

# MARKETING EVOLUTION: FROM TRADITIONAL TO WEB 3.0

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**Abstract.** This study analyses the evolution of marketing from conventional techniques to the decentralised, user-driven environment of Web 3.0. The aim is to highlight the changes in marketing strategies brought about by breakthroughs in digital technologies, focusing mainly on the influence of blockchain, AI and decentralised platforms in changing consumer behaviour and business processes. *Methodology.* The present study employs a comparative analysis methodology, juxtaposing the conventional marketing mix with digital and Web 3.0 marketing components. Integrating qualitative and quantitative data from current literature, case studies, and empirical research, this study explores the application of digital marketing technologies and Web 3.0 techniques across industries. The *results* obtained demonstrate a substantial transition in marketing methodologies from unidirectional communication in conventional marketing to dynamic, interactive customer interaction in digital and Web 3.0 marketing. The advent of Web 3.0 technologies, including blockchain, tokenization, and decentralized applications, has engendered novel options for individualized, trust-centric interactions between customers and marketers. Furthermore, the empowerment of customers through data management and AI-driven personalisation is identified as a pivotal factor in shaping emerging marketing methodologies. *Practical implications.* To remain competitive, companies must adapt to the changing digital landscape by adopting Web 3.0 technologies. This includes implementing decentralised models, prioritising data protection and using AI for tailored marketing. Marketers must be equipped to interact with tech-savvy consumers and hybrid AI-based decision-making systems to foster trust and improve the customer experience. *Value / Originality.* The paper enhances understanding of the transformative impact of Web 3.0 on marketing, providing in-depth analysis of its impact on consumer behaviour and strategic planning. It provides essential insights for marketers seeking to navigate the rapidly evolving digital environment and capitalise on emerging trends.

**Keywords:** marketing, Web 3.0, digital marketing, blockchain, AI-driven marketing, decentralised platforms, consumer empowerment, personalised marketing, tokenisation.

**JEL Classification:** M31, L86, D83, O33, L81, D91

## 1. Introduction

Marketing has changed significantly over the decades, moving from traditional, product-centric methods to highly customised, data-driven methods in the digital age. Traditional marketing emphasises mass communication through print, radio and television with minimal customer engagement. The advent of the Internet and the transition to Web 2.0 enabled greater interactivity and social engagement, allowing customers to communicate directly with companies via social media, content platforms and user-generated content.

The emergence of Web 3.0 marks a new era in marketing, characterised by decentralisation, greater user autonomy and AI-driven customisation facilitated by blockchain and smart contracts. In this new paradigm, people have greater control over their data

and online identities, fostering stronger trust-based business partnerships. The role of marketers is evolving from simply promoting things to enabling transparent, interactive and immersive experiences. This study examines the evolution of marketing, highlighting the transformative impact of Web 3.0 on marketing tactics and the provision of new perspectives for enhanced customer engagement and innovation.

The originality of this study lies in its investigation of the influence of Web 3.0 on marketing strategies, presenting unprecedented paradigms of consumer participation, decentralised platforms, and data sovereignty that have not been thoroughly analysed in previous studies. Focusing on blockchain, tokenisation, AI-driven personalisation and decentralised applications (dApps), the study examines the

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transition of marketing strategies from traditional approaches to those influenced by Web 3.0 technologies and their impact on consumer behaviour and brand interactions.

This research aims to achieve a number of key objectives: to analyse the essential differences between traditional marketing, digital marketing and Web 3.0 marketing methods; to examine the impact of decentralised platforms, blockchain technology and artificial intelligence on contemporary marketing strategies; to explore the impact of Web 3.0 on consumer behaviour, with an emphasis on data privacy, user autonomy and tailored experiences; and to provide actionable insights for companies looking to integrate Web 3.0 technologies into their marketing plans.

The present study sets out to compare traditional, digital, and Web 3.0 marketing models. In order to achieve this objective, the study incorporates a comprehensive evaluation of pertinent literature, case studies, and empirical data. The study's logical framework commences with a historical overview of marketing evolution and then analyses Web 3.0 advancements and their practical ramifications for marketers and enterprises. This methodology facilitates a systematic comprehension of marketing evolution and offers strategic guidance for enterprises seeking to excel in the Web 3.0 epoch.

