Research on the Impact of ARPG Social Mechanisms on Game User Loyalty

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Abstract—Action role-playing games (ARPGs) are a combination of action and role-playing games, with unique social potential. Social mechanics refer to structured systems and game design elements that facilitate player-to-player interaction and communication. In this type of game, social mechanics include multiplayer games, social features, and online communities. These mechanics provide players with opportunities to interact with other players, enhancing the interactivity of the game. For developers, it is important to understand how social mechanics affect game user loyalty—a multidimensional construct encompassing behavioral, emotional, cognitive, and investment commitment, as it can help them improve the quality of their games and increase user retention. By designing social mechanics to meet players' social needs and enhance their experience in the game, developers can effectively improve user loyalty.

Keywords—ARPG Game, Game Social Mechanics, Game User Loyalty, Gaming Social

I. INTRODUCTION

In the early development of action role-playing games (ARPGs), the gaming community distinguished between action games (ACTs) and role-playing games (RPGs). To enhance gameplay depth, developers integrated ACTs' real-time combat with RPGs' narrative and character progression, giving rise to ARPGs—one of the most influential game genres.

Initially, ARPGs were primarily single-player, with player interactions limited to NPCs and storyline progression. However, with the advancement of Internet technology, ARPGs integrated social mechanics—such as multiplayer systems and online communities—thereby enhancing structured and meaningful player interaction. Multiplayer modes enabled global cooperation and competition, while social media allowed players to share achievements. Guild systems and online forums fostered community-building, strategic discussions, and social events.

Further research is needed to understand the impact of social mechanics on player engagement, interaction, and retention. Analyzing these effects and mechanisms provides valuable insights for game design and marketing strategies, ultimately enhancing user loyalty in ARPGs.

II. THE ANALYSIS OF ARPG SOCIAL MECHANISM

A. ARPG Games

ARPGs (Action Role-Playing Games) emerged from the fusion of action and role-playing genres, integrating real-time combat with character development and narrative depth. These games enhance player immersion by combining dynamic combat mechanics with RPG progression systems. As technology advanced, ARPGs introduced more complex skill sets and intense combat effects. Players accumulate experience by completing missions and engaging in combat, shaping character growth and influencing the game's nonlinear narrative. Initially focused on single-player experiences, ARPGs evolved with online multiplayer modes, fostering global cooperation and competition while adding a significant social dimension.

B. State of Social Mechanics in ARPGs

1) Multi-level Online Cooperation and Competition Mode

In contemporary ARPGs, multi-layered online cooperation and competition modes have become key social mechanisms. The cooperative mode allows players to form teams for special missions, requiring close coordination and strategic planning to achieve shared objectives, thereby elevating gameplay challenge while encouraging cooperative engagement, which drives player interaction and supports community growth. Online competitive modes, featuring arenas and leaderboards, offer players real-time confrontation platforms where they can test character skills and strategies, competing for points, equipment, and rankings, which enhances both playability and competitiveness.

Modern ARPGs support diverse multiplayer systems that allow players to collaborate or compete in real time, contributing to skill development and enhancing community interaction.

2) Integration of Online Social Platforms

ARPGs have progressively integrated online social platforms, offering players various interactive features such as mail, chat systems, and friend lists. These enrich gameplay and social engagement, fostering a healthy gaming community. The guild system further supports team collaboration, enabling players to achieve shared goals through common interests, which encourages ongoing participation.

Social networks enable players to share achievements, promote community connection, and extend game lifecycle through positive feedback.

3) Virtual Economy and Social Trading System

The virtual economy and social trading systems simulate real-world economic frameworks, providing players with opportunities for economic activity and transactions within the game. Through these systems, players can trade, buy, and sell virtual items or currency. The virtual economy operates based on supply, demand, and scarcity, allowing players to acquire resources or equipment through gameplay and exchange them with others for in-game currency or items, thus encouraging exploration and interaction.

The social trading system facilitates direct communication and negotiation between players, typically through a marketplace or exchange, where they can post supply and demand information. This flexibility in resource management promotes player interaction and fosters community development.

4) Social Events and Virtual Social Spaces

Social activities and virtual social spaces in ARPGs provide platforms for players to establish and maintain social relationships, fostering interaction and collaboration. Such activities encompass in-game celebrations, seasonal gatherings, community missions, and special collaborative events, allowing players to exchange experiences, discuss strategies, and celebrate achievements, thereby enhancing the game's entertainment value and social significance.

Virtual social spaces offer players the opportunity to engage in interactions as their virtual characters within designated areas, chat rooms, social halls, or community centers, enriching the social atmosphere. Players can participate in regular social events, such as festivals and competitions, experiencing diverse interactions that ultimately enhance the social aspect of the game.

