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## **BROKERS OF THE METAVERSE: HOW A WEB3 PLAY-TO-EARN GAMING GUILD ACTS AS CULTURAL MEDIATOR ON TWITTER**

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### **Introduction**

Considered “showcase pieces” of how non-fungible tokens (NFTs) work (Serada et al., 2021, p. 460), play-to-earn (P2E) games target users unfamiliar with cryptocurrencies, thus playing a crucial role for blockchain industries developing cryptocurrencies, NFTs and other related technologies. While common opinions consider such technologies as either a past fad, or just a scam, the industry commonly known as crypto, blockchain or web3 has continued to develop and attract investors and users.

P2E games allow players to earn rewards through ‘farming’ (Tai & Hu, 2018) or trading digital assets, which can be turned into conventional money (Zaucha & Agur, 2023). Echoing narratives that these technologies facilitate a more user-centric Internet (Ragnedda & Destefan, 2019), industry actors describe P2E games as decentralized “player-owned economies” (Sky Mavis, 2021). However, soon after P2E games gained traction in 2021, an outsourcing structure emerged to help new users in low-income countries overcome the high complexity and cost of entry. NFTs rental schemes (Zaucha & Agur, 2023) evolved into programs coordinated by P2E gaming guilds (Elliott, 2021). This paper focuses on Yield Guild Games (YGG), founded in the Philippines, one of the first developing such programs and a prominent P2E guild with global reach.

While diverse (Williams et al., 2006), guilds are generally defined as semipermanent online gaming groups “with a social hierarchy and shared resources” (Poor & Skoric, 2014, p. 183) and their own culture (Snodgrass et al, 2017). Zhang and Fung (2014) note the commercialization of guilds as “significant players in the complicated negotiations between capital and labor, commerce and community” (p. 42).

Creative industries are “a general enabling social technology” (Hartley, 2009, p. 50) often representing early forms of new knowledge-based economies. Research on P2E

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guilds can therefore help understand the ongoing process of platformization (Poell et al., 2019, 2021), which includes the development of blockchain technologies. Research on blockchain applications has mostly focused on industry discourses (e. g. Egliston & Carter, 2023; Brody & Couture, 2021) and the cultural implications of NFTs (Zaucha & Agur, 2022). P2E guilds remain largely unexplored. This paper examines the structure and communication practices of YGG by analyzing, both quantitatively and qualitatively, its activity as a “cultural broker” (Foster & Ocejo, 2015) on Twitter.

## Cultural Brokers

Social network theory includes the study of brokerage motivations, such as Simmel's (1902) classic *tertius gaudens* (the third who benefits) and the more recent *tertius iungens* (the third who connects) (Obstfeld, 2005). This paper focuses on the less well-known approach *tertius transferens* (the third who translates), an approach combining social network theory with Bourdieu's (1993) notion of cultural intermediaries and proposed within the creative industries to study the symbolic work done by cultural brokers (Foster & Ocejo, 2015). YGG self-defines as a DAO, a blockchain-based decentralized and autonomous organization (DuPont, 2017) and has been described as the “recruitment agency of the metaverse” (Dempsey & Ahmed, 2021). YGG purchases in-game NFTs of their partnered games and lends them to players (Cointelegraph, n.d.), mainly located in weak economies (Delic & Delfabbro, 2022), thus gaining income and power (*tertius gaudens*). By doing so, YGG claims to facilitate financial inclusion and offer economic opportunities to the disadvantaged (Li, 2021) (*tertius iungens*).

As a cultural broker (*tertius transferens*), YGG engages in symbolic work: it trains, mentors and loyalizes new users (Bennington, 2022; Elliott, 2021), helping them overcome technical complexities, the greatest barrier for blockchain industries (Serada et al., 2021). YGG promotes the adoption of blockchain technologies and ideologies (Swartz, 2017), ascribing legitimacy and value to particular actors in the Web3 ecosystem.

This paper asks: How does YGG perform its role as a cultural broker on Twitter?

