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The Role of Premium Services in Co-Creation Experience and Game Loyalty

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Abstract

Purpose – This research aimed to analyze relationship between leader-member exchange, person-organization fit, and perceived organizational support on employee work engagement.
Purpose – The aim of this study was the assessment of how co-creation experiences and in-game value creation contribute to increased game loyalty in premium services.
Methodology – A total of 326 mobile online gamers in Indonesia who utilized premium services provided survey data for the model analysis. This was carried out using structural equation modeling based on partial least squares (SEM-PLS).
Results – The results demonstrated that players' propensity to co-create with gaming firms was significantly influenced by online brand community identification, greater functionality, customization, and self-indulgence. Also, on the basis of co-creation experience, there were significant value realization results. In addition, the results demonstrated a strong correlation between game loyalty, in-game value co-creation, and social experience.
Originality – This literature provided valuable insights for improving game loyalty in premium game services through value co-creation experience.

1. Introduction

Understanding the factors influencing employee engagement is important in a modern business context characterized by rapid and dynamic change to achieve organizational success (Aldabbas et al., 2023; Pimenta et al., 2024). Job embeddedness and work engagement are two key concepts that underscore relationship between employee and organization (Akgunduz & Sanli, 2017). More specifically, job embeddedness refers to the degree to which employee feel tied to organization and work community (Artiningsih et al., 2023), while engagement includes employee energy, dedication, and concentration toward work. In this context, research on factors influencing job embeddedness and work engagement becomes very relevant (Ramaite et al., 2022; Takawira et al., 2014). One factor that plays an important role in influencing job embeddedness and work engagement is leader-member exchange. This concept underscores interpersonal relationship between leader and team member. The quality of relationship is believed to influence how well employee feel engaged in work (Silalahi et al., 2022). High engagement in such relationship can

strengthen employee ties to organization and improve performance at work (Che et al., 2021; Banderali & Alvarado, 2022; Wu et al., 2023).

Online mobile games consist of freemium and premium gaming aspects, with premium offering a more distinct experience (Hamari et al., 2017) and allowing players to personalize the experience (Hussain et al., 2023). Mobile games initially offered freemium services, but players wanting additional features had to purchase premium services (Liu et al., 2015; Staykova & Damsgaard, 2015). These premium services, which are the main source of revenue for gaming providers (Hussain et al., 2022), include purchasing in-game currency, skins, costumes, skills, equipment, vehicles, and items that can only be acquired with real money.

In 2021, the global online gaming market generated USD $178.2 billion revenue (Global Web Index, 2022), and by 2022, this figure was projected to rise to USD $196 billion (Gaming Scan, 2021). The global gaming industry is anticipated to attain nearly US$340 billion by 2027, with much of the growth anticipated from Asia (Google et al., 2022). For instance, it was estimated that by 2022, mobile games alone will generate $95.4 billion, or over half of the whole gaming business (Newzoo, 2017). In Indonesia, 34% of people play games at least once a week, and 13% spend more than one hour per day gaming (Google et al., 2022).

Online gaming communities improve players' experience by serving as hubs for information exchange, while also having complex socio-technological structures (Vedeikytė & Lechmanová, 2022). These communities offer insights, socialization, and theories about members' favorite games (Vedeikytė & Lechmanová, 2022), and may be found on plenty of websites or social media sites where people interact with each other online, such Facebook, Instagram, Twitter, Discord, and forums like Reddits or Quora (Vedeikytė & Lechmanová, 2022).

Online communities have seen rapid growth. In 2022, the market size for enterprise social networks and online communities was estimated at US$ 7.3 billion, as well as has a 13.9% CAGR avg worldwide market growth rate (CMXHub, 2022). Companies are increasingly building online brand communities to engage with consumers (Calderón & Ramírez, 2022). As of January 2023, there were 13,195 gaming community servers on Discord, accounting for 73% of the total number of community servers on the platform (Discord, 2023).

In the context of service-dominant logic (SDL), the interaction between actors represents a social and economic value co-creation process, achieved collaboratively through resource integration. Online brand community identification plays a crucial role in this framework, acting as a facilitator for members to engage in dialogue and collaborate in knowledge creation (Faraj et al., 2011). As a result, it is possible to regard online brand community identification as a social operant that plays a critical role in value generation and resource integration (Arnould et al., 2006). When members of an online brand identify with a community, they can easily integrate resources contributed by others in interactions (Caridà et al., 2019). In the context of online games, players interact through gaming activities within the community (Linh Pham et al., 2023).

Customers experience is diverse and multidimensional (Becker & Jaakola, 2020), varying from person to person (Keyser et al., 2020). Previous studies have shown that value depends on an individual's experience (Abid et al., 2022; Medberg & Grönroos, 2020). Verleye (2015) investigated co-creation experience dimensions, while (Cossío-Silva et al., 2016) examined the relationship dynamics between loyalty and co-creation in behavioral as well as attitude situations. Other studies Ye et al., (2023) explained the customers engagement's role as well as value co-creation at improving customers loyalty.

Even though Chen (2020) studied co-creation on virtual game communities, Grohn etlal. (2017) explicitly examinedlthe co-creationlexperience role in games topic. Hussain et al. (2023) investigated players' in-game co-creation experiences in premium gaming, which resulted from its

value. However, there is a dearth of studies that addressed the influence of co-creation experience on loyalty. It is necessary to comprehend how premium co-creation experiences affect game loyalty, especially the effect of online brand community identification as well as the willingness to co-create precondition on the in-gamelvalue co-creation.

SDL viewed consumers as co-producers (Vargo & Lusch, 2004), which subsequently evolved into co-creators of value (Vargo & Lusch, 2016). It was redirected from production outputs to actions and procedures meant to accomplish value creation, resource integration, as well as service exchange. It also emphasized the transition from operand to operant resources (Vargo & Lusch, 2016). Resources are assets used by businesses to create profitable products that cater to various market niches, according to resource-advantage theory (Hunt, 1999). Even though operant resources are relational (relationships with suppliers, customers, and competitors), organizational (controls, routines, culture, and competencies), human (individual skills and knowledge), and informational (knowledge about market segments, competitors, along with technology), operand resources are typically physical objects (Hunt, 2004).

SDL pertains to how customers create value by consuming services (Grönroos, 2008). The concept of shared value, varying on individual experience, also reflects this (Hilton et al., 2012; Junaid et al., 2021). An integrated structure for value co-creation as an instrument of interchange between businesses and customers is introduced by SDL (Vargo & Lusch, 2004). According to this reasoning, "service" is the use of actors along with assets for the good of others. In this context, resources require human processing and assessment to reach maximum potential, and since no actor possesses all necessary resources, there emerges a process of integration, assimilation, as well as application with other actors to optimize service provision (Vargo & Akaka, 2009; Vargo & Lusch, 2004, 2008, 2016).

