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European Creator Economy's Web3.0 Business Model Case Study

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Abstract

In this paper, we are interested in how creator economy startups allowing creators to make money from doing that they love. So, we look at European creator economy startups among Web3.0 business model landscape surveyed in 2022, because the US is home of Web2.0 giant platforms like YouTube. Totally seventeen European startups are investigated, and the theoretical logic is the disruptive innovation. We firstly review the survey published in 2022 and utilize the theory of the disruptive innovation to design the research framework including questions with each type of the disruptive innovation. In this paper, we firstly show, Kalao and Gem as NFT ecosystem platforms aim at service convenience. Secondly, Talkbase, Passionfroot, Bildr, Customuse, and Earnr aim at providing creator tools for under-skilled customers. Lastly, when it comes direct monetization with a decentralized business model, CrowdPad, Admix, GOALS, Realm, Dropstar, Pianity, Sonomo, Stage11, Miiji, and ReadyPlayerMe are representative. Despite the relatively small data size, the results are meaningful as they contribute to a more profound comprehension of the Web3.0 business models and offer guidance for future research directions.

Keywords: Web3.0, Business Model, European Creator Economy, Digital Asset, Token.

1. Introduction

Web3.0 is a technology redefining all industries, and blockchains are starting to operate the backends of many Web3.0 applications named as decentralized applications (dapps), digital programs running on a decentralized network . One of the distinctive characteristics of Web3.0 is the decentralization of the business models. While the first incarnation of the Web, Web1.0 in the 1980s consisted of open protocols on which anyone could build and from which user data was barely captured. It soon morphed into Web2.0, a more centralized model in which user data like identity, transaction history, and credit scores, are captured, aggregated, and often resold by the Web2.0 platforms. In this era, applications are developed, delivered, and monetized in a proprietary way. All decisions related to their functionality are concentrated in a few platforms and revenues are distributed to shareholders. PwC sees Web3.0 as a fundamental shift that results in a truly decentralized ecosystem where users have ownership and control of their assets, enabled by emerging

technologies [1].

Web3.0 has the potential to significantly disrupt the creator economy. It is expected to reconstruct it to better address the needs and challenges that creators face in the Web2.0 era. In the current Web2.0 environment, creators must often tackle obstacles that hinder their ability to reap the full benefits of their work. These obstacles include the deprivation of ownership of their own content, the difficulty of effectively cashing in on their creativity, and the struggle against transparency and control of personal data. In the Web3.0 era, computerized artworks, videos, contract documents, etc. that become digital assets of creators can be traded, and technically stored in blockchain [2]. This study is interested in how creator platform startups allowing creators to make money from doing that they love. So, the aim of this paper is to examine Web3.0 business models of creator platform startups based on the theoretical logic of the disruptive innovation.

2. Literature Review and Theoretical Background

2.1 Previous Literature Review

After searching previous literatures under the keyword 'Web3.0 business model, creator economy from 2021 to 2023,' two papers are found in 'Google Scholar.' Table 1 shows the summary of these papers. First paper tried a thorough investigation of new blockchain-based business models created between 2012 and 2022. After reviewing 75 papers from the past ten years, the findings highlight new directions for the business strategies built on blockchain. By changing the conventional framework, blockchain innovation leads to the development of new methods for developing business models and the potential of blockchain technologies such as nonfungible tokens (NFTs) and 'play to earn (P2E)' has been coupled with the development of new projects and the modification of existing business models [3]. The second paper shows, NFTs experienced exponential growth over the past few years. Many companies have experimented with various ways to develop NFT businesses, but often without clear guidance on how NFTs shape property rights and business models. So, in this paper, the roles of NFTs have been examined in digital property rights, creating value for creators and collectors, and empowering business model innovation. This paper concludes, NFTs can create new business models around digital ownership, portable and configurable digital assets, and distributed communities [4].

Table 1. Summary of previous research results

Year	Authors	Key points
Mar. 2023	**H. Taherdoost and M. Madanchian**	- The potential of blockchain technologies like NFTs and P2E couples with the development of new business models.
Aug. 2023	**S. Li and Y. Chen**	- NFTs create new business models around digital ownership, portable and configurable digital assets, and distributed communities.