Fig. 1. Fig. 1 The social mechanics in ARPGs

C. Analysis of the Design of Social Mechanics in ARPG Games

Social mechanics—defined as interaction-oriented systems embedded in gameplay—can be identified in various forms across current ARPG titles. Online cooperative modes and social platforms are commonly utilized in ARPGs, enabling players to team up and challenge opponents in real-time through in-game social systems or game platforms. This not only facilitates resource and achievement sharing among players but also allows for the utilization of different character attributes to enhance the overall gaming experience. Some ARPG games incorporate diverse online competition modes based on cooperation, such as Destiny 2's unlimited combat, team arena, and mixed competition features, which enable direct player-versus-player battles with rewarding outcomes. Additionally, Genshin Impact and GRAY RAVEN:

PUNISHING feature real-time racing levels where players aim to eliminate more enemies within a limited timeframe or achieve faster level completions, resulting in score calculations displayed on leaderboards.

Virtual economies and social trading systems are less frequently employed in ARPGs but are often indirectly formed through in-game missions. For instance, Destiny 2 allows players to exchange resources with others via guild systems while Genshin Impact enables resource collection by joining other players' worlds, thereby establishing an indirect barter economic trading system.

Social events and virtual social spaces manifest themselves diversely within ARPGs. Games like Enshrouded facilitate collaborative building among multiple players while Genshin Impact offers an open world exploration experience for multiple online participants. Furthermore, GRAY RAVEN: PUNISHING provides designated character interactions within guilds along with special online levels during festivals that encourage player interaction through character-based activities like photography—providing a leisurely entertainment venue for players.

Fig. 2. The Instances of the state of social mechanics in ARPG games

III. THE DIMENSIONS OF GAME USER LOYALTY

A. Game User Loyalty

Game user loyalty refers to players' sustained psychological and behavioral commitment toward a game, including emotional, behavioral, cognitive, and investment dimensions. It refers to players' tendency to repeatedly play a certain game and persist in playing it, which can expand the player base, determine their intention to play, influence their willingness to make in-game purchases, and ultimately generate revenue for game manufacturers [2]. With the development of the Internet, game user loyalty is no longer solely determined by the entertainment function but also by the social function of games. These social functions involve not only competitive and cooperative behaviors within gameplay but also user interaction on gaming platforms. By enhancing connections between game users and games through task cooperation, method strategy sharing, exchanging game experiences, and other forms of communication methods; overall loyalty among game users can be improved.

B. Dimension analysis of game user loyalty

1) Behavioral Loyalty

Behavioral loyalty refers to the propensity of users to repeatedly engage with a product throughout its usage lifecycle. Researchers in the field have specifically defined game user loyalty as the inclination to engage in repetitive gameplay and recommend games to others [3]. Within the gaming realm, it signifies users' willingness to invest their time, money, and energy into supporting and enjoying their preferred games. Game developers often foster user loyalty by providing new game content, reward programs, and social interactions. In terms of games, behavioral loyalty primarily pertains to frequency of gameplay, duration of play sessions, payment frequency, and in-game interactions.

2) Affective Loyalty

Emotional loyalty gauges the level of emotional attachment that users have towards a game. This encompasses not only user satisfaction with the game but more importantly their identification with the game brand and product. Emotionally loyal users are not only willing to make purchases and continue playing the game but also emotionally support and trust its development process. Emotional loyalty significantly impacts a user's gaming experience as well as long-term commitment. There are three main factors influencing emotional loyalty in games: emotional connection, brand allegiance, and emotional feedback.

3) Cognitive Loyalty

The cognitive loyalty of game users reflects their assessment of the depth and quality of the game, encompassing comprehension of brand image, in-game mechanics, and innovation. High levels of cognitive loyalty indicate that users possess a profound understanding of a game's unique value and appeal, leading them to support and recommend it in various ways. By fostering positive cognitive loyalty, developers can establish users' identification with the game brand and attract more loyal players through innovative features and high-quality user experiences. To consolidate users' cognitive loyalty and promote long-term development as well as user retention, developers should focus on enhancing brand image visibility while increasing awareness among users regarding the unique value proposition offered by the game.

4) Investment Loyalty

Investment loyalty measures investment efforts made by gamers after using specific gaming products or services; this type of loyalty is largely dependent on active participation within games such as playing for extended periods or spending money to purchase virtual items or level up gameplay. Loyalty also includes active engagement within gaming communities such as participating in forums or sharing experiences with others. Game companies can increase user retention rates by engaging their audience through valuable content offerings while encouraging increased time investments from players via community activities designed to foster positive social atmospheres that lead to lasting success.
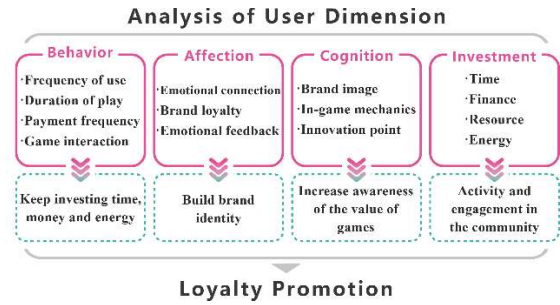

Fig. 3. Analysis of Dimensions of User Loyalty

IV. THE CORRELATION BETWEEN ARPG SOCIAL MECHANISMS AND GAME USER LOYALTY

A. Provide opportunities for interaction

The online cooperative and competitive modes in ARPG games stimulate social competition, requiring players to interact with each other and create a social competition atmosphere through online leaderboards, seasonal activities, etc. This incentive-driven competition encourages users to continuously improve their game levels, compare achievements with each other, and promote frequent login to the game, deepening the game's sustainability and thus enhancing behavioral loyalty.