## Methodology

We conducted a computational analysis of YGG's presence on Twitter, informed by ongoing ethnographic research by the first author. Twitter has been used for researching cryptocurrencies (Hoyng, 2023; Kraaijeveld & De Smedt, 2020), and for promoting new cultural trends (Chow-White et al., 2021). Many users first encounter Web3 applications, such as P2E games, on Twitter (Hoyng, 2023), a key platform bridging Web2 and Web3 ecosystems.

To map YGG's network on Twitter, we created an initial list with accounts of YGG's members, co-founders, core team, investors, and partners. These accounts were identified through YGG's white paper, reports and Discord channels, and by searching accounts on Twitter mentioning YGG's handle on their profiles. Official guild accounts were also included. We divided the list into two: G1 for accounts directly affiliated with

YGG (e. g. cofounders, members), and G2 for indirectly affiliated accounts (e.g., investors, partners, advisors).

Twitter API was used to collect the user data and account timelines. We used R 4.2.2 (R Core Team, 2022), tidyverse (Wickham et al., 2019), rtweet (Kearney, 2019) and academictwitterR (Barrie & Ho, 2021). User data for accounts retweeted or mentioned within the initial set of tweets were also collected. We created two mention networks corresponding to two time frames. The first one (April 2021-Dec 2021) covers a period of optimism, which we call summer (S), including events such as the popularity surge of *Axie Infinity*, arguably the first P2E game. The second time frame (March 2022-November 2022), corresponds to a period of crisis, named winter (W), including the hacking of *Axie Infinity* and the collapse of FTX.

We used network analysis to examine the structure of YGG communication on Twitter (Rathnayake, 2023), we analysed tweets using BERTopic topic modeling (Grootendorst, 2022), and extracted links to determine what information is shared within the network (Hoyng, 2023).

## Preliminary Findings

### Network Analysis

We identified key nodes by in-degree (popularity) and betweenness centrality, which measures the ability of a node to connect nodes otherwise disconnected and control information flows (Easley & Kleinberg, 2010) (Tables 2 & 3). Account activity will be qualitatively analyzed.

### Topic Modeling

The most popular topics coincide with our expectations (Table 4). Both SG1 and WG1 results demonstrate YGG's role as a cultural broker promoting blockchain technologies such as NFTs (SG1 Topic 2, WG1 Topic 0) through play-to-earn games (SG1 Topic 0, WG1 Topic 0 & 1) located within broader cryptocurrency markets (SG1 Topic 3, WG1 Topic 2) and the "metaverse economy" (SG1 Topic 19). The guild also ascribes legitimacy and value to particular products, namely the game *Axie Infinity* (SG1 Topic 1, WG1 Topic 3). Moreover, the topic lists highlight prominent communication practices related to community building, such as weekly community streams (SG1 Topic 5), AMA (ask me anything) sessions (WG1 Topic 5), recruitment and training (SG1 Topic 6), promotion of YGG esports events (SG1 Topic 8 & 15), giveaways and airdrops (SG1 Topic 2 & 14, WG1 Topic 7), encouraging charity donations (SG1 Topic 15) or discussing DAO governance (SG1 Topic 16).

Comparing G1 and G2 reveals YGG's purpose in the Web3 ecosystem, combining promoting blockchain technologies with community building. Compared to G2, G1 tweets content revolves more consistently around blockchain applications and guild activities. We expect differences between the Summer and Winter periods to emerge in further qualitative analysis.

**Linking Behavior**

YGG accounts engage in linking behavior that promotes community activities on Discord, and information published on YouTube and Medium (see Figures 1 and 2). Further analysis will determine the specific channels and information sources promoted within the network, enabling a better understanding of brokerage processes.