2.2 Theoretical Logic

After the theory of disruptive innovation first came out in 1997, this theory has been amazingly influential in business model in Web1.0, and Web2.0 era. As shown in Figure 1, this model contrasts product performance trajectories (the red lines showing how products or services improve over time) with customer demand trajectories (the blue lines showing customers' willingness to pay for performance) [5].
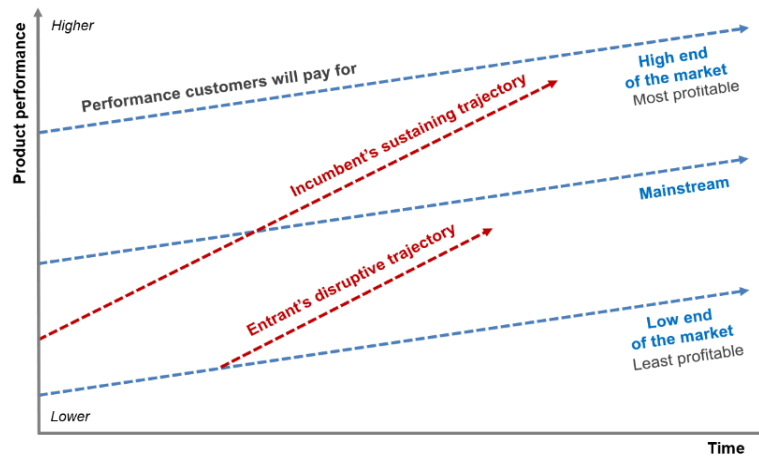
Figure 1. Disruptive innovation model

As incumbent companies introduce higher-quality products or services (upper red line) to satisfy the high end of the market where profitability is highest, they overshoot the needs of low-end customers and many mainstream customers. This leaves an opening for new entrants to find footholds in the less-profitable segments that incumbents are neglecting. Entrants on a disruptive trajectory (lower red line) improve the performance of their offerings and move upmarket where profitability is highest for them too and challenge the dominance of the incumbents [5].

The 2003 book compiling the above theory described two kinds of the disruption, low-end and new market disruption. Each has same three dimensions: Targeted performance of the product, targeted customer application, and impact on the required business model. The low-end disruption targets performance that is good enough along the traditional performance at the low end of the mainstream market, over-served customers in the low end of the mainstream market, and utilizes a new operating or financial approach, a different combination of lower gross profit margins and higher asset utilization that can earn attractive returns at the discount prices required to win business at the low end of the market. On the other hands, the new market disruption targets lower performance in "traditional" attributes but improved performance in new attributes, typically simplicity and convenience, customers who historically lacked the money or skill to buy and use the product and makes business model at lower price per unit sold and at unit production volumes that initially will be small where the gross margin per unit sold will be significantly lower [6].

3. Research Design

Even if the Web3.0 market is so unpredictable, it is quite clear that some traditional business models would fail in Web3.0 era. As shown in the left side of Figure 2, the research framework is starting from Web3.0 fundamentals, and among two approaches of disruptive innovation, the new market disruption is observed. It targets improved performance, typical simplicity and convenience, customers who lacked skill, and business model at lower price per unit sold and unit production volumes [7]. In terms of Web3.0 fundamentals, the control is no longer centralized, but widely distributed through decentralized infrastructure like blockchains and smart contracts. Blockchain is open data structure. It means, application data are no longer stored in private databases, but on an open data structure that anyone can write to and read from. Blockchains operate as public databases storing all transactional data. Thus, they are "distributed ledgers," meaning that the core databases

are duplicated and spread among multiple participants in a network of computer servers called "nodes." The "blocks" of blockchain are individual segments of data interlinked together. As new data are added to the network, a new block is created and attached permanently to the chain. All nodes are updated to reflect the change. The system is not subject to a single point of failure or control. So, user data are no longer fragmented across platforms, nor are they proprietary [8].

