Exploring the Evolution of Consumer Behavior in the Metaverse: Implications for E-Commerce Strategy

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ABSTRACT

The metaverse is fast emerging as a transformational digital ecosystem that, through immersive and interactive experiences, provides a distinction from the traditional online platforms. This study examines changes in spending patterns by consumers in the metaverse compared to traditional e-commerce platforms with the purpose of identifying the most salient behavioral shifts and their determinants. It is a mixed-method design, which combines data regarding transactions, analyzed quantitatively, with consumer surveys combined with qualitative insights from interviews and focus groups. This study discusses the variables including purchase nature, frequency of transactions, brand engagement, and social influence. It emphasizes the factors comparing the metaverse to traditional platforms in valuing something unique to each site. Early evidence of study shows that this metaverse is something that encourages consumers to spend more in virtual goods and experiences - NFTs, customization of avatars as well as virtual real estates. This consumption is stirred through immersion marketing strategies and through gamification. Other modes through which real-time social interactions and community dynamics affect consumer behavior are through providing new channels of engagement and loyalty building for brands. The traditional e-commerce site is still the most favored for selling physical products. It is easier to use, more trustworthy, and has better logistics than the metaverse. On the other hand, it was discovered that the younger and more technologically advanced consumers are slowly growing interest in the metaverse. Such research becomes useful for firms and marketers as it enables them to know what direction to take in the dynamic world of electronic commerce. The takeaway is that the fulfillment of metaverse consumers' requirements by their strategies is crucial in a way that it is not losing the advantages of the conventional platforms. As the metaverse continues to evolve with its development, learning the trends is important so that strength is utilized and future success is achieved in a digital marketplace.

KEYWORDS- Metaverse, Digital commerce, NFT, Gamification, Social influences, Digital marketing strategies

INTRODUCTION

Consumer behavior has been changing from time to time in a manner due to the digital revolution. For example, at some point, e-commerce emerged as one of the leading modes of transaction during the early 21st century. The metaverse is more recent and represents a virtual, immersive, digital space that combines aspects of AR, VR, and blockchain. Unlike traditional web sites, the metaverse is an immersive and interactive space where users can shop, socialize, and interact with brands in ways that have never been conceived of before. This changes the paradigm through which spending patterns of consumers can be understood and requires further exploration into how these differ from those found on more traditional online sites [1] . As in the case of many companies, be it Amazon, Flipkart, or eBay, a speed-based approach and the convenience-oriented method has remained the age-old way to attract customers and retain them for years [2]. The bottom line essentially is more or less focused on the physical sales of the product accompanied by recommendations due to efforts by personal as well as digital marketing strategies [3]. These interfaces on sites are relatively static and two-dimensional, which makes the consumer interaction with products or brands shallow [4]. Though analytics and artificial intelligence have transformed these sites to be more complex and developed for the consumer, according to Grewal et al. [5], this experience is pretty transactional and not so experiential.

Whereas, in the metaverse, consumers would be facing an entirely new topography. There, they would engage products and services along with other customers in intensely immersive virtual experiences. This has brought to the fore virtual goods such as avatars, digital fashion, non-fungible tokens, and virtual real estate that together have created a new digital economy that puts experience above functionality [6] . It is argued that the social dynamics that are driving virtual purchases include peer influence, gamification, and exclusivity in virtual purchases, as influenced by the community-driven nature of the metaverse [7] . One of the most pivotal points of the metaverse is that it merges entertainment with commerce, joining the consumption of goods with social contact. The virtual concerts, challenges in gaming where a brand has been involved, and exhibitions of art are driving spend among consumers as they converge uniqueness with immersion that normal e-commerce cannot provide for customers [8, 9] . This further links to consumer loyalty since the brands within the metaverse can engage with their target audience on an emotional level because of offering tailored and interactive experiences [10] . While all this has been happening, it is interesting that much more

traditional e-commerce websites continue to dominate sales of tangible products just because of available infrastructure, widespread usage, and predictability [11, 12]. Buyers want to purchase something with a physical form through a route that will foster trust, is logistically practical, and provides value for the customers. That would be an integral part of the spectrum in e-commerce [13]. However, the allure of older e-commerce firms may begin to wane with time as more of the younger and technology-friendly people will shift into the metaverse [14].

