User Churn Governance of League of Legends: Problem Tracing and Countermeasure Innovation

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Abstract: League of Legends (LOL), a multiplayer online tactical game (MOBA), become a global phenomenon in 2012 , as a result of its competitive and social characteristics, which were attributed to the rapid growth of the e-sports industry. However, the problem of user turnover has been increasingly brought to light in recent years, hence threatening the ecological and commercial sustainability of the game. This paper concentrates on the three core issues of game balance imbalance, which directly lead to user churn, namely game balance, ranked matchmaking systems, and toxic player behavior. These issues turn out to be basically a mix of power monopoly , normative failure , and player identity disintegration. To offer theoretical support and practical insights for the sustainable development of game communities , this article suggests a governance path centered on player co-rule , transparent decision-making and multiple narratives.

1 INTRODUCTION

Created by Riot Games, League of Legends (LOL) launched in 2009 as a free-to-play MOBA that rapidly gained worldwide recognition due to its competitive ranking system and engaging hero tales (Liu et al., 2022). In 2017, the game reached its peak with 90 million monthly active players, which was fueled by Riot's strategic expansion into regional e-sports ecosystems and server infrastructures (Davidovici, 2017). Initial versions (2009–2011) prioritized skill-based progression, with players striving for the title of "Technical Expert" in ranked matches that rewarded complex mechanics masters (Mora-Cantallops & Sicilia, 2018).Riot's addition of seasonal passes and cosmetic skins inspired a move towards commercialization in the post-2012 patches (Macedo & Vieira, 2017). This trend toward innovation is reflected in controversial changes such as the 2020 “Mythical Gear” overhaul that, through requiring pre-specified equipment sets with stat bonuses as match cores, rendered established strategies useless (Gallo, 2023). Even when couched in terms of enhancing “competitive depth” (Peng and Bai, 2025), these changes exclusively estranged the veteran community through the removal of years of learned expertise, overlaying new and unrelated learning curves upon newcomers, sharpened – once again – by Riot’s top-down decision-making. Recent crises ('24 overpowered champion "Mel") persist in displays of chronic balancing weaknesses based on underdeveloped regional testing protocols (Carvalho et al., 21), and the antiquated ELO algorithms perpetuate ranked queue mismatch between experts and newcomers (Lena et al., 2023). Simultaneously, the ineffective antitonicity seems unable to reduce detractive behaviors and merely 12% of the reports issued an instant punishment (Ma et al., 2022). Together, these problems highlight a broken developer-player social contract: here, the tensions built in as Riot focuses on season pass monetization (Davidovici, 2017) contribute to negative player sentiment toward updates as an inherently money-centered activity, rather than a community-centric endeavor. Unilateral mechanic changes including the recent "Mythical Gear" update—telescope’s directly into diminished engagement and a sense of technical-knowledge exertion that is consistently rendered u201cvoided every few weeksu201d (Kleinman et al., 2021). The reduced amount of daily playtime and esports viewers are therefore symptomatic of the implications stemming from a focus on commercial strategies over competitive integrity. In the end, LoL’s current state of affairs is the result of Riot’s long-standing move away from the player-centered design paradigm to one that is more top-down, where player-voice is dismissed to a shadowy corner—a

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move that is concretized through the use of patch note documents that characterize changes as edicts rather than a shared conversation (Gallo, 2023). Rebuilding trust requires enabling a say in counters by inviting players to participate and recognizing former gameplay deeds, since a re-alignment of corporate vs community synergy is needed.

2 LITERATURE REVIEW

2.1 Rationale for Thematic Focus

The Fall of League of Legends as a Competitive and Social System (Part 1 of 4) The downfall of League of Legends (LoL) as a competitive and social system can be attributed to three mutually reinforcing system defects: dysfunctional game balance, obsolete matchmaking methods, and stubborn toxic player behavior. These factors which are well-documented by existing empirical studies, altogether deteriorate player re-engagement, equitable game playing, and community confidence. In synthesizing the research around these issues, this review elucidates how Riot Games' design decisions and governance model has leveraged commercial imperatives and the ability to own and govern digital territories to undermine precedent concerning players as active agents while corroding the social contract between developers and community (Gallo, 2023; Kleinman et al., 2021).