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## Tables and Figures

Table 1: Number of tweets and unique accounts in each period and group		
Tweets and Accounts	Summer	Winter
Group 1	37,254 (56 Accounts)	171,284 (63 Accounts)
Group 2	112,099 (111 Accounts)	133,392 (126 Accounts)

Table 2: Key Nodes by Betweenness Centrality (BC). Accounts of individuals are anonymized.							
Summer				Winter			
Node	Followers	BC	Role	Node	Followers	BC	Role
<i>Official 1</i>	84720	0.00079	co-founder	yggjapan	36627	0.00111	official
yieldguild	187233	0.00061	official	yieldguild	187233	0.00062	official
<i>Supporter 1</i>	519785	0.00043	supporter	<i>Official 1</i>	84720	0.00061	co-founder
<i>Member 1</i>	105142	0.00040	member	<i>Member 1</i>	105142	0.00022	member
thesandboxgame	1066242	0.00037	game partner	illuviumio	369687	0.00020	game partner



Table 3: Key Nodes by In-Degree (I-D). Accounts of individuals are anonymized.							
Summer				Winter			
Node	Followers	I-D	Role	Node	Followers	I-D	Role
axieinfinity	892558	5206	game partner	axieinfinity	892558	3716	game partner
staratlas	314975	4775	game partner	staratlas	314975	2360	game partner
yieldguild	187233	2439	official account	yieldguild	187233	2108	official account
thesandboxgame	1066242	1701	game partner	thesandboxgame	1066242	1678	game partner
<i>Official 1</i>	84720	1632	co-founder	yggindia	426	1477	official account