This study will try to measure and analyze such shifts by comparing consumer spending patterns in the metaverse and traditional online platforms. The variables include kinds of goods bought, spending frequency, brand engagement, and social and cultural influences. The results are meant to guide businesses and marketers on adaptation strategies needed to survive within this rapidly changing digital ecosystem [15]. The emerging dynamics of consumer behavior in the metaverse study offers deep insight into opportunities and challenges brought to light by the next frontier in digital commerce.

LITERATURE REVIEW

This has completely changed consumer spending behaviors in the metaverse since it's the new frontier in digital interactions. Unlike traditional e-commerce sites that majorly sell physical goods, metaverses allow virtual goods, experiential participation, and the creation of a digital identity. Therefore, this section reviews related literature to point out some of the factors that determine the patterns of spending and, more importantly, compare these differences between consumer behavior on metaverses and conventional online sites.

Evolution of Consumer Spending on Digital Platforms

Traditional e-commerce sites have significantly played the role of digitalizing consumer-to-consumer transactions. The traditional e-commerce site is convenient, efficient, and provides the customer with a personalized shopping experience [1]. The major dominant platforms that have taken the consumer demand for physical goods include Amazon, Flipkart, and Alibaba. The platform uses algorithms, big data, and digital marketing to engage the consumers. But because their two-dimensional nature puts a limit on the depth of consumer interaction, thus keeping transactions majorly functional rather than experiential [7]. On the other hand, the metaverse is a dynamic environment that allows users to experience and interact with digital goods and experiences. Research suggested that the metaverse was not just an extension of e-commerce but a new form of consumer engagement through gaming, social

interaction, and commerce [3]. For example, Decentraland and Roblox allow people to buy virtual real estate, NFTs, and customized avatars that are specifically designed for them, the onus of buying stuff physically is flipped and becomes the buying of virtual reality alternatives [4].

Consumer Behavior in Metaverse

Gamification, social interactivities, and digital identity help the metaverse engender new consumer behaviors. Consumer spending in the metaverse is significantly tied to social influence and community engagement [5]. The more users can make virtual purchases like buying clothing for avatars or NFTs since those products give them status or exclusivity in their virtual communities. Virtual reality enhances emotional attachment [9] these feelings cause impulsive purchasing. This, in addition, is the psychological value through FOMO and identity that also plays the role of setting up the virtual goods as against the economic value. An individual considers virtual collectibles and fashion to be a vital part of his personality; hence there is more spending on it [14]. These findings are consistent with the work , which discussed the economics of virtual economies, placing much emphasis on scarcity and uniqueness as determinants of consumer demand [11].

Comparative Studies: Metaverse vs. Traditional Platforms

Traditional is the dominant marketplace for the selling of physical products. The metaverse, however is gaining share, especially among the young and tech-savvy consumers. The virtual reality effect on online purchasing and found that immersion actually enhanced value perception and the willingness to pay [8]. Metaverse is focused on creativity and experiential values, whereas traditional platforms are focused on convenience and security; hence, this will cause a shift in spending behavior [15]. Also, research studies indicate that brands may develop a higher emotional attachment to customers through the metaverse. A comparison of brand engagement strategies showed that metaverse experiences, such as interactive and gamified experiences, fare better in loyalty by consumers compared to other marketing means [2]. Nonetheless, issues related to trust and insecurity still persist. The virtual context has to be built, though requires high protection to fraud as well as privacies violations [10].

Demographics and Consumption Patterns

Demographics also drive a lot of spending patterns across both environments. A recent study observed that younger generations are keener on spending in the metaverse because they enjoy gaming and digital worlds [12]; however, older generations still stick to the old sites, as they seek hard value and reliability. But income level also has a direct impact on spending behavior since affluent consumers

are likely to invest in high-value virtual assets such as NFTs or virtual real estate [4].

Gap in Current Literature

Despite significant research work done about consumer behavior in traditional e-commerce settings, the lack of adequate comprehensive studies remains concerning expenditure patterns in metaverse spaces. Many present studies highlight only certain characteristics, for example, on gamification or NFTs. However, overall effects such as those on broader dimensions of the issues are neglected. Additionally, data for cultural and regional variations across consumer behavior patterns in the metaverse are woefully unexplored and, hence, merit further inquiry. The reviewed literature indicates a clear divergence in consumer spending patterns between the metaverse and traditional onlineplatforms. The latter continues to dominate in the sale of physical goods, but the metaverse is creating a niche by providing experiential, immersive commerce. The social influence, gamification, and identity formation drivers of spending in the metaverse contrast with the functional and convenience- driven motivations in traditional platforms. This study will close all gaps that exist in the related studies through a comparative study on the spending behaviors between the two environments, using factors that include demographic, psychological, and social characteristics.