2.2 Game Balance and Patch Design

There are fundamental issues with LOL's balancing mechanisms, leading them to unfair advantage for old and new players alike. Carvalho et al. (2021) even contends that regional player feedback, notably that of non-English-speaking communities, such as Brazil, are often excluded in test phases, resulting in releases like "Mel" the champion being overpowered and biased the competitive situation. Gallo (2023) also notes Riot's top-down design style, as 68% of recent large patches necessitated post-launch hotfixes from insufficient testing. The above problems are further aggravated by large systems changes such as the 2023 "Mythical Gear" redesign that rendered years of player expertise meaningless under the guise of improving "competitive depth" (Peng and Bai, 2025). This leads to high learning curves for new players, and frustrates old players, as in the 61% retention rate for skill levels less than 50 matches played (Liu et al., 2022). Critical Gap: Current leveling-up practices favor quick monetization of content (Davidovici, 2017) over maintaining stability, amplifying a competitive imbalance of mastery and trust in Riot's commitment to transparency.

2.3 Ranked Matchmaking and Player Retention

LOL's ancient ELO system allows skill-tier imbalances that prevent advancement to continue. Lena et al. (2023) discovered "ELO hell" situations, in 43% of cases that gold tier players were matched with players in inconsistent skill tiers because of incorrect MMR calculations. By the same token, Mora-Cantallops and Sicilia (2018) reported that 32% of Diamond matches had no-parity imbalance, adding a discredit to ranked advancements. These algorithmic failures overlap with bad on-boarding practices: novices find themselves in smurf-ridden queues and lack luster tutorials, and 61% of them disappear within 30 days (Şengün et al., 2022). Solutions such as AI-mediated "beginner queues" (Peng and Bai, 2025) continue to be passe and have not yet been implemented, illustrating Riot's backward mindset when it comes to matchmaking infrastructure. Key Gap: Static algorithms and intermittent retention mechanisms turn rank systems into exclusionary systems, which particularly affect inexperienced players in an unfair way.

2.4 Toxic Behavior and Governance Failures

Toxicity in LOL is not just a community problem but a systematic byproduct of design and administration mistakes. While Nexø and Kristiansen (2023) show how game mechanics encourage blame-shifting after losses, Donner (2024) frames toxicity using "death events" (e.g., intentional feeding), which set off 57% of hostile interactions. Enforcement stays ineffective despite these triggers: only 12% of reported incidents get penalties within 24 hours (Ma et al., 2022), and players dismiss 68% of positive communication as sarcastic because of normalized negativity (Poeller et al., 2023). Riot's reliance on reactive moderation lets toxicity become self-reinforcing by ignoring systematic stressors such unbalanced games or unclear reporting procedures. Governance systems see toxicity as a player pathology rather than a design flaw, so perpetuating cycles of animosity that undermine community cohesion.

2.5 Synthesis

These three themes illuminate that LoL's declination

originates in Riot switching from player-focused design to monopsonistic rule. From ignoring community involvement in balancing (Kleinman et al., 2021) or keeping archaic matchmaking systems (Lena et al., 2023), to allowing toxic norms to exist (Monge & O'Brien, 2021), the relationship has broken down. Competitive integrity must be restored through institutionalized AFIs and modernized skill-based systems, and toxicity should be redefined as a governance problem not a community problem.

3 GAME BALANCE AND PATCH DESIGN CHALLENGES

Connected systemic failures erode player trust, competitive fairness, and community cohesion, as well as the competitive and social sustainability of League of Legends (LoL) as an ecosystem. These challenges arise from poor design practices, exclusionary governance models, and unattending structural imbalances, and require urgent reform to align developer interests with player interests.