Smart contracts are software programs stored on the blockchain executing a verified transaction based on predefined parameters. They require careful setup, because they are often deployed as immutable programs, but once in place, they can be executed rapidly and cost-efficiently without the need for intermediaries. The logic of the dapp is predetermined in the contract and difficult to change once deployed. These can be governed by a decentralized autonomous organization (DAO), a form of collective governance by users owning governance tokens. So, digital assets should represent verifiable and ownable digital values. These exist on the blockchain across dapps and can engage with smart contracts [8].

There are several types of digital assets. Cryptocurrencies like Bitcoin, Ethereum, Tether, Dogecoin, and so on leveraging the cryptographic foundation of a blockchain to store value, provide a means of exchange, and function as a unit of account. Commodity tokens facilitate the creation of new, independent digital assets. The Ethereum blockchain introduced these types of assets. Utilizing the smart contracts of the Ethereum blockchain, developers can create ERC-20, the standard for fungible tokens like Chainlink, Basic Attention Token, Civic, OmiseGo, and ERC-721 as the standard for NFTs. Utility tokens provide access to a company's products and services, and are not designed as an investment medium, but like digital coupons used for a service that is live or in the development process. Security tokens represent transferred ownership rights or asset value like real estate, vehicles, or corporate stock to a blockchain token. Depending on the scale of the physical asset, a security token can represent the whole or a fraction of the asset. Hybrid tokens have two types of holders: Participants who want to access the right to a specific product or service, and investors who hold the speculative value of the product or service. Lastly, Real-world asset tokens are used to represent tangible real-world assets and take on the value of the tangible asset by acting as a digital record of ownership [2].
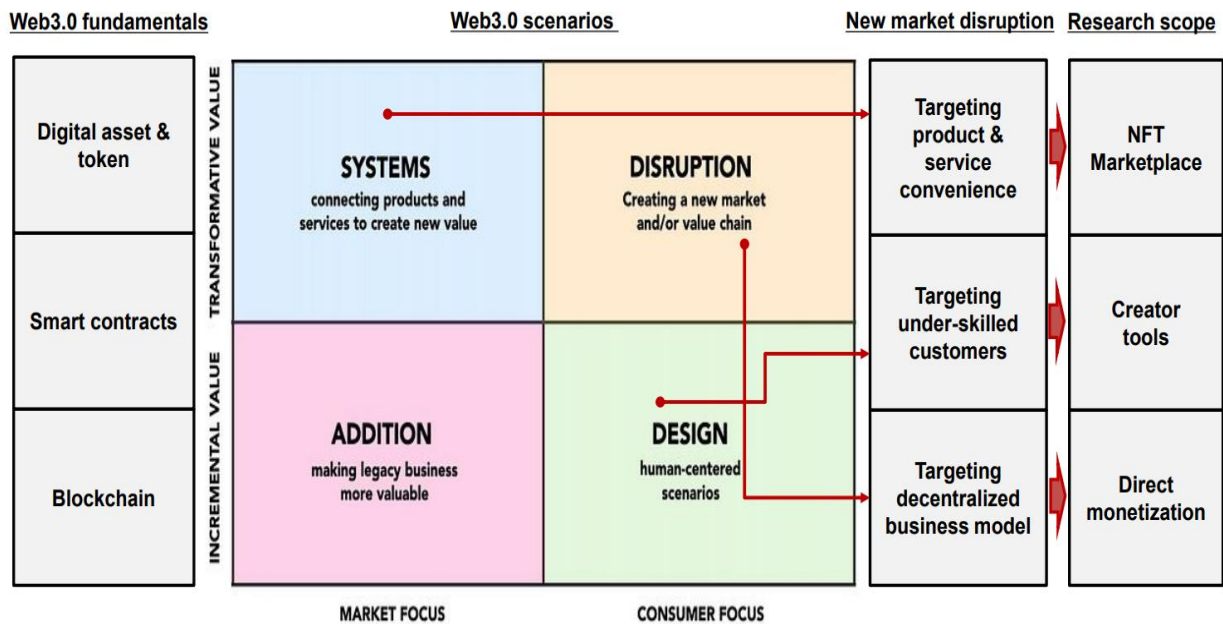