## 2. Transition from Traditional Marketing to Digital Marketing

The world of marketing has undergone significant change in recent decades as the rise of digital technologies has disrupted traditional marketing practices. Unlike traditional marketing, which is often a one-way communication channel, digital marketing provides a dynamic and interactive platform for companies to engage with their customers. The widespread adoption of digital technologies and online social networks has revolutionised the way marketers interact with consumers, allowing them to use more objective, relational and interactive marketing techniques (Krishen et al., 2021).

In this study, a comparison is drawn between the 4Ps of traditional marketing and their digital marketing equivalent (see Table 1). This paradigm shift has given rise to the concept of the "e-marketing mix", which builds upon the classic 4Ps of marketing (product, price, place, and promotion) by incorporating new elements that are unique to the digital environment (Dominici, 2009). For instance, the conventional "place" element has been broadened to encompass online channels and virtual storefronts. Conversely, the "promotion" element now encompasses a broader range of digital marketing tactics, including social media marketing,

Table 1  
**Comparison of 4Ps in traditional and digital marketing**

4P	Definition	Traditional marketing	Digital marketing
Product	Goods or services offered by a company to meet customer needs.	<ul style="list-style-type: none"> <li>- Physical products. Focus on tangible goods sold in regular stores.</li> <li>- Limited customisation. Products are often standardised with limited customisation options.</li> </ul>	<ul style="list-style-type: none"> <li>- Digital products. This includes digital goods such as software, e-books and online services.</li> <li>- Personalisation. The ability to offer personalised experiences and products (e.g., recommendations based on user data).</li> </ul>
Price	The amount of money customers must pay to purchase a product.	<ul style="list-style-type: none"> <li>- Fixed pricing. Pricing strategies such as cost-plus, competitive pricing and discounts.</li> <li>- Price visibility. Prices are often fixed and visible in stores or in advertising.</li> </ul>	<ul style="list-style-type: none"> <li>- Dynamic pricing. Prices can be adjusted in real time based on demand, competition, and user behaviour (e.g., A/B testing for price optimisation).</li> <li>- Price transparency. Price comparison tools available online.</li> </ul>
Place	Distribution channels used to deliver a product to consumers.	<ul style="list-style-type: none"> <li>- Physical locations. Products are sold through physical retail stores, distributors and sales representatives.</li> <li>- Limited coverage. Geographically limited to the location of stores.</li> </ul>	<ul style="list-style-type: none"> <li>- E-commerce. Products are sold online through websites, marketplaces and social media platforms.</li> <li>- Global reach. The ability to reach a global audience through digital channels.</li> </ul>
Promotion	Communication strategies used to inform and persuade customers about a product.	<ul style="list-style-type: none"> <li>- Traditional media. Promotion through television, radio, print advertising, billboards, direct mail and events.</li> <li>- One-way communication. Often one-way communication with the audience.</li> </ul>	<ul style="list-style-type: none"> <li>- Digital media. Promotion through social media, email marketing, SEO, PPC, content marketing and influencer marketing.</li> <li>- Two-way communication. Interactive communication with customers through digital platforms.</li> </ul>

Source: compiled by the authors on the basis of (Dominici, 2009; Kotler, Kartajaya, Setiawan, 2019)

search engine optimization, and email marketing (Dominici, 2009).

The use of innovative digital devices and data-driven marketing, particularly in digital advertising, provides companies with broad and efficient reach, allowing them to target customers more effectively. Digital marketing takes advantage of the fact that screen time is at an all-time high for many people and promotes products and services via the internet, where customers spend most of their time (Soni, 2020; Krishen et al., 2021).

This transition has also created more informed, empowered and connected customer groups in both the real and virtual worlds (Krishen et al., 2021). Consumers are now more likely to obtain information from the internet, and their consumption patterns and needs are constantly evolving. As a result, marketers must adapt their strategies to combine new and traditional media into a perfect solution based on the market environment (Durai & King, 2019).