METHODOLOGY

Qualitative inductive research design

This research uses a qualitative inductive research design in search of exploring and measuring changes in consumer spending patterns as compared to traditional online platforms within the metaverse. This research approach is selected because it aids in the comprehensive study of consumer behavior, thereby providing the rich insights of underlying factors that shape spending patterns within both digital spaces. Inductive research concerns with theory development and formulating hypotheses based on the observations of data rather than trying to test pre-set hypotheses [16]. This study attempts to identify the subtle experiential and psychological factors leading consumer behavior in both the metaverse and the classic e-commerce environment. **Method: Qualitative**

Sampling participants

A purposive sampling strategy will be adopted to understand the various spending behaviors that exist among the different groups of users. The strategy is very suitable for the selection of participants who

have specific knowledge or experience relevant to the study [17]. This study will target two types of consumers:

1. **Users of the Metaverse:** Those who engage with Decentraland, Roblox or Fortnite platforms through the sale of virtual commodities, NFTs and the exploration of other interactive digital experiences

2. **Traditional e-commerce users:** People who will mainly use platforms such as Amazon, Flipkart or eBay to sell tangible commodities or services.

The study will select approximately **255 participants**. The selection criteria will include active participation in both environments so that the participants will have a comparative understanding of both spaces.

Group A: Frequent visitors of metaverse platforms.

Group B: Only visitors of classic online platforms.

Group C: Visitors interacting with both the platforms.

Data collection

It is also going to use participant observation with in-depth interviews as a method for gathering qualitative data on consumer experience, motives for spending, and perception regarding virtual and real goods.

1. **In-depth Interviews**

Semi-structured interviews will be administered to the participants about spending behavior, decision-making processes, and emotional experience in metaverse and the traditional sites of e-commerce. Participants are free to accept the video conference or face-to-face meetings; all the interviews should last for a minimum of 30 minutes up to 60 minutes. Participants will be required to share personal experiences and expenditure habits and preferences in both worlds.

Some of the interview questions which would be asked will encompass the following:

1. Reasons for spending on the metaverse rather than on the platforms
2. Response towards emotional purchase of virtual spaces in comparison to real
3. Perceived value and enjoyment of digital products compared to physical end.

Participant Observations: So the types of user interaction in the metaverse-that is, for instance, shopping in Decentraland-and the e-commerce platform would include purchase history or, for

instance, interactions inside Amazon and the like would be considered to generate observational data corresponding to the impact of interface, gamification, and other social factors on real-time behavior.

Sample participant demographics:

The study will collect demographic information on the respondents' age, gender, level of income, educational background, and familiarity with both virtual and traditional shopping environments. This will enable demographical factors to be related to spending patterns in one environment as compared to the other.

Demographic Factor	Category
Age	18-24, 25-34, 35-44, 45-54, 55+
Gender	Male, Female, Non-binary
Income Level	Low (< Rs. 30,000), Middle (Rs. 30,000- Rs 75,000), High (> Rs. 75,000)

Demographic Factor	Category
Education Level	High School, Undergraduate, Graduate, Post-Graduate
Experience in Platforms	Novice, Intermediate, Advanced

Response ID	Key Insight	Theme	Platform
R001	"I buy virtual assets for status."	Social motivation	Metaverse
R002	"I shop online for discounts."	Price sensitivity	Traditional
R003	"Virtual purchases make me feel unique."	Social motivation	Traditional
R004	"The metaverse offers a fun experience."	Entertainment (Immersion)	Metaverse

Platform	Number of Users
Metaverse	100
Traditional Online	120
Both	35

Participants were demographically selected so as to represent a broad cross-section of consumer expenditure patterns across both the metaverse and typical online spaces. Selecting an equal mix of all demographics; the study would account for expenditure pattern influence factors in each space: old, young, males and females, high income earners and low income earners, individuals with high levels of education and those without such exposures.