Figure 2. Research Framework

In the middle side of Figure 2, there are four quadrants and two axes of the Web3.0 scenarios: Consumer and market focus on the horizontal axis, and incremental and transformative value on the vertical axis. In the market focus, the 'addition' approach to make legacy business more valuable is not disruptive. Balenciaga brand marketing on Fortnite is an example. But the 'systems' approach connects products and services in a better way to create new value. Product value resides in the service and experience designed around it, like the case where value is in connecting physical and virtual worlds. For example, Guerlain sold original NFTs commissioned from artists, to fund the creation of a self-sustainable agriculture laboratory garden and a 28-hectare biodiversity reserve. It is to target product and service convenience in new market disruption. In the consumer focus, the 'design' approach provides customers with a better way of doing things in the human-centered manner. For instance, Friends with Benefits (FWB) is a token-based community that uses Web3.0 tools to foster creative agency. FWB token allows for community participation. If accepted, an FWB token holder can become a 'Global Member' by holding 75 FWB tokens, which grants them unrestricted access to the entire FWB ecosystem. It is to target under-skilled customers in new market disruption [9]. As shown in the right side of Figure 3, there are three dimensions of the new market disruption: Targeting product & service convenience, targeting under-skilled customers, and targeting decentralized business model. Each dimension can be matched to the research scopes like NFT marketplace allowing the creator to store and display their NFTs, plus sell them to others for cryptocurrency or money [10], creator tools allowing the creator to operate backend tools, analytic platforms, etc., and direct monetization allowing creators to monetize respectively.

Based on this research design, this study investigates European creator economy startups among the Web3.0 business model landscape surveyed in 2022, because the US is the home ground of Web2.0 giant platforms like YouTube and Facebook. Accordingly, it is meaningful to study European startups to discover the new market disruption in the next Web3.0 era. The '2022 Creator Economy' report in March 2022 includes the 144 creator- led platform startups. Its primary sources of data are Crunchbase and Pitchbook, supplemented by its own interviews with investors from other venture capitals (VCs). Among these, only eighteen have been based in Europe: CrowdPad, Admix, Goals, Realm, Miiji, ReadyPlayerMe, Kalao.io (Kalao), Talkbase, Gem.xyz (Gem), Passionfroot, Bildr, Customuse, Earnr, Beyond, Dropstar, Pianity, Sonomo, and Stage 11 [11-12]. However, after checking whether all 18 startups are still in business or not as of August 2023, it is known that the company name of Beyond has not found. Therefore, seventeen startups are investigated. For this analysis, the company, market data, and press releases of these 17 European companies are searched. Along Figure 2, the research questions are as follows:

1) What are the Web3.0 use cases of the NFT marketplace in European creator economy?

2) What are the Web3.0 use cases of the creator tools in European creator economy?

3) What are the Web3.0 use cases of the direct monetization in European creator economy?

4. Results

4.1 Targeting product & service convenience: NFT Marketplace

Kalao based in Estonia, founded in 2021, started from a NFT solution for securing digital collectibles on 'Avalanche' blockchain protocol. The Kalao framework can firstly accelerate the adoption of virtual reality (VR) technology to develop virtual worlds and sustain the digital transformation of business use cases. It is now a NFT marketplace that allows users to create a virtual, 3D (dimension) gallery to display their works, and launches its own metaverse. So, Kalao is developed as an NFT ecosystem which offers a cost-effective and easy-to-use marketplace, powered by a combination of Avalanche and Kalao VR capabilities [13-14].

Gem launched in 2021, allows any user to buy and sell NFTs across different NFT marketplaces as the NFT aggregator. It was firstly Brussels-based in Belgium, but in April 2022, it was bought by the NFT marketplatce, OpenSea. Gem is the independent platform that helps users to buy or sell NFTs from several marketplaces in a single transaction, to pay with any ERC-20 token on this aggregator [15].