In response to these changes, marketers have adapted their strategies accordingly, shifting consumers' attention from traditional media to digital platforms. The internet and social media have assumed a growing importance, enabling marketers to reach, engage, and study their target audience more effectively and efficiently than ever before (Faruk et al., 2021). This shift has resulted in more informed, empowered, and connected groups of customers, both in the natural and virtual worlds (Krishen et al., 2021).

The following table provides a comparison of the characteristics of audiences for traditional and digital marketing:

Digital marketing has become a dominant force in the marketing landscape, offering businesses a range of tools and techniques to promote their products and services. These include social media platforms, search engine optimisation, digital advertising, email marketing and content marketing. By using these digital channels, companies can better understand their customers' preferences, tailor their marketing

Table 2

**Audience characteristics for traditional and digital marketing**

Aspect	Traditional marketing audience	Digital marketing audience
Demographics	<ul style="list-style-type: none"> <li>- Broad demographics. Aimed at a wider, more generalised audience.</li> <li>- Age, gender, location. Often based on broader demographic categories such as age, gender and geographic location.</li> </ul>	<ul style="list-style-type: none"> <li>- Niche targeting. Can be targeted to highly specific segments based on detailed demographic data.</li> <li>- Detailed segmentation. Focuses on specific demographics, such as interests, behaviour, income, and life stages.</li> </ul>
Geographical coverage	<ul style="list-style-type: none"> <li>- Local or regional. Often limited to specific geographical areas, such as cities or regions.</li> <li>- Requires a physical presence. Audiences are usually reached through physical locations such as stores or events.</li> </ul>	<ul style="list-style-type: none"> <li>- Global reach. It is able to reach audiences all over the world without geographical restrictions.</li> <li>- Virtual presence. The audience can be reached anywhere via the Internet without the need for physical presence.</li> </ul>
Behavioural targeting	<ul style="list-style-type: none"> <li>- Limited understanding of behaviour. Focusing on general behaviour derived from demographic data.</li> <li>- Media consumption is based on general media consumption habits (e.g., TV viewers, radio listeners).</li> </ul>	<ul style="list-style-type: none"> <li>- Detailed behavioural targeting. Can be targeted based on specific online behaviour, such as browsing history, past purchases, and content interaction.</li> <li>- Personalised experience. Tailors marketing messages based on user behaviour and interaction history.</li> </ul>
Engagement level	<ul style="list-style-type: none"> <li>- Passive engagement. Audience engagement is often passive, with limited opportunities for interaction (e.g., watching TV ads, reading print ads).</li> </ul>	<ul style="list-style-type: none"> <li>- Active engagement. The audience can actively interact with the content (for example, comment on social media, share content, click on ads).</li> <li>- Interactive feedback. Immediate feedback and interaction with the brand is possible.</li> </ul>
Access to technology	<ul style="list-style-type: none"> <li>- Diverse access. Audience segments may have different levels of access to technology, especially among older or less tech-savvy people.</li> </ul>	<ul style="list-style-type: none"> <li>- High level of access. Usually targeted at a tech-savvy audience that is regularly online.</li> <li>- Device usage. It can target users based on device preferences (e.g., mobile, desktop, tablet).</li> </ul>
Content consumption	<ul style="list-style-type: none"> <li>- Scheduled consumption. Content is consumed according to a set schedule (e.g., TV programmes, radio broadcasts, print media).</li> <li>- Linear experience. The audience consumes content in a linear, predefined order.</li> </ul>	<ul style="list-style-type: none"> <li>- On-demand consumption. Content is consumed at a time convenient for the audience (e.g., streaming, viewing).</li> <li>- Non-linear experience. The audience can choose what content to consume and when, often in a non-linear way.</li> </ul>
Feedback & interaction	<ul style="list-style-type: none"> <li>- Delayed feedback. Feedback and engagement is often delayed by relying on methods such as surveys, phone calls, or face-to-face meetings.</li> </ul>	<ul style="list-style-type: none"> <li>- Instant feedback. Instant interaction through likes, posts, comments and reviews.</li> <li>- Real-time engagement. Marketers can interact with their audience in real time through digital platforms.</li> </ul>

Source: compiled by the authors on the basis of (Krishen et al., 2021; Durai & King, 2019; Faruk et al., 2021)

messages and measure the effectiveness of their campaigns in real time.