This is defined as how individuals identities align with the principles and admirable characteristics of an online brand community (Ray et al., 2014). According to previous research, consumers' desire to participate in valuelco-creation is significantly influenced by online brand communities (Chapman & Dilmperi, 2022; Healy & McDonagh, 2013; Pan, 2020). For example, Zhang et al. (2021) reported that social capital improved sense of belonging as well as positively impacted online brand community identification (Zhao et al., 2012). Improving members' social connections, enabling information sharing, lowering misconceptions through shared language along with vision, and fostering social trust as well as reciprocity can promote more involvement in value co-creation (Cao et al., 2022). Participants of online brand communities who strongly identify with the community are more inclined to engage and work together compared to non-members (Hsu et al., 2012). Therefore, higher levels of online brand community identification lead to more intensive interactions and collaborations, reflecting a greater willingness to co-create. According to the connection between online brand community identification and willingness to co-create, a hypothesis was proposed as follows:

H_1: Online brand community identification positively affects willingness to co-create

In the SDL framework, through interactions between services and co-creation design actors, consumers' experiences impact co-created value (Vargo & Lusch, 2016). Players generate value within the context of premium gaming by interacting with modern game technology that offers exclusive features to premium content purchasers, including enhanced self-indulgence, competition, sociability, customization, and functionality (Hussain et al., 2023). Therefore, premium gaming technology facilitates the integration of resources that support shared value creation (Vargo & Lusch, 2016). The mentioned attributes significantly influence players' willingness to co-create as well as collaborate in value creation (Chen, 2020; Hussain et al., 2023)

Superior functionality of online gameplay is the level to which advanced services improved features and services compared to the freemium version (Hussain et al., 2023). Studies have shown that superior functionality of premium content can improve performance, unlock new game content, increase accessibility, personalize characters, and reduce repetition in gameplay (Macey et al., 2020). Game service providers can launch premium content with superior functionality to attract players, foster interaction with service providers, and facilitate the sharing of feedback about premium services (Chen, 2020). Therefore, the subsequent hypothesis was offered:

H_2: Superior functionality positively affects willingness to co-create

The increase in premium game content is due to competition, and it is strongly linked to players' intrinsic drive to play (Wan et al., 2017). Competitiveness, in the context of in-game purchases (e.g., developing strong game characters), can significantly influence willingness to buy premium content (Hamari et al., 2017). Players who actively engage in online gaming and demonstrate excellence through rankings and higher achievements (Kokko et al., 2018) are more inclined to work together and co-design enhanced premium features in the game by using premium services as the main tool.

H_3: Competitiveness positively affects willingness to co-create

According to(Wan et al., 2017) sociability is the practice of utilizing in-game premium services to encourage positive social interactions between players. According to research, intentions to play games are influenced by sociability, which includes social contact and influence (Chen et al., 2016). As game services evolve, developers increasingly promote social interaction and support collective gameplay (Hussain et al., 2023). Players often prioritize forming meaningful relationships with peers in technology-enabled environments, driven by a desire for social connections and emotional fulfillment (Heng et al., 2021). Sociability helps meet players' needs for affiliation and social support through new, emotionally resonant relationships (Bhagat et al., 2020).

H_4: Sociability positively affects willingness to co-create

According to (Zhang et al., 2021) personalization is the process by which unique products are made possible by premium services in games for certain players.(Kang et al., 2016) defined perceived personalization as the premium services capability to allow users personalizing the gaming experiences. Gaming service providers offer personalized recommendations based on players' unique preferences and interests, which positively impact others within the game (Hussain et al., 2023). Players who use personalized features and layouts show higher levels of engagement and self-identification compared to those who do not (Green et al., 2021).

H_5: Personalization positively affects willingness to co-create

Self-indulgence in gaming concerning to the high-end services utilization to get hedonic emotions, happiness, and fulfillment (Syahrivar et al., 2021). Much of online gameplay is driven by hedonic activities, where players prioritize satisfying pleasurable experiences (Lee et al., 2020). Players have different levels of self-indulgence, depending on gaming objectives and motivations (Heydari et al., 2021). Those highly engaged in online gaming, primarily driven by the desire for self-satisfaction (Pera & Viglia, 2015), tend to have a stronger motivation to use premium services.

H_6: Self-Indulgence positively affects willingness to co-create

Through resource integration, participants engage in a value co-creation social and economic process. As a facilitator, online brandlcommunity identification enables participants to communicate, work together, and produce knowledge (Faraj et al., 2011). Therefore, it is possible to think of online brand community identification as a social operant that is essential to value generation and resource integration (Arnould et al., 2006). In community interactions, members exchange their needs and access resources that help value co-creation integration and development (Madhavaram & Hunt, 2008). They use assets supplied by the brand and also contribute time and effort, working collaboratively with fellow members (Wang et al., 2023).

When online brand community members identify strongly with the community, they can easily integrate resources contributed by others during interactions (Caridà et al., 2019). Moreover, members with high identification manage to assess these interactions' results more positively. The value co-creationlexperience is enhanced by teamwork in the community (Wang et al., 2023). Through this process, members benefit from both self-service and reciprocal services. Self-service might involve customizing products or services, while reciprocal services could include increased product offerings, new brand meanings created collectively, satisfaction in problem-solving, and the expansion or strengthening of social relationships (Alexander & Jaakkola, 2015).

H_7: Online brand community identification positively affects in-game value co-creation

An important element of co-creation is willingness to collaborate, as gaming service providers can only do this when players agree (Handrich & Heidenreich, 2013). Players are only motivated to co-create when the benefits outweigh the potential costs (Heidenreich & Handrich, 2015). As a result, those who are willing to collaborate provide value and enhance the gaming experience in online gaming services (Hussain et al., 2023).

H_8: Willingness to co-create positively affects in-gamelvalue co-creation

The hedonic, cognitive, social, and pragmatic aspects of the co-creation experience are derived from elements that players of high-end mobile games encounter (Verleye, 2015). After paying for premium in-game services, players may enjoy high-end gaming settings, cognitive results, social acceptability, as well as features, which leads to the development of an in-game co-creation experience (Hussain et al., 2023; Verleye, 2015).

Game-related hedonic needs, reflecting players' desires for enjoyment, emotional satisfaction, excitement, and fun emerge as the main drivers for players to watch and play games (Hollebeek et al., 2022; Jang & Byon, 2020; Patzer et al., 2020). Numerous components, such as game story, aesthetics, competitiveness, intellectual difficulties, and social connections, might satisfy these hedonic demands (Hollebeek et al., 2022), and co-creation activities (Verleye, 2015). In this context, co-creation activities involve collaboration in creating game ideas with service providers, while hedonic experience refers to the pleasure derived from co-creating game ideas. Prior research has demonstrated a strong correlation amongst in-game valuelco-creation with the hedonic, cognitive, social, as well as co-creation experience pragmatic aspects (Hoffman & Novak, 2018; Hussain et al., 2023). Therefore, the following hypothesis was proposed:

H_9: In-game value co-creation positively affects hedonic experience

The games cognitive advantage, including cognitive experience, have been reported in previous studies (Hong et al., 2016; Kim et al., 2022). These benefits originate from game attributes that require various cognitive abilities from players. In this research, co-creation refers to collaborating on game ideas with game service providers, while cognitive experience involves the development of skills and personal growth from this collaboration (Verleye, 2015). Analysis

has indicated a noteworthy correlation between the co-creation experiences aspects with in-gamelvaluelco-creation (Hoffman & Novak, 2018; Hussain et al., 2023). Consequently, the subsequent hypothesis was put forth:

H_{10}: In-game value co-creation positively affects cognitive experience

Social experience concerning the advantages, reputation, and sociallrecognition come from working with service providers on game concepts (Verleye, 2015). The social interactions fostered in game design provide players with opportunities for interaction, whether through competition or cooperation (Chen et al., 2016). Premium gaming platforms offer improved social experience through advanced features that help players gain recognition (Ozuem et al., 2017). Analysis has indicated a noteworthy correlation between the co-creation experiences aspects with in-game value co-creation (Hoffman & Novak, 2018; Hussain et al., 2023). Consequently, the subsequent hypothesis was put forth:

H_{11}: In-game value co-creation positively affects social experience

The players' inclusion in many collaborative action increases the benefits received compared to the price paid for premium content, thereby improving pragmatic experience (Prentice et al., 2021). In this investigation, co-creation refers to collaborating on game ideas with game service providers, while pragmatic experience refers involves the perceived value of premium content relative to its cost, based on the benefits derived from collaborating on game ideas with service providers (Verleye , 2015). Research has indicated a noteworthy correlation between the co-creation experiences aspects and in-game value co-creation (Hoffman & Novak, 2018; Hussain et al., 2023). Consequently, the subsequent hypothesis was put forth:

H_{12}: In-game value co-creation positively affects social experience

The strongest degree of customer-brand connections is brand loyalty (Balakrishnan & Griffiths, 2018). According to previous research, loyalty is strongly impacted by co-creation experience (Mathis et al., 2016; Mukhtar, 2017). A satisfying experience can encourage players to develop special sentiments for the game, increase the likelihood that they will use and consume game services, and increase affinity and trust (Kusuma, Y. S., 2014). Meanwhile, loyalty can be positively impacted by the aspects of co-creation experience (Verleye, 2015) that stem from in-gamelvalue co-creation. Customer loyalty in thelgaming environment is the dedication to play and suggest the game on a regular basis (Pham et al., 2022). Therefore, the subsequent hypotheses were put up on the connection between co-creation experience dimensions and in-game value:

H_{13}: Hedoniclexperience positively affects game loyalty
H_{14}: Cognitivelexperience positively affects game loyalty
H_{15}: Social experience positivelylaffects gamelloyalty
H_{16}: Pragmatic experience positively affects gamelloyalty

Value co-creation has been shown to have a favorable impact on loyalty (Afi &lOuiddad, 2021; Cossío-Silva etlal., 2016; Lončarić etlal., 2017; Ye et al., 2023). In gaming, customers' loyalty relates to the commitment to consistently play and recommend the game (Pham et al., 2022). Hence, the hypothesis was proposed:

H_{17}: In game value co-creation positively affects game loyalty

Figure 1 (see in Appendix) presents the conceptual framework, outlining the hypothesized relationships between various constructs, such as online brand community identification, superior

functionality, and sociability, which influence game loyalty. The framework incorporates mediating variables like hedonic, cognitive, social, and pragmatic experiences, as well as in-game value co-creation. These connections aim to explain how different factors contribute to players' loyalty by enhancing their gaming experiences and engagement. The model provides a structured approach to investigating the proposed hypotheses, offering valuable insights into loyalty-building mechanisms in the gaming industry. It serves as a guide for empirical validation and future research.

2. Research Methods

The 5-point Likert scales (1 being stronglyldisagree and 5 beinglstronglylagree) were used to test the components. The following measures were obtained from pre-existing scales: hedonic experience (Sarkar et al., 2023; Verleye, 2015), online brand community identification (Ray et al., 2014), willingnessltolco-create (Heidenreich & Handrich, 2015), superiorlfunctionality (Balaji & Roy, 2017), lcompetitiveness (Kim & Ross, 2006; Wan et al., 2017), sociability (Chen & Leung, 2016; Wan et al., 2017), personalization (Hussain et al., 2022; Zhang et al., 2021), self-indulgence (Syahrivar et al., 2021), in-gamelvalue co-creation (Cheung et al., 2021), cognitive, social, and pragmatic experience (Verleye, 2015), as well as game loyalty (Cui et al., 2022; Pham et al., 2022). A summary of the measuring items is given in Table 1 (see in Appendix).

A questionnaire was used to collect data with the purposive sampling method. The poll was then disseminated through social media and gaming groups, offering benefits in terms of time, money, and data quality. Furthermore, the respondents were first screened to ensure they had played online mobile games, were members of the game community, had purchased premium content, and had provided feedback or suggestions to game service providers. Respondents who did not fulfill these benchmarks were excluded from further review.

A total of 326 completed responses were obtained from the 539 questionnaires that were distributed. Furthermore, to ensure there was no bias or incomplete replies in the data, an initial screening was carried out, and the analysis included 350 replies. This study multiplied the number of indicators by five to calculate the lowest number of samples using the PLS-SEM method (Hair et al., 2017). With 65 indicators, the minimum required number of respondents was 325, confirming the adequacy of the responses obtained.

3. Results and Discussions

3.1 Characteristics of Respondents

Regarding respondents' characteristics by gender, 243 (74.53%) were men, and 252 (77.30%) were aged between 18-24 years. A total of 164 (50.30%) respondents had a high school education or below, and 159 (48.77%) were students. The analysis also showed that 192 (58.89%) played games each day, with 137 (39.14%) playing for 1 – 2 hours per session. Furthermore, 145 (44.47%) spent less than Rp 100.000 on in-game purchases each month. Table 2 shows the respondents' demographic profiles overview.

The respondent profile shows that the majority (74.53%) of participants were male, with most (77.30%) being between the ages of 18–24. Regarding education, a significant portion (50.30%) had a high school level or below, followed by undergraduates at 44.78%. Students represented the largest professional group at 48.77%, while 58.89% of respondents reported gaming daily. Additionally, monthly in-game spending was primarily concentrated in the <100,000 IDR range (44.47%), highlighting a tendency for minimal spending within this demographic.

Table 2. Respondent Profile

Measure	Item	N	Percentage (%)
Gender			
	Female	83	25.46
	Male	243	74.53
Age			
	18 – 24	252	77.30
	25 – 30	66	20.24
	31- 40	5	0.15
	41-50	3	0.06
Education			
	High school or below	164	50.30
	Associate or Foundation	14	0.42
	Undergraduate	146	44.78
	Masters or higher	2	0.06
Profession			
	Self-employed or freelancer	55	15.71
	Full-time employee	64	18,29
	Unemployed	48	13.71
	Student	159	48.77
Gaming Frequency			
	Everyday	192	58,89
	Several times a week	124	38.03
	Once a week	5	0.15
	Two to three times a month	1	0.03
	Once a month	4	0.12
Gaming Time in One Session			
	< 30 minutes	24	6.86
	30 minutes - 1 hour	127	36.29
	1 hour - 2 hours	137	39.14
	> 2 hours	62	17.71
Monthly In-Game Spending (Rupiah)			
	< 100.000	145	44.47
	100.001 – 500.000	128	39.26
	500.001 – 1.000.000	34	10.42
	1.000.001 – 2.000.000	8	0.24
	2.000.001 – 3.000.000	4	0.12
	3.000.001 – 5.000.000	1	0.03
	5.000.001 – 7.500.000	3	0.09
	> 7.500.000	3	0.09

Source: processed data

The respondent profile is further summarized in Table 2, which highlights key demographic characteristics such as gender, age, education level, and professional background. It also provides insights into gaming habits, including daily gaming frequency and average session duration. Additionally, the table outlines spending behavior, showing that the majority of respondents allocated less than Rp 100.000 for in-game purchases each month. These findings offer a comprehensive view of the respondents' preferences and habits, emphasizing minimal spending and moderate gaming durations.

3.2 Results of Measurement Model

This study assessed the reliability and validity of the measurement model by examining key metrics, including outer loadings, average variance extracted (AVE), composite reliability, and discriminant validity. Most constructs achieved satisfactory outer loadings above the 0.7 threshold (Hair et al., 2013), with a few exceptions (e.g., WCC3, WCC8, GL2) justified by acceptable AVE

values exceeding 0.5 (Hair et al., 2019). Reliability was further confirmed through Cronbach's alpha and composite reliability metrics, which consistently surpassed the 0.7 benchmark. The results underscore the robustness of the measurement model, providing a reliable foundation for subsequent structural analysis.

The results in Table 3 (see in Appendix) indicate that the majority of outer loadings exceed the minimum threshold of 0.7, showcasing the reliability of these items in measuring their respective constructs. While items such as WCC3, WCC8, and GL2 exhibit lower outer loadings (0.5–0.6), they are retained due to their AVE values surpassing the critical threshold of 0.5, indicating acceptable convergent validity. This balance between outer loadings and AVE values highlights the need for cautious interpretation, particularly for constructs with marginal indicators, as these could benefit from further refinement to enhance overall reliability and validity.

Table 4. Reliability and Convergent Validity Assessment

Construct	Cronbach's Alpha	Composite Reliability	AVE
Online Brand Community Identification	0.806	0.807	0.633
Superior functionality	0.777	0.779	0.602
Competitiveness	0.874	0.881	0.726
Sociability	0.868	0.868	0.720
Personalization	0.819	0.820	0.648
Self-Indulgence	0.880	0.883	0.627
Willingness to co-create	0.887	0.892	0.560
In-game value co-creation	0.860	0.864	0.642
Hedonic experience	0.928	0.929	0.822
Cognitive experience	0.941	0.943	0.809
Social experience	0.909	0.913	0.733
Pragmatic experience	0.931	0.932	0.742
Game Loyalty	0.833	0.846	0.551

Source: processed data

The reliability and validity results in Table 4 confirm that most constructs meet the thresholds for internal consistency and convergent validity. Constructs such as "Willingness to Co-create" and "Game Loyalty" require particular refinement to improve their AVE values and overall validity. Constructs with lower AVE values, such as "Willingness to Co-create" and "Game Loyalty," may require refinement to enhance validity.