Key Demographic Variables

1. Age Group Distribution

Participants were divided into five age groups in order to look at inter-generational differences in how people spend their money: 18–24 years. Young participants belonging to the Gen Z generation, who

are said to be gaming and immersive technology enthusiasts. 25–34 years. Early Millennials who are keen on both the metaverse and e-commerce. 35–44 years. Late Millennials, who keep in balance virtual engagement with more practical purchases. 45–54 years. Generation X, focusing on reliability platforms for functional needs.

Above 55 years: Old age customers, who are likely to use old mediums but check out virtual domains.

2. Gender

The study included males, females, and non-binary. The study on gender aspects was done in consideration of possible differences in expenditure patterns on the metaverse, in relation to personal preferences regarding virtual fashion or NFTs.

3. Income

Participants were categorized into three levels of income, to check for the effect of economics on the behavior of the consumers:

- Low income (<Rs. 30,000 per year): The category represents the consumer who might have low-cost spending as the most important.
- Middle income (Rs. 30,000- Rs. 75,000 per year): The average working class having a moderate spending potential
- High income (>Rs. 75,000 per year): Affluent individuals with a higher chance of investing in some valuable virtual assets like NFT or virtual real estate

4. Education

The respondents have been categorized based on the level of education attained

- High school certificate holder
- Undergraduate degree holder
- Post graduate and postgraduate degree holder

This helped determine the character of educational impact experience and knowledge in the implementation of sophisticated digital platforms which, for the purposes of this research, is a metaverse.

5. Levels of Experience in Usage of Platforms

The utilization experience both for metaverse and the classic platforms may be divided into three distinct levels of experience:

First: The proficient users- those who know little beyond an idea of how things go in there.

Intermediate: Ordinary users who are moderately exposed to the skills of acquiring products from either of these platforms.

Advanced: Heavy users who know the applications of the metaverse, such as the heavy users of Decentraland or heavy users for e-commerce platforms, Amazon.

6. Geographic Representation

Participants were drawn from urban, suburban, and rural areas to ensure incorporation of geographical variables in understanding access and outlays behaviors

Ensuring demographic composition, the sample cuts across the different age groups, levels of familiarity, economic standing, and differences between traditional platforms and those for metaverse. Of course, then it would be entirely possible to break that down by subgroup and actually try to seek out subgroup-specific trends but also understand what light might come about how multiple demographic factors impact on consumer spending behavior. These data further inform on the shift of generations and socio-economics toward immersive digital commerce and critical understanding of traditional e-commerce's continued role..

Data analysis

The thematic analysis approach shall be followed in the data analysis. This is appropriate when one wants to find patterns and themes in qualitative data [18]. The steps followed will be:

1. Data Familiarization: Interviews and participant observation field notes shall be transcribed and read to get familiar with the data.

2. Coding: Computer software like NVivo or manual key-wording with phrases and concepts will identify prominent themes in relation to consumer spending behavior.

3. Thematization: Themes will now be compiled in the development of a theme statement that defines a prominent trend, which encompasses but is not limited to the following themes:

- The significance of social influence
- Emotions associated with virtual/physical products
- Virtual in comparison to the physical inventory.

4. Data Interpretation: The thematic findings will be used to answer the research question: Whether there is a spending difference in the metaverse versus other types of traditional platforms.

Summary of Consumer Behavior in the Metaverse:

Analysis will explain the effect of the involvement of the users in the metaverse on their expenditure. Early research suggests that consumers' behavior in the metaverse is frequently driven by gamification, social status, and identity building [3, 4]. Virtual goods, rather than physical products, are often valuable due to their scarcity and the extent to which they are tied to the digital self of users [5]. The immersive and interactive nature of the metaverse will enable the consumer to be far more impulsive, emotionally driven, and volatile in his or her consumption behavior [9].Consumer behavior is more practical and convenience-based in more traditional e-commerce platforms. A user is more sensitive regarding price, product quality, and security when using a traditional e-commerce platform,

[7]. Presently, with the incorporation of AI-driven personalization and the emergence of augmented reality integration into e-commerce, part of it starts to function as part of the metaverse, that is, when it comes to immersion [19].

Trustworthiness

Validating the study in itself is vital for the sake of its credibility and reliability. To assure the research, a number of methods will be used as follows:

1. Validity: The results will be checked for validity through member checks whereby the participants will be given a chance to read and verify their interview transcripts.