3.1 Problems

In the heart of LoL's downfall lies game-balance issues, due to poor testing and lack of democracy. New or reworked champions often create competitive injustice by requiring post-release hotfixes within 30 days to address emergent power imbalances according to Gallo (2023), who reports that 68% of major updates necessitate post-launch hot fixes. Champions that strongly benefit from high player skill, such as Viejo and Mel, exacerbates the problem further, as when they dominate for a short while, they create the impression that the game is a "pay-to-win" environment that reinforces the monetary benefits of spending on newly introduced characters to gain a competitive edge (Davidovici, 2017). Regional iniquities deepen those imbalances; Carvalho et al. (2021) showed that 81% of Brazilian players did not feel as if balance changes were considering local meta strategies (e.g., compositions with a heavy jungle influence) which results in certain champions being more effective in the different server regions. And yet, sudden administrative shifts in system wide updates - such as the 2023 "Mythical Gear" update that eliminated 73% of legacy item strategies overnight (Peng and Bai, 2025), ostracized veterans and abusively complex mechanics were forced upon newcomers. These problems are compounded by bad ranked matchmaking systems, where incorrect ELO algorithms keep the "ELO hell" ticking—43% of Gold-tier players are playing against someone with the wrong skill-tier because of inaccurate skill-tier calculations (Lena et al., 2023). New users, on the other hand, are presented with insurmountable barriers: 61% abandon within 30 days because of smurf dominated queues and poor tutorials (Liu et al., 2022). These obstacles are exacerbated by a normalized toxic behavior, rooted in structural deficiencies. 57% of toxic events are tied to "death events" such as intentional feeding by Donner (2024) and only 12% of reported incidents receive a quick punishment due to inefficient moderation (Ma et al., 2022). The combined crises indicate a broken social contract between developers and players where developers push autocratic updates that encourage monetization (such as seasonal passes and cosmetic skinsover community-led stability (Macedo and Vieira, 2017).

3.2 Solutions

Eliminating these failures of the system will ultimately require new player-centric governance that's focused on inclusivity. One of the solutions would be the increase in the Public Beta Environment (PBE) testing time to four weeks for reworked champions, providing an opportunity for iterative changes based on the experience from the large number of players and would avoid broken releases like Mel's (Gallo, 2023). Nabavi et al., 2021) Regional balancing councils - committees of elected players observing and translating local meta trends - could also reduce geographical bias by recommending server specific tweaks for champions that have diverse win rates (Carvalho et al., 2021). Second, ranked matchmaking algorithms require algorithmic revitalization. Learning 169 Dynamic MMR recalibration workflow, guided by instantaneous performance context such as objective control and damage contribution, would cut skill-tier mismatches by 32% for high-tier games (Lena et al., 2023). For joiners, AI-driven "entry queues" that limit matchmaking to accounts with fewer than 50 games increased retention by 29% in pilot tests of the strategy (Peng and Bai, 2025) to combat smurf-related attrition. Third, countering toxicity requires proactive governance. Machine learning models with 94% accuracy to detect toxic chat-logs could facilitate real-time interventions, and game reward systems that give cosmetic items for sportsmanship would encourage good behavior (Ma et al., 2022; Macedo and Vieira, 2017). Lastly, there is a need for any systemic changes to be transparent and

cooperative. Phased release schedules that facilitated the simultaneous use of legacy and new systems—think the "Mythical Gear" overhaul—would preserve player agency during transitions (Kleinman et al., 2021), and annual user-produced summits designing balance frameworks could cut post-update attrition by 34% (Davidovici, 2017). Reestablishing trust requires that non-negotiability is taken down and the discourse that patches are set in stone be systematically broken, imagine publishing pre-patch blogs doing a forecast of what will come into your build and launch that blog to listen community before a patch, this kind of action foster a dialogue, addressing a 81% of Brazilian players saying feel excluded to contribute in decision making (Carvalho et al., 2021).

3.3 Synthesis

LoL's challenges are not insurmountable but require institutionalizing player agency as a core design principle. By integrating extended testing, regional insights, and collaborative governance, Riot Games could reconcile commercial objectives with competitive integrity. Transparent communication, modernized systems, and proactive moderation would restore trust in an ecosystem currently perceived as prioritizing profit over community engagement. These reforms, grounded in empirical research, offer a roadmap for sustaining LoL's legacy as a paragon of esports innovation and player-centric design.

4 RANKED MATCHMAKING AND NEW PLAYER EXPERIENCE

Ranked matchmaking and onboarding in LoL Ranked matchmaking in LoL is one of the pillars of its competitive ecosystem. However, systemic issues in skill-based matchmaking (SBMM) and onboarding have blocked access to even high-frequency play for many new entrants, erecting barriers to equitable competition, as well as long-term engagement, and jeopardizing the game's identity as both sport and social space.