Table 5. Discriminant Validity Analysis

	CE	COM	GL	HE	OBC	PE	PER	SE	SEL	SF	SOC	VCC	WCC
CE													
COM	0.381												
GL	0.661	0.549											
HE	0.857	0.390	0.678										
OBC	0.588	0.489	0.678	0.635									
PE	0.508	0.526	0.528	0.567	0.473								
PER	0.528	0.656	0.594	0.574	0.567	0.529							
SE	0.865	0.493	0.699	0.789	0.611	0.653	0.586						
SEL	0.579	0.665	0.590	0.529	0.571	0.461	0.709	0.616					
SF	0.549	0.679	0.679	0.558	0.715	0.555	0.618	0.618	0.621				
SOC	0.511	0.828	0.633	0.535	0.508	0.533	0.688	0.550	0.730	0.639			
VCC	0.621	0.663	0.683	0.707	0.606	0.706	0.690	0.677	0.677	0.640	0.651		
WCC	0.644	0.636	0.700	0.722	0.604	0.604	0.797	0.669	0.724	0.647	0.670	0.867	

Source: processed data

Discriminant validity was evaluated using the HTMT ratio, as presented in Table 5. These results demonstrate that all HTMT values fall below the 0.9 threshold, indicating acceptable discriminant validity and reinforcing the suitability of the constructs for structural model analysis. This outcome emphasizes the model's ability to distinguish between related but distinct constructs effectively, which is crucial for drawing reliable conclusions in the subsequent analysis. All values fall below the 0.9 cutoff (Henseler et al., 2015), confirming the constructs' discriminant validity and supporting the measurement model's robustness for further structural analysis.

3.3 Structural Model Results

After obtaining positive results for the measurement model validity and reliability, the structural model was evaluated through the pathlcoefficients, t-value, as well as effectlsizes. To determine the importance of the routes between the proposed associations, a one-tailed test, 5000 resamples, and 350 cases of bootstrapping resampling were employed. The results of the hypothesis testing along with structural model evaluation are shown in Table 6. It was found that readiness to co-create was strongly influenced by online brand community identification H1l (β = 0.122; $p < 0.05$,lt-value = 2.414). Additionally, willingness to co-create was positively influenced by suggested in-game premium content attributes, including self-indulgence H6 (β = 0.235; pl< 0.05, t-value = 4.100), personalization H5l (β = 0.355; $p < 0.05$, lt-value = 6.560), and superior functionality H2 (β = 0.100; $p < 0.05$, lt-value = 1.850), with personalization having the strongest effect. The readiness of players to co-create was not significantly impacted by competitiveness H3 (β = 0.068; $p > 0.05$, lt-value = 1.178) or sociability H4 (β =l0.081; pl> 0.05, lt-value = 1.413).

In-game valuelco-creation H8 (β=l0.675; pl< 0.05, lt-value = 17.343) was favorably impacted by desire to co-create and online brand community identification H7 (β = 0.156; $p < 0.05$, t-value = 3.570). Also, hedonic experience H9 (β = 0.631; $p < 0.05$, t-value = 16.299), cognitive experience H10 (β = 0.560; $p < 0.05$, t-value = 12.959), social experience H11 (β = 0.602; $p < 0.05$, t-value = 14.387), as well as pragmaticlexperience H12 (β = 0.637; $p < 0.05$, t-value = 17.955) were found to benefit from in-game value. Game loyalty was not significantly impacted by hedonic experience H13 (β = 0.150; $p > 0.05$, t-value = 1.535), cognitive experience H14 (β = 0.133; $p > 0.05$, t-value = 1.120), or pragmaticlexperience H16 (β = 0.006; $p > 0.05$, t-value = 0.466). The results confirmed thatlin-game value co-creation H17 (β = 0.262; $p < 0.05$, t-value = 4.192) as well as social experience H15 (β = 0.243; p <l0.05, t-value = 2.448) had a positive effect on game loyalty. As shown in Figure 2, a total of 11 out of the 17 proposed hypotheses received support.

Overall, the findings highlight the pivotal role of in-game value co-creation and social experiences in fostering game loyalty. While some hypotheses did not gain support, the results underscore the importance of personalization and community identification in promoting willingness to co-create. These insights offer valuable implications for game developers aiming to enhance user engagement and loyalty through targeted strategies.

Table 6. Structural Model Results

Hypothesis	Path coefficients	T Value	P value	Results
H1: Online brand community identification positively affects willingness to co-create	0.122	2.414	0.008	Supported
H2: Superior functionality positively affects willingness to co-create	0.100	1.850	0.032	Supported
H3: Competitiveness positively affects willingness to co-create	0.068	1.178	0.119	Not Supported
H4: Sociability positively affects willingness to co-create	0.081	1.413	0.079	Not Supported
H5: Personalization positively affects willingness to co-create	0.355	6.560	0	Supported
H6: Self-Indulgence positively affects willingness to co-create	0.235	4.100	0	Supported
H7: Online brand community identification positively affects in-game value co-creation	0.156	3.570	0.000	Supported
H8: Willingness to co-create positively affects in-game value co-creation	0.675	17.343	0	Supported
H9: In-game value co-creation positively affects hedonic experience	0.631	16.299	0	Supported
H10: In-game value co-creation positively affects cognitive experience	0.560	12.959	0	Supported
H11: In-game value co-creation positively affects social experience	0.602	14.387	0	Supported
H12: In-game value co-creation positively affects pragmatic experience	0.637	17.955	0	Supported
H13: Hedonic experience positively affects game loyalty	0.150	1.535	0.062	Not Supported
H14: Cognitive experience positively affects game loyalty	0.133	1.120	0.131	Not Supported
H15: Social experience positively affects game loyalty	0.243	2.448	0.007	Supported
H16: Pragmatic experience positively affects game loyalty	0.006	0.085	0.466	Not Supported
H17: In-game value co-creation positively affects game loyalty	0.262	4.192	0	Supported

Source: processed data

The findings highlight that out of the 17 proposed hypotheses, 11 were supported, demonstrating significant relationships between online brand community identification, personalization, and willingness to co-create. Additionally, in-game value co-creation positively influenced cognitive, social, and pragmatic experiences, all contributing to game loyalty. These results underscore the importance of community engagement and premium content in enhancing players' experiences and loyalty.

Figure 2 (see in Appendix) illustrates the structural relationships between the variables, emphasizing the critical role of willingness to co-create and in-game value co-creation in shaping players' experiences and game loyalty. The diagram provides a visual representation of the supported hypotheses, offering a comprehensive view of the interconnected factors influencing game engagement.

According to the assumptions, players' experiences in the community have a big impact on their motivation to work hard to study premium material. This aligns with previous studies that emphasized the beneficial impact of online brand communities on consumers' propensity to co-create value (Chapman & Dilmperi, 2022; Healy & McDonagh, 2013; Pan, 2020). Premium

content, tailored to the game and including real-time instructions, significantly improves players' willingness to engage with premium features. Although premium content helps players maintain achievements, it does not significantly motivate in putting effort into learning the content. According to service dominant logic theory, operant resources can integrate resources based on knowledge and skills (Vargo & Lusch, 2004). However, this research did not assess players' knowledge or skills, presenting a limitation. Premium content also allows players to build friendships, but this does not significantly encourage efforts to learn premium content, presumably because in service dominant logic, operant resources are also determined by relational factors originating from interactions between players (Hunt, 2004). The relationships may vary depending on the duration and depth of players' interactions not examined in this research. Premium content is personalized, hence, the engagement of players can foster feelings of satisfaction and relaxation, significantly motivating to put more effort.