So, it is now a NFT aggregator combining collections from multiple platforms. Its users can view analytics like sales volume, floor prices, and rarity-based ranking for NFT collections. To work with this aggregator, users connect a Web3.0 wallet. It has collections from seven marketplaces including OpenSea, LooksRare, X2Y2, Rarible, NFTX, NFT20 and Larva Labs. To buy any NFT, its users go to the 'Discover' page to find the right collection. Using filters and search, they can set up on which marketplaces to search for the collection and set the maximum value which is displayed in Ethereum. On the page with the description of the token, they can find its value, characteristics, description, author and creator name, and transaction history. To sell NFTs, its users can select a token among several tokens in their wallet and choose a marketplace to place them. NFTs for sale are on "My Listing," which users can manage or remove from the market. They can donate purchased tokens to other users. Then, the aggregator requires NFT for sending, enter the recipient's wallet address and make the transaction [16-18].

4.2. Targeting under-skilled creator: Creator tools

Fan community-led growth is an approach to driving new business organically and a good tool for product-led growth, insofar as a user convinced that it's worth remaining an active user. Users can serve as a support network for other would-be customers. The community can be from social media influencers and review sites to dedicated forums like 'Facebook Groups.' In the Czech Republic, Talkbase founded in 2021, helps companies build and harness communities around their products, enabling them to side-step multiple disparate tools and manage everything in a single platform. It bridges various community management tools, bringing everything under one roof. For instance, it packs task-management and collaboration tools, allowing managers to assign tasks, and teams to work together on programs to meet deadlines. It includes features for creating, managing, and scheduling events like supporting attendee registrations and managing moderators or speakers. It is moving beyond the incumbents by pulling together all the various elements that constitute a community manager's toolset. It replaces survey tools like 'Type form' or spreadsheet tools like 'Google Sheets,' event publishing tools like 'Eventbrite' and outbound communication tools like 'Mailchimp.' In terms of pricing, it has various plans starting from free for a basic tier, through $68 per month for the basic plan to Pro plan opening everything up for $680 per month as of 2022 [19].

When it comes to management tools, Passionfroot, based in Germany and founded in 2021, is a browser-based, no-code tool platform that helps creators keep track of their projects, clients and cashflow. It raised a €3million pre-seed in 2021, the largest for a European creator startup at that stage. It offers a three-tiered pricing structure for the software and takes a tiny percentage of any transactions. Creators have a storefront to field requests and manage back-office operations like invoicing on the platform. Half of its angel investors are women or people from underrepresented minority groups including SpotiAngels. The round was led by the VC, Creandum with its partner, Sabina Wizander. In the Web3.0 creator economy, it is trend for startups to try and get creators investing to leverage their networks and knowledge of the problems that face self-employed entrepreneurs living off the content they produce. As such, 30% of its angels are creators [20-21].

In terms of the design tools, Bildr based in the UK, is a no-code tool platform for creators building apps where any user can create web apps without writing code. In January 2022, it became one of the first no-code companies to incorporate Web3.0 by launching a set of NFTs for their users. In 2006, one of two cofounders

launched a consulting agency using a no-code tool to deliver the results. Another cofounder also had a consulting agency by creating 'No Code List,' a resource for sharing and discovering no-code tools. This list gained in popularity and in 2020, the former cofounder spun out Bildr by productizing the tool and came across the latter cofounder's consulting. Unlike other no-code tools, Bildr is a layer on top of code. At the end of 2021, it launched NFT collections for its users, and its NFT passes are focused on the utility. There are currently three types of NFT passes. The 'Studio Pass' NFT holders receive lifelong access to the Bildr product in addition to other community benefits. When purchasing the NFT, users can choose the artwork on this pass. This feature involves users in the creation of their token, leading many to share their purchases on social media. The 'Lifetime Pass' NFTs are transferrable, so users can sell them on open markets. If owners of the 'Studio Pass' decide to leave Bildr, they can recoup their money on a sale. There are some risk factors like Ethereum (ETH) price, but it's a new approach to purchasing software as a service (SaaS). From Bildr's perspective, they see added upside as former customers bring in new ones on their way out [22-23].

Customuse as design tool, based in the UK and founded in 2021, started to help creators make and sell virtual apparel on Web2.0 social media platforms like Snapchat or Web2.0 metaverse gaming platforms like Roblox. It develops a virtual apparel design software designed to bring product ideas to life and offers an intuitive interface to create outfits for avatars, enabling creators to sell their design in popular games and in metaverse like VR and augmented reality (AR) environments [24].