The present study compared instruments of traditional and digital marketing across three main factors:

The transition from traditional to digital marketing has been driven by several critical factors. These include the increasing prevalence of smartphones and other mobile devices, the growing influence of social media, and the ability to gather and analyse vast amounts of consumer data. Consequently, enterprises that have adopted digital marketing strategies have attained a competitive advantage by achieving enhanced audience reach, fostering stronger customer relationships, and driving increased sales.

### 3. Evolution of Digital Marketing to WEB 3.0 Marketing

The marketing landscape has undergone a significant transformation in recent decades, driven by the rapid advancements in digital technologies. The traditional 4Ps paradigm, which dominated marketing strategy for many years, has been superseded by a more expansive and dynamic set of elements. This shift reflects the evolving nature of consumer behaviour and the increasing significance of digital platforms in the marketing arena (Dominici, 2009).

The digital age has fundamentally changed the way companies engage with their customers. The ubiquity of the internet, social media and mobile devices has

Table 3  
Factors and their instrument for traditional and digital marketing

Factor	Definition	Traditional marketing instruments	Digital marketing instruments
Impressions	The number of times an advertising or marketing message is displayed, regardless of user interaction.	<ul style="list-style-type: none"> <li>- Television advertising. Broadcast on the main TV channels in prime time to reach the mass audience.</li> <li>- Print advertising. Full-page spreads in newspapers or magazines with high circulation.</li> <li>- Billboards. Large outdoor displays in high-traffic areas.</li> <li>- Radio advertising. Audio advertising that is played during peak hours.</li> <li>- Flyers/posters. Distributed in public places or inserted in newspapers.</li> </ul>	<ul style="list-style-type: none"> <li>- Display advertising. Banner advertising on high-traffic websites using targeting parameters such as demographics, interests and behaviour.</li> <li>- Social media advertising. Sponsored posts on such platforms as Facebook, Instagram, LinkedIn, adapted to user profiles.</li> <li>- Video advertising. Pre-roll and mid-roll videos on YouTube, often targeted based on user history.</li> <li>- Pay-per-click (PPC) advertising. Ads displayed in search results based on keyword bids.</li> </ul>
Reach	The total number of unique individuals who receive an advertising or marketing message.	<ul style="list-style-type: none"> <li>- Radio broadcasting. National or regional stations with a large listener base covering a wide demographic.</li> <li>- Direct mail campaigns. Physical mail pieces sent to targeted households, often based on geographic or demographic data.</li> <li>- Newspaper circulation. Newspapers are distributed to a wide audience and adverts are placed in the most prominent sections.</li> <li>- Event marketing. Sponsoring or participating in major events, exhibitions or fairs.</li> </ul>	<ul style="list-style-type: none"> <li>- SEO (search engine optimisation). Strategies for increasing organic visibility in search engines, improving positions for relevant keywords.</li> <li>- Email campaigns. Targeted email campaigns to segmented lists, personalised based on user behaviour and preferences.</li> <li>- Social media outreach. Organic and paid content distribution on such platforms as Facebook, X, LinkedIn, using algorithms to expand the reach.</li> <li>- Influencer marketing. Partnerships with opinion leaders to reach their followers, often in niche markets.</li> </ul>
Engagement	The level of engagement, participation or involvement an audience has with a marketing message or brand.	<ul style="list-style-type: none"> <li>- In-store promotions. Special offers or interactive displays to directly engage customers.</li> <li>- Event sponsorship. Brand presence at local or national events to attract visitors through interactive stands, contests, or product demonstrations.</li> <li>- Product samples. Give away free samples in stores or at events to create hands-on engagement.</li> <li>- Telemarketing. Direct phone calls to potential customers to generate interest or sales.</li> </ul>	<ul style="list-style-type: none"> <li>- Social media engagement. Direct interaction with users through comments, likes, sharing and messaging on platforms such as Instagram, Facebook and X.</li> <li>- Content marketing. Blogs, videos, podcasts and infographics that encourage user interaction through comments, sharing and feedback.</li> <li>- Online contests/quizzes. Interactive tools for user engagement that often lead to the creation of user-generated content and viral distribution.</li> <li>- Webinars/live broadcasts. Real-time online events that allow direct interaction with the audience through Q&amp;A sessions and live chat.</li> </ul>