Camaraderie within the online brand community, along with the use of premium content, is significant in influencing players to collaborate on collective solutions. When players are willing to make the effort to learn premium content, it significantly impacts the ability to provide collective solutions. Premium content motivates players to collaborate in creating game ideas with game providers, offering an exciting experience that fosters innovations, allows connection with other players who have similar interests, and provides fair rewards, an experience felt individually. Individual experience determines value in a unique and phenomenological way, as stated in the fundamental principles of SDL. (Abid et al.,l2022; Vargo & Lusch, share similar interests 2016). While this experience may not be significant for players to recommend the game to others, the shared experience of meeting like-minded players and working collectively to provide solutions boosts confidence in recommending the game.

4. Conclusions

This study investigated factors influencing players' willingness to participate in co-creation, such as self-indulgence, competition, sociability, online brand community affiliation, functionality, and customization, as well as the impact of these factors on in-game value co-creation and overall co-creation experiences. Findings revealed that premium gaming attributes, particularly personalization and self-indulgence, significantly enhanced players' readiness to co-create (Hussain et al., 2023), while competition, sociability, and functionality were less influential. Identification with online brand communities emerged as a key factor in value generation, facilitating resource integration and enhancing co-creation experiences (Ray et al., 2014; Wang et al., 2023). Co-creation willingness positively influenced dimensions such as hedonic, cognitive, social, and pragmatic experiences, which in turn shaped game loyalty, with social experiences playing a particularly significant role (Verleye, 2015; Mathis et al., 2016). Managerial implications emphasized the need for mobile game service providers to prioritize premium content, foster active community engagement, and develop platforms for feedback and collaboration to strengthen player loyalty and enhance market competitiveness.

References

Abid, M. F., Shamim, A., & Khan, I. (2022). Value creation or value destruction: Conceptualizing the experiential nature of value-in-use. *Journal of Consumer Behaviour*, *21*(3), 583–601.

Alexander, M., & Jaakkola, E. (2015). Customer engagement behaviours and value co-creation. In *Customer engagement* (pp. 3–20). Routledge.

Arnould, E. J., Price, L. L., Malshe, A., & others. (2006). Toward a cultural resource-based theory of the customer. *The Service-Dominant Logic of Marketing: Dialog, Debate and Directions*, *34*(3), 320–333.

Balaji, M., & Roy, S. K. (2017). Value co-creation with Internet of things technology in the retail industry. *Journal of Marketing Management*, *33*(1–2), 7–31.

Becker, L., & Jaakola, E. (2020). Customer experience: Fundamental premises and implications for research. *Journal of the Academy of Marketing Science*, *48*, 630–648.

Bhagat, S., Jeong, E. J., & Kim, D. J. (2020). The role of individuals' need for online social interactions and interpersonal incompetence in digital game addiction. *International Journal of Human–Computer Interaction*, *36*, 449–463.

Calderón-Monge, E., & Ramírez-Hurtado, J. M. (2022). Measuring the consumer engagement related to social media: The case of franchising. *Electronic Commerce Research*, *22*(4), 1249–1274. https://doi.org/10.1007/s10660-021-09463-2

Caridà, A., Evardsson, B., & Colurcio, M. (2019). Conceptualizing resource integration as an embedded process: Matching, resourcing, and valuing. *Marketing Theory*, *19*(1), 65–84.

Chapman, A., & Dilmperi, A. (2022). Luxury brand value co-creation with online brand communities in the service encounter. *Journal of Business Research*, *144*, 902–921.

Chen. (2020). Sustainable value co-creation in the virtual community: How diversified co-creation experience affects co-creation intention. *International Journal of Enviornmental Research and Publich Health*, *17*(22), 8497.

Chen, A., Lu, Y., & Wang, B. (2016). Enhancing perceived enjoyment in social games through social and gaming factors. *Information Technology & People*, *29*(1), 99–119. https://doi.org/10.1108/ITP-07-2014-0156

Chen, & Leung. (2016). Are you addicted to Candy Crush Saga? An exploratory study linking psychological factors to mobile social game addiction. *Telematics and Informatics*, *33*(4), 1155–1166. https://doi.org/10.1016/j.tele.2015.11.005

Cheung, M. L., Pires, G. D., Rosenberger III, P. J., Leung, W. K., & Ting, H. (2021). Investigating the role of social media marketing on value co-creation and engagement: An empirical study in China and Hong Kong. *Australasian Marketing Journal*, *29*(2), 118–131.

CMXHub. (2022). *The 2020 Community Trends Report*. cmxhub.com/2020-community-industry-report/

Cossío-Silva, F.-J., Revilla-Camacho, M.-Á., Vega-Vázquez, M., & Palacios-Florencio, B. (2016). Value co-creation and customer loyalty. *Journal of Business Research*, *69*(5), 1621–1625. https://doi.org/10.1016/j.jbusres.2015.10.028

Cui, Y., Li, J., & Zhang, Y. (2022). The impacts of game experience and fanwork creation on game loyalty: Mediation effect of perceived value. *Technological Forecasting and Social Change*, *176*, 121495. https://doi.org/10.1016/j.techfore.2022.121495

De Keyser, A., Verlenye, K., Lemon, K. N., Keiningham, T. L., & Klaus, P. (2020). Moving the customer experience field forward: Introducing the touchpoints, context, qualities (TCQ) nomenclature. *Journal of Service Research*, *23*(4), 433–455. https://doi.org/10.1177/1094670520928390

Discord. (2023). *Find Your Communiy On Discord*. https://discord.com/servers

Faraj, S., Jarvenpaa, S. L., & Majchrzak, A. (2011). Knowledge collaboration in online communities. *Organization Science*, *22*(5), 1224–1239.

Fromme, J., Jörissen, B., & Unger, A. (2009). (Self-) educational effects of computer gaming

cultures. In R. E. Ferdig (Ed.), *Handbook of research on effective electronic gaming in education* (pp. 829–846). IGI Global. https://doi.org/10.4018/978-1-59904-808-6.ch048

Gaming Scan. (2021). *2021 Gaming Industry Statistics, Trends & Data*. Retrieved from https://www.gamingscan.com/gaming-statistics/

Global Web Index. (2022). *Global report 2023*. Retrieved from https://www.gwi.com/hubfs/CTD%202023/CTD%202023%20Global.pdf

Google, Temasek, & Bain. (2022). *E-Conomy SEA 2022*. Retrieved from https://services.google.com/fh/files/misc/e_conomy_sea_2022_report.pdf

Green, R., Delfabbro, P. H., & King, D. L. (2021). Avatar identification and problematic gaming: The role of self-concept clarity. *Addictive Behaviors, 113*, 106694. https://doi.org/10.1016/j.addbeh.2020.106694

Grönroos, C. (2008). Service logic revisited: Who creates value? And who co-creates? *European Business Review, 20*(4), 298–314. https://doi.org/10.1108/09555340810886585

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2013). *Multivariate Data Analysis* (7th ed.). Pearson Education Limited.

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer On Partial Least Square Structural Equation Modeling (PLS-SEM)*. Sage Publication.

Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review, 31*(1), 2–24. https://doi.org/10.1108/EBR-11-2018-0203

Hamari, J., Hanner, N., & Koivisto, J. (2017). Service quality explains why people use freemium services but not if they go premium: An empirical study in free-to-play games. *Int. J. Inf. Manag., 37*, 1449–1459.

Handrich, M., & Heidenreich, S. (2013). The willingness of a customer to co-create innovative, technology-based services: Conceptualisation and measurement. *International Journal of Innovation Management, 17*, 1350011.

Healy, J. C., & McDonagh, P. (2013). Consumer roles in brand culture and value co-creation in virtual communities. *Journal of Business Research, 66*(9), 1528–1540.

Heidenreich, S., & Handrich, M. (2015). Adoption of technology-based services: The role of customers' willingness to co-create. *Journal of Service Management, 26*(1), 44–71.