As a convenient payment tool, Earnr based in the UK and founded in 2020, is a finance and tax support application (app) for creators. It secured £650,000 to launch an app aimed at "Solopreneurs". The round was led by seven percent ventures, and was joined by Antler and FJ Labs. This app provides a hub of financial tools and services for the self-employed side-hustlers, as it provides digital bookkeeping and accountancy services, automates tax returns, and comes with access to expert help. Anyone earning less than £3,000 from their side hustle can submit their tax return for free, and over that, Earnr charges a flat fee of £99 [25-26].

4.3. Targeting decentralized business model: Direct monetization

Web3.0 enables direct monetization to creators through revenue allocation beyond providing NFT ecosystems and solutions. Users can benefit from their interactions and participation, creating a win-win situation for both creators and audiences. Monetization is also possible through direct payment for high-quality participation or through sharing of advertising revenue that their activities attract. There are currently three types of direct monetization. First, regarding the community token, a new way of creators to interact with their fans in a more engaging way, CrowdPad based in the UK, was founded in May 2021 by raising $2.62million. It developed a tokenized community-building platform for creators to create, discover and manage their communities all in one place. It allows creators to mint their own digital tokens and to give benefits to people who hold them. These can lead to fans' future access point to the creator's exclusive content, backstage passes, etc. It opens an opportunity to disrupt the traditional creator community space. CrowdPad allows community members to be compensated for their time as well as their contributions [27-28]. It has a non-custodial wallet permitting users to own their private key which is encrypted storage. Through this wallet, it makes revenue on token swaps. So, CrowdPad takes a 0.01% fee on the transaction and holds 5% of every social token or creator community launched on the platform [29].

Admix based in the UK, an advertising (ad)-tech started in 2017, is the in-game ad platform bridging the gap between games and brands. It brings ad to games, esports, VR and AR. In Web2.0 era, in-game ad tries to differentiate P2E by focusing on building a product supporting game ad, where brands bid programmatically through ad-buying platforms. It started to offer software development kit (SDK) for Unity and Unreal game

engines, allowing developers to drag and drop into their game ad formats like billboards, posters, and 3D spaces. As of June 2020, it worked with more than 200 developers and raised $7million in Series A funding [30]. It developed a monetization platform for game developers enabling non-intrusive, programmatic product placements (PPLs) within their content. It is a programmatic ad platform for everything from immersive technologies to mobile games and sells its inventory to popular demand-side platforms and gives millions of advertisers the ability to buy game media in a couple of clicks [31-32]. It raised $25million in October 2021 from Elefund, a US fund that invested in Robinhood and Calm, Notion Capital, Force over Mass, Speedinvest and others [16]. Then, after merging with LandVault in 2022, Admix's renamed LandVault had more than 160 employees including ca. 100 metaverse developers in 2022. This company wants to deliver content from a metaverse generating revenue using proven technology to optimize value through vertical integration [33].

GOALS based in Sweden and founded in 2021, is a P2E football game where players can be rewarded with NFTs. This blockchain game company acquired $15million in early capital to expand its product to non-crypto native gamers in 2022. Northzone led the investment round including previous investors like Cherry Ventures, Moonfire Ventures, Banana Capital, and new investors such as Not Boring Capital and Cassius. It attracted several high-profile angel investors including Sorare's Chief Executive Officer (CEO), FC Barcelona star, and Axie Infinity's Chief Operating Officer (COO), thanks to its business concept. The funding is the most visible way for this Stockholm-based company to begin its significant publicity as it strives to establish its place in the developing Web3.0 world. On the P2E principle, it allows gamers to take ownership of their in-game assets including players, clubs, and skins. These are kept on the blockchain as NFTs. With the increased funding, thirty additional game developers can be hired for the technology team, and in addition to Polygon, Starkware and Solana, recent Ronin network can power this platform [34]. In August 2023, it raised $20million in funding to continue working on the free-to-play football and soccer NFT game. After logging, players can form their own club. What they need when they create a club is to manage it. So, each club has its own set of players, cosmetics, stadiums, celebrations, and so on. Users can make money to help them improve their club by playing several types of game modes, ranging from casual to competitive and from individual to co-operative (co-op). Users are challenged by player transfers, squad management, roles and tactics, facilities, game performance, and more while managing and expanding a club [35].

