inputs that further refine the targeting of algorithms across the digital economy, implicitly transforming leisure into a productive economic activity by adjusting player activity into a form of unpaid labor that fuels the system's profitability.

5. CONCLUSION

The emergence of e-sports hotels illustrates a profound shift in how leisure, personal identity, and economic participation intersect within today's world. As consumers embed themselves within these spaces that converge algorithmic governance, social belonging, and datafication, e-sports hotels reshape not only the habits of gamers but also the broader societal and economic systems in which they operate.

Datafication acts as a center of this transformation, converting gaming from a pastime into a traceable, monetizable activity. Every online social interaction becomes a data point for both player identity and corporate strategy. E-sports hotels support this process by providing structured environments where such data can be generated and fed back into algorithmic systems. Thus, players experience a cycle in which their own actions define and are defined by the platforms they engage with, obscuring personal agency with algorithmic influence.

Drawing on hybrid space theory, e-sports hotels also blur the separation of online and offline life. Within these venues, the co-presence of virtual and physical interactions deepens the social fabric of gaming communities. This has important psychological implications, as behavioral convergence allows individuals to find belonging and validation, transforming hotels into a tangible, shared community that functions as a psychological refuge where mimicry, solidarity, and peer presence coexist.

Although algorithmic governance plays a quiet role throughout this process, it powerfully structures user decision-making. Platforms mediate visibility, recommendations, and promotions that shape how consumers select hotels and perceive different content. The resulting network that links players, hotels, and platforms creates both opportunities and constraints. Player choices appear less as acts of free will and more as negotiations between convenience, belonging, and algorithmic nudges. In this model, players actively participate in their own profiling, trading data for optimized experiences.

This study highlights that e-sports hotels are active nodes of cultural and economic change beyond merely accommodations. They contribute to legitimizing gaming as both a profession and a lifestyle, while also demonstrating the ways algorithmic and social forces interact within modern economies. Leisure in the digital age is deeply interconnected with identity and systemic authority.

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