Heng, S. P., Zhao, H. F., & Wang, M. H. (2021). In-game social interaction and gaming disorder: A perspective from online social capital. *Frontiers in Psychiatry, 11*, 468115. https://doi.org/10.3389/fpsyt.2020.468115

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structured equation modeling. *Journal of the Academy of Marketing Science, 43*, 115–135. https://doi.org/10.1007/s11747-014-0403-8

Heydari, A., Laroche, M., Paulin, M., & Richard, M.-O. (2021). Hofstede's individual-level indulgence dimension: Scale development and validation. *Journal of Retailing and Consumer Services*, *62*, 102640. https://doi.org/10.1016/j.jretconser.2021.102640

Hilton, T., Hughes, T., & Chalcraft, D. (2012). Service co-creation and value realisation. *Journal of Marketing Management*, *28*(13–14). https://doi.org/10.1080/0267257X.2012.736874

Hoffman, D. L., & Novak, T. P. (2018). Consumer and object experience in the internet of things: An assemblage theory approach. *Journal of Consumer Research, 44*(6), 1178–1204.

Hollebeek, L. D., Abbasi, A. Z., Schultz, C. D., Ting, D. H., & Sigurdsson, V. (2022). Hedonic consumption experience in videogaming: A multidimensional perspective. *Journal of Retailing and Consumer Services*, *65*, 102892. https://doi.org/10.1016/j.jretconser.2021.102892

Hong, I., Choi, Y., & Yoon, T. (2016). The development of serious game to improve cognitive ability for children with borderline intelligence. *Journal of Korea Game Society, 16*(2), 129–138.

Hunt, S. D. (2004). On the service-centered dominant logic for marketing. *Journal of Marketing,*

68(1), 21–22. https://doi.org/10.1509/jmkg.68.1.21.24036

Hunt, S. D. (1999). *A general theory of competition: Resources, competences, productivity, economic growth*. Sage publications.

Hussain, A., Abbasi, A. Z., Hollebeek, L. D., Schultz, C. D., Ting, D. H., & Wilson, B. (2022). Videogames-as-a-service: Converting freemium- to paying-users through pop-up advertisement value. *Journal of Services Marketing*, *36*(3), 398–415. https://doi.org/10.1108/JSM-05-2020-0164

Hussain, A., Abid, M. F., Shamim, A., Ting, D. H., & Toha, M. A. (2023). Videogames-as-a-service: How does in-game value co-creation enhance premium gaming co-creation experience for players? *Journal of Retailing and Consumer Services*, *70*, 103132. https://doi.org/10.1016/j.jretconser.2022.103132

Jang, W. W., & Byon, K. K. (2020). Antecedents of esports gameplay intention: Genre as a moderator. *Computers in Human Behavior*, *109*, 106336. https://doi.org/10.1016/j.chb.2020.106336

Junaid, S., Amjad, S., Muhammad, N., Ibrahima, F., & Mobashar, R. (2021). *Co-creation or Co-destruction: A Perspective of Online Customer Engagement Valence*. *11*, 591753. https://doi.org/10.3389/fpsyg.2020.591753

Kang, M., Shin, D.-H., & Gong, T. (2016). The role of personalization, engagement, and trust in online communities. *Information Technology & People*, *29*(3), 580–596. https://doi.org/10.1108/ITP-01-2015-0023

Kim, & Ross. (2006). An exploration of motives in sport video gaming. *International Journal of Sports Marketing and Sponsorship*, *8*(1), 28–40. https://doi.org/10.1108/IJSMS-08-01-2006-B006

Kim, S., Koo, M., & Nam, K. (2022). Game experience leads to improvement in cognitive functioning of the early middle-aged adults in contrast with the young-aged adults. *Computers in Human Behavior*, *129*, 107153. https://doi.org/10.1016/j.chb.2021.107153

Kokko, J., Vartiainen, T., & Tuunanen, T. (2018). Value co-creation and co-destruction in online video games: An exploratory study and implications for future research. *Proceedings of the 51st Hawaii International Conference on System Sciences*, 1118–1127. https://doi.org/10.24251/HICSS.2018.140

Lee, Z. W. Y., Cheung, C. M. K., & Chan, T. K. H. (2020). Understanding massively multiplayer online role-playing game addiction: A hedonic management perspective. *Information Systems Journal*, *31*, 33–61.

Liu, J., Kauffman, R. J., & Ma, D. (2015). Competition, cooperation, and regulation: Understanding the evolution of the mobile payments technology ecosystem. *Electronic Commerce Research and Applications*, *14*(5), 372–391. https://doi.org/10.1016/j.elerap.2015.03.003

Madhavaram, S., & Hunt, S. D. (2008). The service-dominant logic and a hierarchy of operant resources: Developing masterful operant resources and implications for marketing strategy. *Journal of the Academy of Marketing Science*, *36*(1), 67–82. https://doi.org/10.1007/s11747-007-0063-z

Medberg, G., & Grönroos, C. (2020). Value-in-use and service quality: Do customers see a difference? *Journal of Service Theory and Practice*, *30*(4–5), 507–529.

Newzoo, E. (2017). Global games market report. *NEWZOO, San Fransisco, USA, Rep*, 13.

Ozuem, W., Borrelli, M., & Lancaster, G. (2017). Leveraging the co-evolution of offline and online video games: An empirical study. *Journal of Strategic Marketing*, *25*(1), 75–97. https://doi.org/10.1080/0965254X.2015.1076883

Pan, H. (2020). Online community value co-creation: Differences in firms' strategies and moderating conditions. *Online Information Review*, *44*(3), 645–669.

Patzer, B., Chaparro, B., & Keebler, J. R. (2020). Developing a model of video game play: Motivations, satisfactions, and continuance intentions. *Simulation & Gaming*, *51*(3), 287–

309.
Pera, R., & Viglia, G. (2015). Turning ideas into products: Subjective well-being in co-creation. *The Service Industries Journal*, *35*(7–8), 388–402. https://doi.org/10.1080/02642069.2015.1015521
Pham, T. T. L., Huang, H.-C., Tseng, F.-C., Cheng, T. C. E., & Teng, C.-I. (2022). For whom does flow not enhance online gamer loyalty? *Industrial Management & Data Systems*, *122*(1), 215–234. https://doi.org/10.1108/IMDS-05-2021-0338
Ray, S., Kim, S., & Morris, J. G. (2014). The central role of engagement in online communities. *Information Systems Research*, *25*(3), 528–546.
Sarkar, J. G., Sarkar, A., & Sreejesh, S. (2023). What is in a game? The impact of advergame design and reward elements on gamers' brand patronage. *Asia Pacific Journal of Marketing and Logistics*,*35*(10), 2538-2564. https://doi.org/10.1108/APJML-01-2023-0027
Staykova, K. S., & Damsgaard, J. (2015). The race to dominate the mobile payments platform: Entry and expansion strategies. *Electronic Commerce Research and Applications*, *14*(5), 319–330. https://doi.org/10.1016/j.elerap.2015.03.004
Syahrivar, J., Chairy, C., Juwono, I. D., & Gyulavari, T. (2021). Pay to play in freemium mobile games: A compensatory mechanism. *International Journal of Retail and Distribution Management*, *50*(1), 117–134.
Vargo, & Akaka. (2009). Service-dominant logic as a foundation for service science: Clarifications. *Service Science*, *1*, 32–41. https://doi.org/10.1287/serv.1.1.32
Vargo, & Lusch. (2004). Evolving to a new dominant logic for marketing. *Journal of Marketing*, *68*, 1–17.
Vargo, & Lusch. (2008). Service dominant logic: Continuing the evolution. *Journal of the Academy of Marketing Science*, *36*(1), 1–10.
Vargo, & Lusch. (2016). Institutions and axioms: An extension and update of service-dominant logic. *Journal of the Academy of Marketing Science*, *44*(1), 5–23.
Vedeikytė, I., & Lechmanová, K. (2022). Gaming community case study—The importance of Discord for the FFXIV brand engagement. *Journal of Brand Management*, *29*(5), 575–590. https://doi.org/10.1057/s41262-022-00280-3
Verleye, K. (2015). The co-creation experience from the customer perspective: Its measurement and determinants. *Journal of Service Management*, *26*(2), 321–342.
Wan, J., Lu, Y., Wang, B., & Zhao, L. (2017). How attachment influences users' willingness to donate to content creators in social media: A socio-technical systems perspective. *Information & Management*, *54*(7), 837–850.
Wang, K., Tai, J. C. F., & Hu, H. (2023). Role of brand engagement and co-creation experience in online brand community continuance: A service-dominant logic perspective. *Information Processing & Management*, *60*(1), 103136. https://doi.org/10.1016/j.ipm.2022.103136
Ye, X.-M., Batool, H., & Huang, S.-Z. (2023). The effect of physical cues on customer loyalty: Based on the mediating effect of customer engagement and value co-creation. *Emerging Science Journal*, *7*(1), 23–35. https://doi.org/10.28991/esj-2023-07-01-02
Zhang, Meng, & So. (2021). Cocreation experience in peer-to-peer accommodations: Conceptualization and scale development. *Journal of Travel Research*, *60*(6), 1333–1351.