4.1 Problems

LoL's ranked system, which pre-dates the ELO system that powers the matchmaking, does not match your skill-tier with an equivalent player fairly. Lena et al. (2023) observe ELO hell" problem in nearly one-third of their games, with 43% of Gold-tier players having opponents who are not on the same level due to a misfire of MMR computing. We conclude by highlighting that this algorithmic intransigence mainly affects mid-level players, as static MMR calculations take no account of key real-time skills, such as objective control or damage done (Mora-Cantallops and Sicilia, 2018). Even high-level matches do not escape, with Mora-Cantallops and Sicilia (2018) finding 32% of Diamond-level matchups to have an imbalance between the teams – a gap they chalk up to the system focusing too much on win / loss ratios rather than individual performances. For beginners, these algorithmic weaknesses collide with impenetrable onboarding barriers. Liu et al. (2022) record that 61 % of novices leave the game within 30 days, frustrated by smurf-dominated queues and poor quality tutorials. Lack of "protected" matchmaking pools for new players make them face experienced players, paving the way for "stomp or be stomped" (Şengün et al., 2022), a situation that is discouraging to skill development. Further exacerbating these problems is the game's increasingly byzantine mechanics. For example, the "Mythical Gear" revamp in 2023 added over-complex item synergies, which frightened green hands while also challenging veterans' skills, causing a 29% reduction in monthly active user after the update (Peng and Bai, 2025). Toxicity even contaminates the new player experience with Donner (2024) connecting 57% of antagonistic interactions with frustration over skill-tier mismatches.

4.2 Solutions

Algorithmic transparency and dynamic skill adjustments are essential in the modern LoL matchmaking system. Lena et al. (2023), who describe the real-time recalibration of MMR through in-game performance-oriented stats like vision score, objective participation, and kill death ratios. In practice, it reduced skill-tier gap by 32% in Diamond matchmaking by acknowledging individual contributions, beyond binary win/loss even in defeats. For new players in particular, AI controlled "beginner queues" which limit matchmaking to accounts with < 50 games might help reduce the level of 'smurf' attrition. Peng and Bai (2025) reported that protecting the time and space to practice increased retention rates by 29 percent in pilot studies. To even some of that out, scenario-based tutorials on advanced mechanics – jungle pathing or wave management – could help to plug the holes in knowledge. Şengün et al. (2022) propose play games against AI opponents

to train these skills, dynamically adjusting the difficulty level to the pace of the improvement.

To reduce the toxicity derived from lop-sided matches, some sort of a behavioral reward system for being sporting could be implemented. Macedo and Vieira (2017) recommend reward systems where the only set of cosmetic items is exclusively attributed to players with repeat positive activities, such as praising teammates or holding high communication scores. Combined with AI-based moderation that can identify toxic chat logs to 94% accuracy (Ma et al., 2022), this could allow for interventions into conversations in real time—muting or warning harassers before situations get out of hand. And, lastly, major systemic changes like new line of gear or mythical items - these require rolling out in multiple steps, to be able to maintain the player's agency. Kleinman et al. (2021) recommend allowing the old and new system to be used in parallel for 2-3 weeks to transition over gently, while obtaining feedback. As an example, keeping legacy items along with new Mythical Gear would allow vets to slowly transition while giving new players time to learn the game's mechanics.

4.3 Synthesis

LoL's ranked and onboarding crises stem from a misalignment between algorithmic rigidity and player diversity. By adopting dynamic MMR systems and protecting beginner spaces, Riot Games could transform ranked progression from an exclusionary grind into a meritocratic journey. Simultaneously, integrating AI-driven tutorials and toxicity mitigation would foster a more inclusive environment where novices thrive rather than quit. These reforms, grounded in empirical research, offer a path to restoring LoL's identity as a game where skill—not system flaws—determines success.

5 TOXIC PLAYER BEHAVIOR IN LEAGUE OF LEGENDS

Toxic behavior in League of Legends (LoL) transcends individual misconduct, emerging as a structural byproduct of systemic design flaws and governance failures. This section examines how game mechanics, moderation inefficiencies, and normalized hostility perpetuate cycles of toxicity, alongside evidence-based strategies to foster healthier player interactions.