Source: compiled by the authors on the basis of (Sheth, 2008; Sundararajan, 2014; Patel, 2020)

dramatically increased access to information and the ease with which it can be shared, leading to a significant shift in consumer behaviour and expectations. As the paper (Jackson & Ahuja, 2016) suggests, the "Read-Write Web" or "Web 2.0" has ushered in an era of increased interactivity, where consumers are not just passive recipients of marketing messages, but active participants in the creation and dissemination of content (Jackson & Ahuja, 2016).

This shift in consumer empowerment has had far-reaching implications for the marketing landscape. Consumers have greater access to information, the ability to share their experiences and the power to influence others' decisions. As a result, marketers must adapt their strategies to better engage with this more informed and connected consumer base, leveraging digital platforms and data-driven techniques to create more personalised and targeted campaigns (Krishen et al., 2021).

The following table delineates the 4Ps (product, price, place, and promotion) in the context of Web 3.0 marketing:

The convergence of physical and digital domains, characterised as "phygital reality", is a pivotal trend propelling the evolution of Web 3.0 marketing. Marketing practitioners can create more immersive and engaging consumer experiences by seamlessly

blending the digital and physical realms, leveraging augmented and virtual technologies.

The influence of mixed reality and the metaverse, which facilitate interaction with digital content and each other in a virtual environment, on the future of marketing is also expected to be significant. These emerging technologies offer businesses new opportunities to create unique and memorable brand experiences and gather valuable data on consumer behaviour and preferences.

In the evolving digital marketing landscape, businesses must remain current with the latest trends and technologies, and adapt their strategies accordingly. Successful marketers will be those who can effectively harness the power of digital platforms, data analytics, and emerging technologies to create personalised and engaging experiences that resonate with their target audience (Kannan & Li, 2017; Durai & King, 2019).

Digital twin technology, which creates virtual replicas of physical products or environments, has the potential to revolutionise the way consumers interact with and experience brands. By providing a seamless and immersive digital experience, marketers can enhance product discovery, personalisation, and customer engagement, ultimately driving brand loyalty and sales.

The evolution of digital marketing to Web 3.0 signifies a substantial shift in the manner in which businesses

Table 4  
4Ps for Web 3.0 marketing

4P	Definition	Web 3.0 marketing
Product	Goods or services offered by a company to meet customer needs.	<ul style="list-style-type: none"> <li>- Decentralised products. Products or services that use blockchain technology, such as NFTs (non-fungible tokens), decentralised applications (dApps), and digital assets.</li> <li>- Tokenisation. Physical and digital products can be tokenised, allowing them to be owned and traded on decentralised platforms.</li> <li>- User-controlled data. Products that provide greater privacy and user control over data.</li> </ul>
Price	The amount of money customers must pay to purchase a product.	<ul style="list-style-type: none"> <li>- Cryptocurrency payments. Pricing can be done in cryptocurrency, which provides flexibility and global access.</li> <li>- Dynamic pricing. Pricing can be influenced by smart contracts, the dynamics of supply and demand on decentralised exchanges, and the value of tokens.</li> <li>- Token-based economy. Pricing models that include utility tokens, governance tokens, or reward systems.</li> </ul>
Place	Distribution channels used to deliver a product to consumers.	<ul style="list-style-type: none"> <li>- Decentralised markets. Products are distributed through decentralised platforms (e.g., OpenSea for NFTs, decentralised exchanges for digital assets).</li> <li>- Blockchain networks. Direct distribution through blockchain networks without intermediaries.</li> <li>- Metaspaces. Virtual spaces in metaspaces where products can be demonstrated, sold, or tested.</li> </ul>
Promotion	Communication strategies used to inform and persuade customers about a product.	<ul style="list-style-type: none"> <li>- Community-driven promotion. Marketing through decentralised communities and DAOs (decentralised autonomous organisations), where users have a say in advertising activities.</li> <li>- Collaboration with influencers. Partnerships with Web 3.0 influencers and blockchain opinion leaders.</li> <li>- Rewards with tokens. The use of token rewards to stimulate user engagement and participation in marketing campaigns.</li> <li>- Content decentralisation. Promotion through decentralised social media platforms, blogs and forums where content is not controlled by central authorities.</li> </ul>