APPENDIX

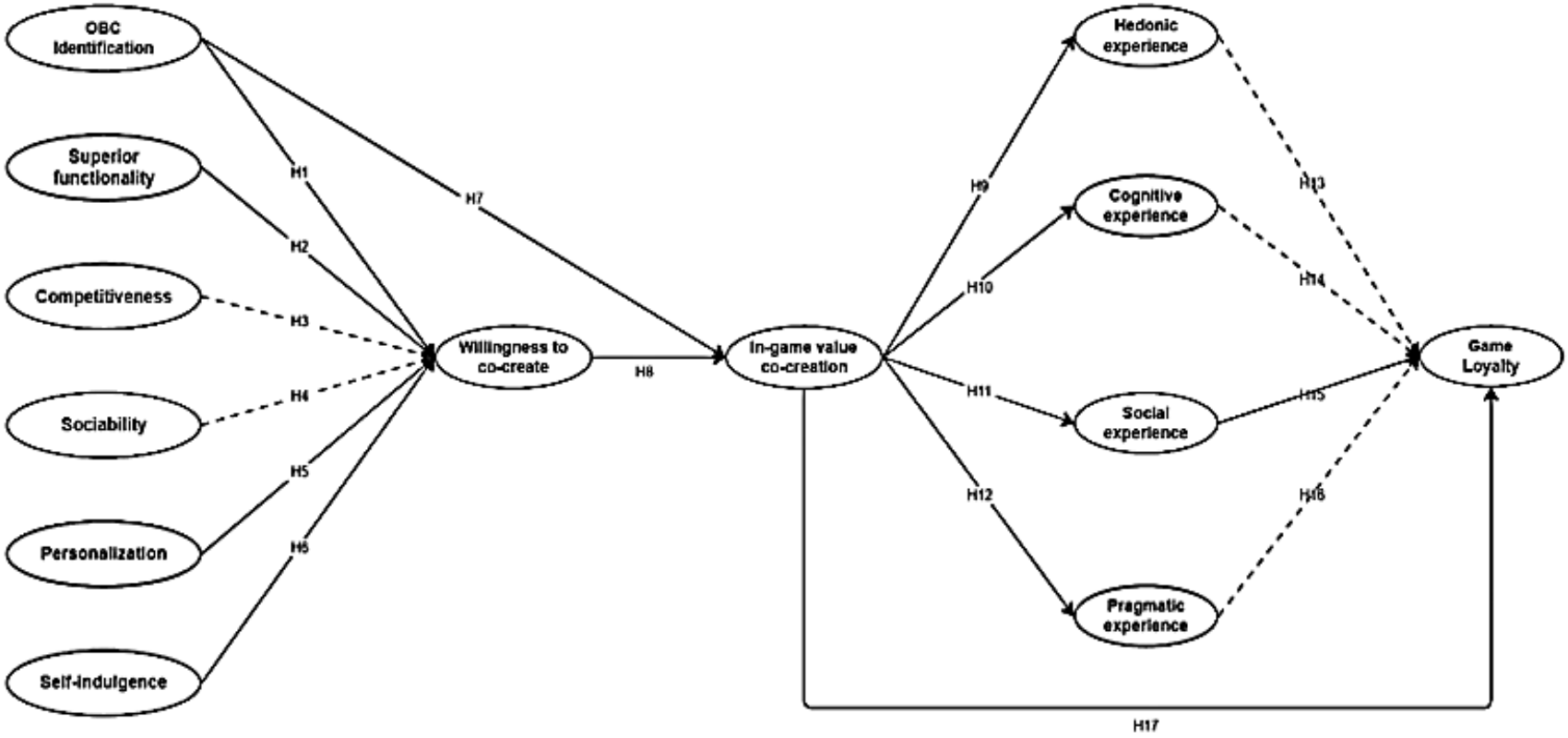

Figure 1. Hypotheses Conceptual Model

Table 1. Measuring Items

Construct	Code	Indicator	Reference
Online Brand Community Identification	OBCI1	I am very attached to the online brand community.	(Ray et al., 2014)
	OBCI2	The members of the online gaming community and I share the same goals.	
	OBCI3	My friendships with members of the online gaming community are very meaningful.	
	OBCI4	If members of the online gaming community are up to something, I would consider it something "we" do rather than something "they" do.	
Superior functionality	SF1	In-game premium content offers superior and interactive features.	(Balaji & Roy, 2017)
	SF2	In-game premium content is aware and adapts to the gameplay.	
	SF3	In-game premium content provides information related to game instruction in real time.	
	SF4	In-game premium content allows me to complete my gaming levels in a short time.	
Competitiveness	COM1	In-game premium content helps me to be the best in the game.	(Wan et al., 2017)
	COM2	In-game premium content helps me to compete with other gamers in the game.	
	COM3	In-game premium content maintains my achievements in the game.	
	COM4	I like to play games with in-game premium content to prove to other players that I am the best.	(Kim & Ross, 2006)
Sociability	SOC1	In-game premium content enables me to get a good impression from other players.	(Wan et al., 2017)
	SOC2	In-game premium content enables me to develop good social relationships with other players.	
	SOC3	In-game premium content enables me to form close friendships with other players.	
	SOC4	In-game premium content enables me to communicate with friends.	(Chen & Leung, 2016)
Personalization	PER1	I set up premium content to use it the way I want to.	(Zhang et al., 2021)
	PER2	I have adapted in-game premium content to meet my gaming needs.	
	PER3	I have chosen in-game premium content that suits my usage style.	
	PER4	I feel that in-game premium content is personalized for my usage.	(Hussain et al., 2022)
Self-Indulgence	SEL1	Playing a game with in-game premium content makes me happy.	(Syahrivar et al., 2021)
	SEL2	Playing a game with in-game premium content reduces my stress level.	
	SEL3	Playing a game with in-game premium content makes me relax.	
	SEL4	Playing a game with in-game premium content stimulates my adrenaline.	
	SEL5	Playing a game with in-game premium content stimulates my curiosity.	
	SEL 6	Playing a game with in-game premium content stimulates my imagination.	