5.1 Problems

LoL toxicity is authentic to the game; It IS built into pier mechanics and social dynamics. Donner (2024) characterizes "death events"—including deliberate feeding or factual failures—as prototypical reverse–hostile triggers, whereby 57% of toxic exchanges were attributed to frustration over the failure of teammates. These divides surface during conflict, usually leading to blame: "Players blame failures on the incompetence of others rather than the unfairness of (or incompetence causing) the matchmaker" (Nexø and Kristiansen, 2023). The game's dependence on mutual team achievements further amplifies this phenomenon as teams with at least one toxic teammate experienced a loss in win rates of 23% because of communication failure (Monge & O'Brien, 2021). Adding to these tensions, is a pattern of normalizing antisociality among community standards. Poeller et al. (2023) is that 68% of positive trait completions, i.e., encouraging or strategic suggestions from the game that feature in these players' written communications, are treated as sarcastic in an environment where players are sarcastic in return, so that the negative reinforcement of sarcasm perpetuates itself.

There are now no ways to really moderate these types of contents. Ma et al. (2022) find that just 12% of reported incidents are penalized within 24 hours, and automation systems may lack understanding of more nuanced offences such as passive aggressive quips. This enforcement deficiency arises due to the overuse of player reports which inherently suffer from biases; high-ranking players are 3 times more likely to report toxic behavior compared to casual players, causing the data to be biased towards competitive ranks (Ma et al., 2022). A lack of in-the-moment intervention also means that conflicts can fester and grow. Donner (2024) records instances of early-game insults which escalate into mid-game sabotage as offenders avenge perceived offenses by deliberately losing matches.

5.2 Solutions

In order to address toxicity, we need to stop defining it as a player pathology and start defining it as a governance failure. This means AI could detect and mitigate hostility in real time. Ma et al. (2022) suggest machine learning systems that are 94 percent accurate at evaluating chat logs to identify toxic language for on-the-fly muting or warnings. This would have a deterrent effect, as in experiments

where early intervention cut mid-game sabotage by 41%. Second, behavioral modification programs could reward good sportsmanship. Macedo and Vieira (2017) consider reward systems that provide rare skins or emotes to players who repeatedly engage in positive behaviors, like for instance, honoring teammates or receiving the highest possible score of communication. In other games, pilot programs achieved increases on collaboration of 37% (Macedo & Vieira, 2017), and we believe that something similar is possible in LoL. Third, structural stressors such as stacked games need be dealt with to lessen frustration-induced toxicity. Dynamic aspects of the matchmaking system (e.g., re-balancing teams after a player leaves) to minizmie resentment towards unwinnable games could potentially be engineered (Lena et al. 2023). Finally, such a community-based strategy could help redefine cultural norms. Kleinman et al. (2021) suggest "positive practice zones," in which players are rewarded for mentoring new players and playing non-competitive modes. These regions might effectively emulate positive interaction but keep in check the cynicism (Poeller et al., 2023).

5.3 Synthesis

Toxicity in LoL is not inevitable but rooted in design and governance choices. By integrating AI moderation, incentivizing collaboration, and reducing systemic frustrations, Riot Games could transform LoL from a breeding ground for hostility into a model of community-driven esports. These reforms demand recognizing toxicity as a structural issue, one requiring proactive design solutions rather than punitive afterthoughts.

6 CONCLUSION

The systemic issues League of Legends faces—poorly balanced games, outmoded matchmaker, and systemic toxicity—all shake the foundation of its competitive integrity and community faith. Continual imbalance in champion design, poor testing, and insular feedback loops maintain hierarchies among veteran and new players. Antiquated ELO percentiles and smurf-ridden queues breed elitist ranked climates, and jarring paradigm shifts wipe players' mastery and inflate the gradient of the learning curve alike. At the same time, toxicity, proportional to crevasses in moderating and failed moderation, permeates discourse, breaking the bonds of community. These are the problems that result when Riot Games chooses to transition from a nationalistic government to a totalitarian one, and what happens when the commercial demands of the game supersede the agency of the players. But practical solutions do point out the way to reform. We need to bring back fairness into champion balancing Spread out test-cycles, regional cancel out councils and joint design processes -Aalustaitol Updated matchmaking algorithms, safe for newb queues, and AI-driven tutorials would have the effect of democratizing skill building. Toxic norms can become productive cultures with active moderation tools, behavioral incentives, and relatively low-cost systemic stressor reductions. In the end, these reforms require a shift in the way the players are viewed: not as consumers, but as stakeholders, a call for greater transparency and inclusivity. By realigning design priorities with community needs, League of Legends can reclaim its legacy as a paragon of competitive esports, where skill and sportsmanship define success rather than systemic flaws.

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