Realm based in the UK, founded in 2020, allows anyone to create their own P2E metaverse game. So, it is a gaming platform allowing players to have an immersive gaming experience emphasizing 3D VR and impressive graphical content creation. Its competitiveness comes from the interoperability and cross-platform compatibility, and it has gained popularity because they make gaming a more seamless experience. Anyone can play metaverse games by creating an account on several available metaverse gaming platforms like The Sandbox [36]. The design of Realm metaverse is owned by players and 25% of the $REALM tokens are locked up for community rewards. These are awarded to individuals exploring the $REALM metaverse. All artefacts are minted on either Polygon or ETH. Thus, it is simple to sell them directly on NFT marketplace such as Opensea and other players [37].

Music NFTs are one of the monetization methods because music is more likely to resonate with the community. Dropstar based in Germany, founded in 2021, allows artists and musicians to make NFTs of their artwork and creators which can be traded. This platform allows artists to issue NFTs as digital assets for their fans and allows fans to support their favorite artists and enables artists to monetize their content. So, it is a music token platform for curated music drops. It enables artists to earn more than 90% of the revenues directly, through smart contracts with automated royalty payments, and easy conversion of tokens into any currency without any intermediaries [38-39].

Pianity, based in France, founded in 2021, is a music NFT platform where musicians and their community gather to create, share, trade, and collect limited-edition tracks [40]. Its pioneering approach built on 'Arweave' protocol where musicians and their communities gather to create, sell, buy, and collect songs in limited editions. Because this platform treats music as fine art, artists can gain a new source of independent revenue while simultaneously enabling fans and collectors to grow and showcase their music collections. The profit-sharing community redistributes 50% of its earnings in tokens to all active users each week. For instance, if $1,000 of NFTs were sold in a week, Pianity platform takes 20% per their fee and the rest is redistributed to active users. The amount users receive is based on the size of their NFT collection and the volume of transactions. It developed this system to reward collectors for their support to musicians [41].

Sonomo based in the Netherlands, founded in 2021, gives retail investors access to digital streaming royalties previously available only to institutional funds. Every month, it collects and deposits revenue from more than 120 streaming services like Spotify and Apple Music into their account. It facilitates the exchange of shares and handles all subsequent payout distributions. Artists can also require funds to invest in new releases. Instead of waiting for money from older releases, it allows them to get cash up front by selling a portion of future revenues [42].

In July 2023, this music investment platform democratized access to music investing, a $1trillion asset class previously dominated by industry insiders and specialty funds. Since its public opening, it witnessed an extraordinary response from global investors. Through this platform, investors can trade so-called "fractionalized shares" in thousands of songs and Exchange Traded Fund (ETF)-like "baskets." It collects royalties from streaming platforms, which are distributed to shareholders on the monthly basis. It empowers investors to price assets by providing real-time data feeds relating to how songs are performing on streaming platforms (daily streaming analytics, historic earnings and so on) [43].

Stage11 based in France, founded in 2020, began to reimagine music for the metaverse. It used the fresh capital to onboard strategic hires, signed key artist and brand partnerships and built its technology platform. It wants to make music experiences for the metaverse and set out to redefine the interactive music experience by combining gaming, mixed reality (MR), and digital collectibles. It now builds a new creative canvas for artists, inviting fans in the performance and music world that combines immersive gameplay sequences, lifelike performances, cinematic narratives, and exclusive digital collections. Fans can use interactive NFTs to create and share unique personalized content and perform with their favorite artists. So, it forms the core of the music metaverse providing artists, brands, influencers, and fans with tools to co-create unique digital experiences. While desktops provide a more interactive high-definition experience, mobile focuses on MR experiences and content creation and social interactions. Both devices are integrated into one seamless user experience [44].