Construct	Code	Indicator	Reference
Willingness to co-create	WCC1	I am willing to interact with in-game premium content to fulfil my needs.	(Heidenreich & Handrich, 2015)
	WCC2	I am persistent in learning how in-game premium content works.	
	WCC3	In order for in-game premium content work, I am willing to provide personal information.	
	WCC4	I am willing to configure the game based on my ideas.	
	WCC5	To learn how in-game premium content works, I am willing to put in a lot of effort.	
	WCC6	I am willing to collaborate with a game company to improve in-game premium content.	
	WCC7	I am willing to collaborate with the game company to improve my overall gaming experience.	
	WCC8	I am willing to provide personal information to use premium content in the game.	
In-game value co-creation	VCC1	I often suggest how gaming companies can improve in-game premium content.	(Cheung et al., 2021)
	VCC2	I often express my personal needs through in-game premium content.	
	VCC3	I often find solutions to game problems through in-game premium content.	
	VCC4	I am actively involved when gaming companies communicate new premium products/services.	
	VCC5	In-game premium content encourages me to come up with solutions together.	
Hedonic experience	HE1	Co-creating game ideas with gaming provider is a fun experience.	(Verleye, 2015)
	HE2	Co-creating game ideas with gaming provider is an exciting experience.	
	HE3	I enjoy co-creating game ideas with gaming provider.	
	HE4	Co-creating game ideas with gaming provider is an interesting experience.	(Sarkar et al., 2023)
Cognitive experience	CE1	Co-creating game ideas with gaming provider can improve my skills.	(Verleye, 2015)
	CE2	Co-creating game ideas with gaming provider makes me gain new knowledge or skills.	
	CE3	Co-creating game ideas with gaming provider allows me to keep up with new ideas and innovations.	
	CE4	Co-creating game ideas with gaming provider enables me to come up with new ideas.	
	CE5	Co-creating game ideas with gaming provider can test my capabilities.	
Social experience	SE1	The interaction in co-creating game ideas with gaming provider is pleasant.	(Verleye, 2015)
	SE2	Co-creating game ideas with gaming provider allows me to connect with other people.	

Construct	Code	Indicator	Reference
	SE3	Co-creating game ideas with gaming provider make others aware of my knowledge and ideas.	
	SE4	Co-creating game ideas with gaming provider allows me to make a good impression on other people.	
	SE5	Co-creating game ideas with gaming provider allows me to meet others with whom I share similar interests.	
Pragmatic experience	PE1	I got a compensation according to the effort put into co-creating game ideas with gaming provider	(Verleye, 2015)
	PE2	I got a fair rewards from co-creating game ideas with gaming provider	
	PE3	Co-creating game ideas with gaming provider puts the quality of the game in my hands	
	PE4	Co-creating game ideas with gaming provider makes an impact on the degree to which my preference were met.	
	PE5	I got an appropriate reward in return for my input in co-creating game ideas with gaming provider	
	PE6	Co-creating game ideas with gaming provider allows me to have influence over the quality of the game.	
Game Loyalty	GL1	I think this game is better than other games.	(Cui et al., 2022)
	GL2	If someone makes a negative comments on this game, I will defend it.	
	GL3	If possible, I would like to play a role in the development of this game.	
	GL4	I will play this game for the next few years.	(Pham et al., 2022)
	GL5	I say positive things about this game to other people.	
	GL6	I recommend this game to anyone who seeks my advice.	

Source: processed data

Table 3. Measurement Model Assessment

Construct	Items	Outer loadings
Online Brand Community Identification	OBCI1	0.759
	OBCI2	0.783
	OBCI3	0.824
	OBCI4	0.815
Superior functionality	SF1	0.826
	SF2	0.823
	SF3	0.739
	SF4	0.707
Competitiveness	COM1	0.869
	COM2	0.799
	COM3	0.902
	COM4	0.834
Sociability	SOC1	0.752
	SOC2	0.896
	SOC3	0.880
	SOC4	0.857
Personalization	PER1	0.792
	PER2	0.807
	PER3	0.828
	PER4	0.792
Self-Indulgence	SEL1	0.719
	SEL2	0.804
	SEL3	0.850
	SEL4	0.760
	SEL5	0.823
	SEL6	0.789
Willingness to co-create	WCC1	0.784
	WCC2	0.788
	WCC3	0.680
	WCC4	0.757
	WCC5	0.815
	WCC6	0.749
	WCC7	0.723
	WCC8	0.676
In-game value co-creation	VCC1	0.769
	VCC2	0.744
	VCC3	0.788

Construct	Items	Outer loadings
	VCC4	0.834
	VCC5	0.864
Hedonic experience	HE1	0.918
	HE2	0.920
	HE3	0.877
	HE4	0.912
Cognitive experience	CE1	0.898
	CE2	0.908
	CE3	0.906
	CE4	0.907
	CE5	0.879
Social experience	SE1	0.847
	SE2	0.874
	SE3	0.821
	SE4	0.853
	SE5	0.885
Pragmatic experience	PE1	0.855
	PE2	0.878
	PE3	0.848
	PE4	0.871
	PE5	0.874
	PE6	0.842
Game Loyalty	GL1	0.735
	GL2	0.548
	GL3	0.741
	GL4	0.738
	GL5	0.824
	GL6	0.834

Source: processed data

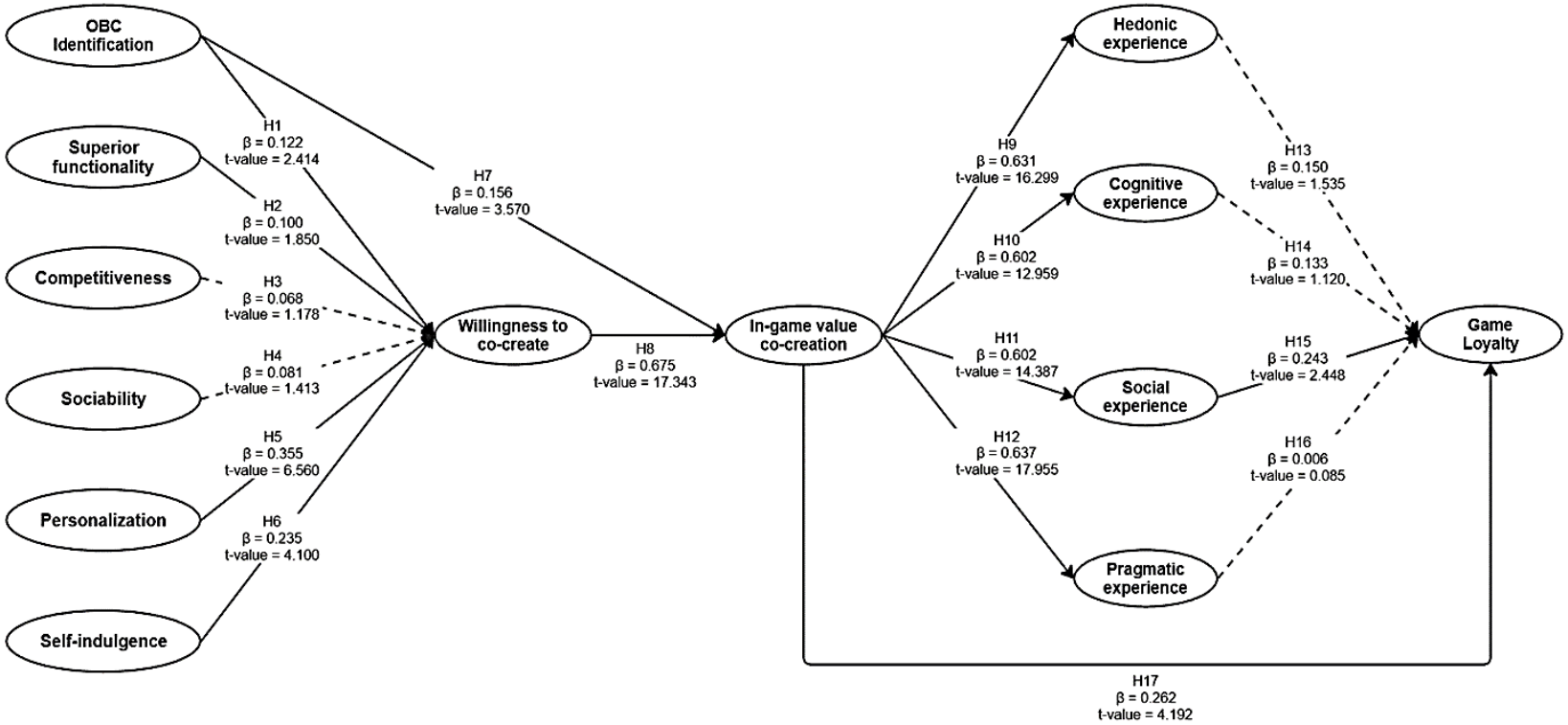

Figure 2. Structural Model Results