Online social platforms foster player interaction, stimulate sharing, and strengthen community belonging, thereby reinforcing engagement and loyalty.

The social activities and virtual economic system in ARPG games enhance the game's interactivity. These social activities enhance the game's appeal, while the virtual economic system encourages users to continuously participate in the game through social reward mechanisms, thereby reinforcing users' behavioral loyalty—defined as their consistent engagement with the game over time.

B. Strengthen emotional bonds

The social mechanisms in ARPGs encourage users to establish genuine and deep social relationships in the game, allowing them to achieve emotional satisfaction and a sense of belonging in the game's social network. Cooperative and competitive play fosters emotional bonds that deepen emotional loyalty.

The virtual social space provides users with a venue for social interaction and emotional sharing. Users can share their emotional experiences in this virtual setting and establish emotional connections with other users through their emotional interactions, thereby receiving or providing emotional feedback and promoting the formation of emotional loyalty.

The online social platform in ARPG games expands the scope of emotional feedback. Users can share their game achievements, screenshots, and in-game experiences through these platforms, allowing them to share their emotional experiences in the game with other users. This social sharing helps to strengthen emotional resonance and may attract potential users to try the game through emotional connections.

C. Enhance cognitive value

Social mechanisms enable users to have a more comprehensive understanding of the social value of the game and realize the importance of establishing

interpersonal relationships in the game experience. The online social platform of the ARPG game provides rich channels for sharing game experiences, including social media and in-game social features, allowing users to share achievements, scores, etc., thereby increasing other players' awareness of the game. This sharing expands the scope of game awareness and enhances cognitive loyalty. The guild system and social functions in the game enable users to form social groups, spread user word-of-mouth through social interactions, and further enhance the cognitive loyalty of the game. The virtual social space enhances users' sense of participation. Users can participate in activities in the virtual social space, actively engage in social interactions, and thus gain a stronger sense of belonging and participation, deeply integrating themselves into the game community. This positive social interaction not only makes players more familiar with the game, but also enables them to learn game strategies, techniques, and knowledge, thereby enhancing cognitive loyalty.

D. Encourage investment and participation

Online social platforms encourage players to actively join the gaming social circle and participate in social activities together, building a gaming community. This collective interaction enhances the social aspect of the game, making players feel the cohesion and collective identity of the gaming community, thereby motivating them to invest more time and energy in social activities within the game, enhancing their commitment to the game. Online cooperative and competitive modes provide a platform for players to compete, allowing them to vie for rankings and rewards. This competitive element stimulates players' competitive desires, driving them to constantly improve their gaming skills and invest more resources in the development of their characters and equipment. These resources include time, effort, and money, making players reluctant to abandon the costs they have already invested and switch to other games. Therefore, online cooperative and competitive modes contribute to enhancing players' commitment to the game.

The social mechanisms in ARPG games enhance users' social interactions within the game, strengthen their connections with each other, and encourage players to participate more frequently and deeply in the game, enhancing their investment in the social gaming experience and thus increasing their commitment to the game.
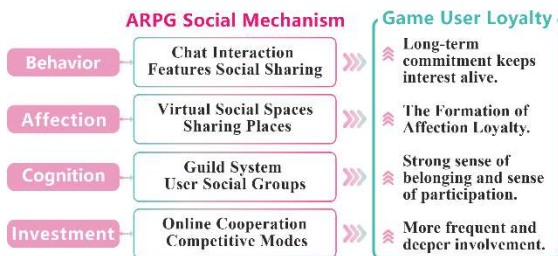

Fig. 4. The correlation between ARPG social mechanisms and the enhancement of game user loyalty

CONCLUSION

Social mechanisms play a pivotal role in augmenting player loyalty in ARPG games. This study employs qualitative analysis to elucidate the significant impact of social mechanisms on players' behaviors, emotions, cognitions, and commitment to the game. The integration of

multidimensional social mechanisms within t he game substantially fosters player interaction, thereby enhancing experiences of social competition and cooperation. This dynamic not only boosts player engagement but also amplifies the enduring allure of the game. Interconnected social platforms further facilitate long-term participation among players and foster positive attitudes towards community activities. By fostering profound social connections, social mechanisms significantly enhance emotional loyalty. Online interactions provide players with rich emotional experiences that prompt them to form positive emotional bonds within the game—a crucial factor for attracting new players and strengthening existing ones' emotional commitment. Cognitive loyalty is enhanced through social mechanisms by expanding cognitive boundaries and enriching cognitive value within the game environment. Integration of social platforms and virtual spaces not only enhances collective identity but also augments word-of-mouth effects, enabling deeper integration into the gaming community for players. The interactive nature of these platforms coupled with competitive gameplay encourages greater investment of time and resources from players, thus deepening their level of commitment overall.

In conclusion, when designing ARPG games, developers should thoroughly consider integrating and optimizing social mechanisms to comprehensively enhance player loyalty—laying a solid foundation for long-term success.

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