Figure 1. Winter Most Linked Domains

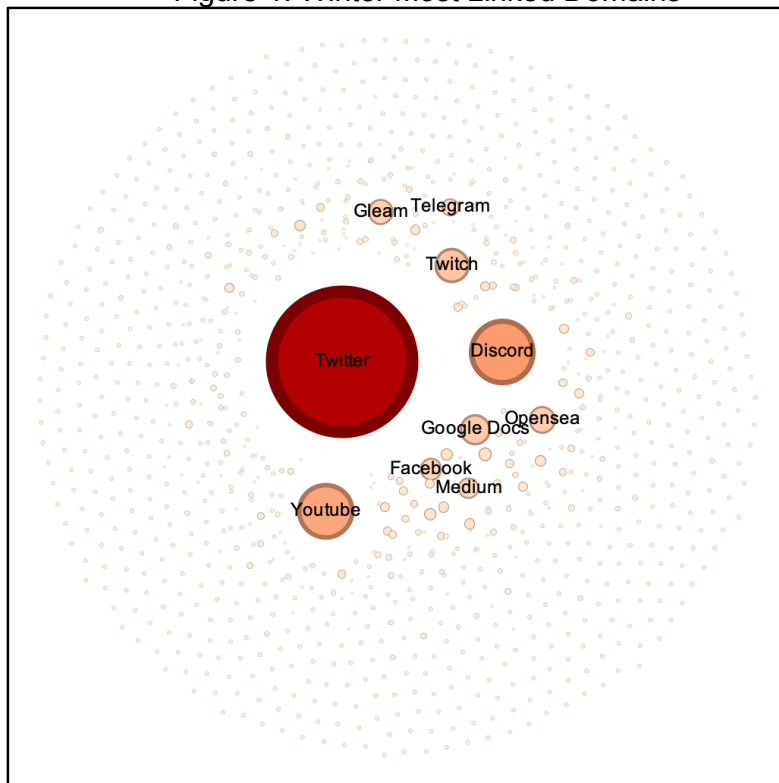


Figure 2. Summer Most Linked Domains

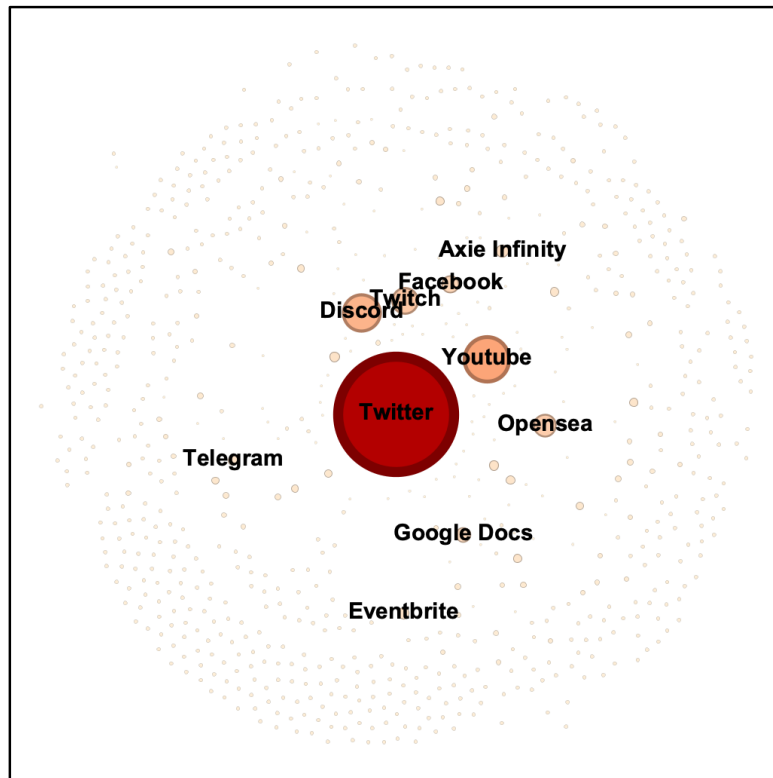


Table 4: Key terms for topic modeling by period and group.

T	SG1	SG2	WG1	WG2
0	Blockchain Gaming, Play-to-ear Gaming	Splinterlands Giveaway	NFT Gaming, NFT Marketplace	Splinterlands, Axie
1	Axis staking, Axis Player	NFTs, NFT Community	Blockchain Gaming, Web Gaming	Blockchain Gaming, Web Gaming
2	NFT Drop, NFT Community	Bitcoin, Crypto	Bear Markets, Crypto World	Good, Hope, GM (General Communication)
3	Crypto Market, Crypto World	Axie Infinity, Scholarships	Axie Infinity Origin, Axie NFTs	Token Incentives, Token
4	Crypto Twitter, YGG Discord	Land Sales, Auction	YGG Managers Cup	Staking, Airdrop
5	Gamehunters, NFT Gaming	Metaverse, WeAreStartAtlas	AMA Session, Discord Community	Metaverse, Storyverse
6	Axie Scholars, Axie Scholarship	Pyr Vulcan, ForgeYourWorld	YGG Twitter Spaces, YGG Discord	Beta, app, android
7	Mental Health Day	Awork, Collection	NFT Giveaway, INDIGG	Vulcan, Pyr

8	YGG Managers Cup, Charity Tournament	Mint, Presale, Space Misfits	Builders, Knowledge, Community	Voxedit, Live Contest
9	YGG Token Sale, YGG Founders Coin	Space Misfits Community	YGG Guild Advancement Program	Cathletes, Breeding
10	Highest Sale, NFT Auctions	Discord, Telegram	Philippine Web Festival, Guild Meetup	Builders Program, Community
11	Product Building, Marketing	Hex, Pulsechain		Mint Details, Upcoming Mint
12	Year End Festivities, Happiness Reflection	OS, Windows, Steam		MonkeyFans, MonkeyLeauge
13	Creation Moment, Sculpture	Atari, First Edition		Stepn, Walkn
14	NFT Giveaway, NFT Mystery Boxes	Start Atlas Metaverse		Music Video Contest, Trailer
15	Odette Donations, Crypto Donations	Bored Apes		PA Community, Journey
16	Dao governance, dao community	NFT Gaming Sipher		Bear Market, Bull Market
17	Freya Mask, Mask Piece	Floor Price, Sales		Solana, NFTs
18	Brooklyn, New York	Amouranth, Misogyny		Awesome Mech Photo
19	Metaverse Economy, Metaverse Work	Community Discord, Stream		
20		Coffee, Food		