Source: compiled by the authors on the basis of (Durai & King, 2019; Krishen et al., 2021)

interact with their clientele. By incorporating the most recent technologies and trends, marketers can devise more personalised, interactive, and engaging experiences that are aligned with the evolving requirements and preferences of the contemporary consumer.

#### **4. The Impact of WEB 3.0 on Consumer Behaviour and Marketing Strategies**

The advent of Web 3.0 has precipitated a profound metamorphosis in consumer behaviour and the marketing strategies employed by businesses. The increased dominance of consumer purchasing power, facilitated by new technologies such as smartphones, innovative products, the Internet of Things, and artificial intelligence, has led to a paradigm shift in global markets. Mobile commerce has been shown to offer additional value to consumers in comparison to traditional or electronic commerce, influencing their online purchase intentions.

It is evident that corporations have recognised the importance of establishing a "digital relationship" with customers, given the prevalence of the mobile internet as a potent consumer purchasing tool. It is imperative for brands to leverage relevant engagement via mobile platforms to avoid being left behind, as consumers seek to understand the relevance of product benefits to their expectations and situation (Stone, 2012). The advent of digital marketing has been inextricably linked to the proliferation of digital technologies, which have exerted a profound influence on the transformation of consumer purchasing behaviours and the reconfiguration of future marketing strategies.

A framework has been developed by researchers to facilitate comprehension of the impact of digital technology on marketing and strategy. This framework underscores the touchpoints in the marketing process and strategy where digital technologies have had and will continue to have a transformative effect.

The adoption of new technologies has created a more competitive business environment, as brands must adapt to the increased influence of consumer purchasing power. Marketers must consider leveraging mobile and digital channels to engage with customers, as these platforms have become central to the consumer purchase journey (Dastane, 2020). A deeper understanding of how Web 3.0 influences consumer behaviour will be critical to developing effective marketing strategies in the digital age (Kannan & Li, 2017; Dastane, 2020).

This transition is characterised by the integration of advanced technologies such as blockchain, artificial intelligence (AI) and decentralised applications, which are reshaping how consumers interact with

brands and how marketers strategise their outreach efforts.

One of the most profound effects of Web 3.0 on consumer behaviour is the shift towards greater control over personal data. Consumers are increasingly aware of their data rights and are demanding transparency from companies about how their information is used. This demand for data sovereignty is facilitated by blockchain technology, which enables users to manage their data securely and privately. As mentioned above, the implications of blockchain for marketing are significant as it introduces new governance models that prioritise consumer privacy and trust (Ghelani & Hua, 2022). This shift has implications for consumer trust, forcing marketers to adopt more ethical data collection and usage practices.

Furthermore, the emergence of decentralised platforms in Web 3.0 has engendered a more collaborative environment between consumers and brands. Consumers are no longer passive recipients of marketing messages; instead, they actively participate in the creation and dissemination of content. This participatory culture is evident in the proliferation of user-generated content on social media and other platforms, where consumers share their experiences and opinions, significantly influencing brand perception and purchasing decisions. As previously mentioned, virtual marketing dynamics leverage these social media trends to enhance brand visibility and engagement (Balcioglu, 2024). It is imperative for marketers to adapt to this new reality by developing strategies that encourage consumer participation and leveraging community-driven content.

The integration of AI into marketing strategies is another critical aspect of Web 3.0 that is reshaping consumer behaviour. AI technologies enable marketers to analyse vast amounts of consumer data to gain insights into preferences and behaviours, enabling hyper-personalised marketing campaigns. This capability enhances the customer experience by delivering tailored content and recommendations that resonate with individual consumers. As mentioned above, AI and machine learning are becoming increasingly important for accurately analysing consumer behaviour and delivering customised advertising content (Efendioğlu, 2023). As a result, marketers are shifting from broad demographic targeting to more nuanced behaviour-based targeting, which improves engagement and conversion rates.