When it comes to avatar, Miiji based in the UK, founded in 2021, built virtual avatars for the metaverse and now translates realistic human expressions into virtual space [45]. Ready Player Me based in Estonia, founded in 2021, also built a platform for creating dynamic, animated metaverse avatars to use across virtual worlds operated by others. In 2022, it received $56million in funding and handled ca. 5million avatars from across some 3,000 partners. It works with creators and fashion brands like Adidas, New Balance, Dior, Pull&Bear and Warner Brothers to help them build cross-game avatar assets across the metaverse. The idea of building a platform to create avatars working across multiple environments is central [46]. So, it launched an experimental arm called 'Ready Player Me Labs' kicking off with an AI powered avatar creator for unlimited outfit customization in 2023 and the first release is an experimental version of the company's avatar creator utilizing AI to customize and stylize the textures and prints of avatars outfits being shared across social platforms [47].

5. Conclusion and Discussion

The results are summarized in Table 2: Kalao and Gem as NFT ecosystem aiming at the convenience, Talkbase, Passionfroot, Bildr, Customuse, and Earnr as creator tool platforms for the under-skilled customers. Lastly, there are CrowdPad, Admix (renamed LandVault), GOALS, Realm, Dropstar, Pianity, Sonomo, Stage11, Miiji, and Ready Player Me enabling direct monetization with a decentralized business model.

Table 2. Summary of Results

Dimensions	Types of Cases	Key Results of Cases
1. Targeting product & service convenience	-NFT Ecosystem: -NFT Aggregator: -Fan Interaction Management:	**Kalao:** Starting from NFT solution to be the NFT ecosystem. **Gem:** Helping users reduce transaction fee acquired by OpenSea. ①**Talkbase:** Helping community builders visualize engagement. ②**Passionfroot:** Helping creators handle sponsorships, collaboration requests, bookings, and payments all-in-one.
2. Targeting under-skilled customers	-Design: -Payment:	①**Bildr:** Offering no-code design for creator's data-driven apps. ②**Customuse:** Offering templates presenting creator's ideas. **Earnr:** Offering a finance and tax support app for creators.
3. Targeting decentralized business model	-Community Token: -P2E Gaming (Metaverse): -Music token (NFT): -Avatar (Metaverse):	**CrowdPad:** Allowing creators to produce, discover and manage their tokenized communities all in one place. ①**Admix:** Providing in-game ad, rebranded as **LandVault** after merger with LandVault for monetizing ad on the metaverse. ②**GOALS:** Allowing gamers to take ownership of their in-game assets including clubs, kept on the blockchain as NFTs. ③**Realm:** Allowing anyone to create their own P2E metaverse. ①**Dropstar:** Allowing artists and musicians to make NFTs of their artwork for trading them. ②**Pianity:** Offering music NFT platform where music community gather to create, share, trade and collect limited-edition songs. ③**Sonomo:** Offering music investing platform allowing retail investors to invest in royalties from several digital streaming. ④**Stage11:** Creating a new way to experience music by combining gaming, mixed reality, and digital collectibles. ①**Miiji:** Building digital avatars for the metaverse environment. ②**Ready Player Me:** Allowing users to create full-body avatars.

This research gives a new dimension to the utilization of Web3.0 technology in the creator economy. The blockchain based use cases show how the new market disruptions is a reality. It is expected that the blockchain may increase the revenue share captured by creators and producers by introducing new mechanisms for the monetization. Thus, creators need to consider Web3.0 based dapps and their potential impact on the whole creator economy. This research recommends timely and appropriate measures to Web3.0 startups. Accordingly, the results of this study suggest that it is time for Web2.0 platforms to be transformed as well. They should not lose time in adapting applicable Web3.0 opportunities as a fundamental component of their future business model strategy. Through the application of Web3.0 fundamentals like blockchain, smart contract, and 'token economics (tokenomics),' Web3.0 enables creators to own their intellectual property (IP) and get a direct

monetization. Despite the relatively small data size, the results remain meaningful as they contribute to a more profound comprehension of the Web3.0 business models and offer guidance for future research directions.

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