Moreover, the advent of virtual communities and social networks in the Web 3.0 paradigm has precipitated a paradigm shift in the manner in which brands engage with consumers. These platforms enable direct communication and the cultivation of relationships between brands and their audiences. It is emphasised that the growth of virtual communities

has a significant impact on the marketing decision-making process, as brands can now engage with consumers in real time and respond more effectively to their needs and preferences (Granata & Scozzese, 2017). This immediacy increases customer satisfaction and builds brand loyalty, as consumers feel more connected to brands that actively listen and respond to their feedback.

In addition to these behavioural changes, Web 3.0 is introducing new marketing strategies that take advantage of new technologies. For example, the use of augmented reality (AR) and virtual reality (VR) in marketing campaigns creates immersive experiences that engage consumers and enhance brand storytelling. As mentioned above, AR applications are becoming increasingly popular in retail, allowing consumers

Table 5

**Customer interaction with Web 3.0**

Consumer type	Definition	Marketing perspective
Human users	People who actively participate in the Web 3.0 economy by interacting with decentralised platforms, digital assets and services.	<ul style="list-style-type: none"> <li>- Personalisation. Marketing should focus on personalised experiences through tokenised assets and privacy-centric communication.</li> <li>- Community focus. These users value brands that engage with decentralised communities and offer ownership or decision-making (e.g., DAOs).</li> </ul>
E-commerce consumers	Users who purchase goods and services through decentralised e-commerce platforms or marketplaces.	<ul style="list-style-type: none"> <li>- Uninterrupted payments. These consumers prefer cryptocurrency payments and decentralised financial options.</li> <li>- Digital goods. They are increasingly interested in digital assets such as NFTs, digital art, and tokenised products.</li> <li>- Transparency and trust. Trust is crucial, and blockchain technology offers authenticity and transparency of the origin of products and transactions that can be verified.</li> </ul>
Bots	Automated programs or scripts that interact with Web 3.0 systems, often for data collection, commerce, or service functions.	<ul style="list-style-type: none"> <li>- Automated trading. In decentralised finance (DeFi), bots can automatically execute trades, which requires brands to create a bot-friendly environment.</li> <li>- Access to information. Bots serve as intermediaries, collecting and processing data for other users, including humans and AI systems. Brands must ensure that their data is accessible to these automated systems.</li> </ul>
AI bots	Advanced artificial intelligence bots that perform complex tasks, including customer service, trading, and analysis, in Web 3.0 ecosystems.	<ul style="list-style-type: none"> <li>- AI-driven interactions. AI bots can interact with consumers autonomously, so brands need to optimise their presence to ensure that AI bots provide a consistent and high-quality customer experience.</li> <li>- Automated decision-making. AI bots are increasingly capable of analysing data and making autonomous decisions that can affect product discovery, customer support, and transactions.</li> </ul>
Digital twins	Virtual replicas of physical entities (e.g., people, products, or processes) that exist in the Web 3.0 meta-space or on other platforms.	<ul style="list-style-type: none"> <li>- Experience simulation. Digital twins allow consumers to try out products or services virtually before purchasing. Brands can enter the market by creating virtual versions of products or environments.</li> <li>- Virtual interaction. Consumers can interact with digital twins to customise a product, test or interact in virtual worlds, enhancing the shopping or service experience.</li> </ul>
Avatars	Digital representations of users (humans or AI) interacting in virtual spaces such as meta-spaces.	<ul style="list-style-type: none"> <li>- Virtual brand ambassadors. Avatars can represent users in a virtual environment, so brands can create avatar-based marketing campaigns, allowing for customisation of branded digital clothing or accessories.</li> <li>- Immersive experiences. Brands can engage avatars in virtual worlds by hosting events, virtual product trials, or gamified experiences where avatars play an active role.</li> </ul>
AI systems (general)	Autonomous artificial intelligence systems that can interact, analyse and make decisions within the Web 3.0 economy.	<ul style="list-style-type: none"> <li>- Data-driven marketing. Artificial intelligence systems rely on extensive data analysis, so brands must provide clear, structured data that AI can use to improve targeting and optimisation.</li> <li>- Predictive analytics. AI-powered marketing strategies can predict consumer behaviour and market trends, enabling real-time optimisation of marketing campaigns and content delivery.</li> </ul>
Hybrid consumers (human + AI)	Human users supplemented by AI tools such as personal assistants, recommender systems, or advanced decision-making systems.	<ul style="list-style-type: none"> <li>- Collaborative marketing. These consumers expect seamless integration between AI tools and their interactions with brands. By offering personalisation and recommendations based on AI, one can increase engagement.</li> <li>- Effective user journeys. Marketing efforts should take into account AI-powered decision-making, which optimises the customer journey by ensuring relevance and reducing friction.</li> </ul>

Source: compiled by the authors on the basis of (Du et al., 2022; Gatomatis et al., 2022; Granata & Scozzese, 2017)

to visualise products in their environment before purchasing (Du et al., 2022). This interactive approach increases consumer engagement and reduces the uncertainty associated with online shopping, ultimately increasing sales.

In addition, the decentralised nature of Web 3.0 platforms enables innovative marketing strategies that bypass traditional intermediaries. Companies can engage directly with consumers through decentralised applications (dApps), reducing costs and increasing efficiency. This shift is particularly relevant in e-commerce, where brands can leverage blockchain technology to facilitate secure transactions and build consumer trust. The results of the study on the impact of Web 3.0 on digital marketing strategies show that technologies such as blockchain can significantly improve marketing effectiveness and consumer engagement.

The implications of Web 3.0 extend beyond the realm of individual consumer interactions; they also exert a transformative influence on the broader marketing landscape. As companies increasingly adopt decentralised models, traditional marketing frameworks are being challenged. As discussed, the concept of Marketing 3.0 emphasises the need for companies to align their strategies with the values and expectations of socially conscious consumers (Gatomatis et al., 2022). This alignment requires marketers to focus on creating value for their organisations and society, fostering a sense of community and shared purpose.

In summary, the transition to Web 3.0 is fundamentally changing consumer behaviour and marketing strategies. The emphasis on data sovereignty, participatory culture, AI-driven personalisation and decentralised interactions is reshaping the way brands engage with consumers. As marketers navigate this new landscape, they must embrace these changes and adapt their strategies to meet consumers' evolving expectations. The future of marketing in the Web 3.0 era will be characterised by greater transparency, collaboration and innovation, ultimately leading to more meaningful and impactful consumer-brand relationships.

Furthermore, a diverse range of consumers interact with Web 3.0 in various ways, as illustrated in Table 5. Consequently, companies must utilise diverse marketing instruments to reach these consumers.

## 5. Conclusions

The transition of marketing from traditional methods to Web 3.0 signifies a significant transformation in the manner organisations engage with consumers and formulate their marketing strategies. Marketing has evolved from mass communication via traditional media to dynamic, individualised interactions in the digital sphere, with Web 3.0 introducing new paradigms including decentralisation, blockchain technology, and AI-driven personalisation. These technologies engender increased openness and trust, whilst concomitantly empowering users with enhanced control over their data and digital identities.

In order to adapt to the evolving market, marketers must incorporate decentralised platforms, tokenised economies and personalised content to build stronger, trust-based customer relationships. The advent of decentralised applications (dApps), metaverse ecosystems, and blockchain transactions necessitates a re-evaluation of conventional marketing strategies, towards community-oriented and user-focused methodologies.

Moreover, Web 3.0 offers unparalleled opportunities for creativity and engagement, empowering marketers to develop immersive and interactive experiences that resonate with contemporary, tech-savvy consumers. To thrive in this new landscape, marketers must utilise these tools and anticipate the evolving expectations of their audience.

In summary, Web 3.0 is a transformative phase in marketing characterised by consumer empowerment, data governance, and personalised experiences that will shape future brand-customer relationships. It is therefore the contention of this paper that businesses which are able to leverage these developing trends will prosper in the digital economy and cultivate stronger, more significant connections with their customers.

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Received on: 09th of October, 2024  
Accepted on: 27th of November, 2024  
Published on: 30th of December, 2024