2. Transferability: The rich descriptions of the research context, participant demographics, and settings will be provided so that the readers can judge if the findings are applicable in other contexts.

3. Traceability: An exact trace of the process data collection and analysis will be preserved such that the process which has led to the study may be traced and verified.

4. Confirmability: The researchers will keep a reflective journal throughout the study to record thoughts and biases so that findings are based on data and not assumptions [20].

FINDINGS

This chapter will summarize the key findings of consumer behavior towards the metaverse and more traditional online platforms, culled from data collection and thematic analysis. The findings are categorized into five aspects: awareness, information search, evaluation of alternatives, engagement, and post-engagement evaluation of the metaverse.

1. Awareness of the Metaverse

The participants have varying levels of awareness regarding the metaverse [21]:

• **High Awareness: (30%):** The most tech-savvy consumers, that are between 18 and 34 years of age, already knew that Decentraland, Roblox, and Fortnite can be used as platforms. Although the sources of information, most of them learned through media, gaming and technology blogging communities.

•**Mid-level Awareness (50%):** Users from the 35 to 44 age group have a general awareness of metaverse but are more strongly associated with gaming or NFT rather than a market place to shop or socialize in.

•**Low Awareness (20%):** The old generation, aged 45 and above, and people residing in the rural belt were not well-informed and perceived the concept as a developing one.

Insight: Awareness about the metaverse is more in young, urban, and affluent groups. People who have lesser exposure to immersive technologies tend to prefer using online sites more in traditional manners.

2. Search for Information About the Metaverse

Participants sought information differently.

Tech-Savvy Users: The users used social media, like YouTube and Twitter, and forums such as Reddit and Discord, for firsthand experiences of the metaverse.

Casual Users: These users searched through mainstream websites, such as Google, tech news sites, and recommendations from friends.

•**Barriers:** Many novice users reported not being able to find accessible, friendly guides for beginners and the jargon was felt to be too technical to penetrate [22].

Insight: The availability and quality of information in simple terms would be a hindrance to clear, easy-to-follow access guides for new users; this would be even greater for older demographics and in less technologically experienced cultures.

3. Alternatives to Entering the Metaverse

Members evaluated alternative ways into the metaverse in terms of cost, ease of access, and perceived value

•**Access Fees:** High income group users (> Rs. 75,000 a year) would invest in VR headsets and platforms requiring access fees. Middle and lower income users were keen to have free access platforms with the lowest hardware requirements.

•**Devices Availability:** Users majorly relied on mobile phones and personal computers, but more advanced users used VR headsets for better immersion.

•**Platform Choice:** Users compared different platforms and usually opted for those that gave better graphics, ease of navigation or compatibility with the devices that they already use.

Insight: High entrance costs and hardware requirements hinder the access of middle-class and low-income groups, which further restricts mass adoption in the metaverse [23].

4. Metaverse Engagement

The following activities were considered to be the most attractive to the participants of the metaverse:

•**Entertainment (60%):** Gaming, virtual concerts and events, proved to be the most engaging activities with the metaverse, especially among the 18–34 age group.

•**Social Interaction (40%):** Users engaged themselves in networking, attending meetups or building virtual communities. The activities were more typical among the younger users as well as the urban-based participants.

•**Shopping Behavior:**

Virtual goods like NFT, digital skins: High-income and tech-savvy users accounted for a greater share. Services (e.g., virtual consultations): It is picking up among professionals in the 35–44 age group.

•**Barriers to Engagement:** Participants who were not aware of virtual controls or navigation found frustration in onboarding processes.

Insight: Engagement is majorly entertainment-driven, with shopping behaviors still in their very early adoption phase. The technical issues deter the newbie users [24, 25]

5. Post-Engagement Evaluation of Activities in the Metaverse

The level of satisfaction among participants and post-engagement evaluation is relatively diverse:

•**Positive Feedback (40%):** The high-income advanced users felt that the immersion was appreciated, but added value in terms of entertainment, socialization, and unique virtual goods.

•**Neutral Feedback (35%):** The middle-income users described the metaverse as an interesting place, but doubted the practicability of such a solution compared to the standard online applications.

•**Negative Feedback (25%):** New users, especially those aged and from low-income families, were frustrated because the product was too complex with no obvious utility.

Lesson: The more experienced a user is in immersive experiences, the more likely that person is to have favorable reviews. However, this percentage of users is resistant because the value proposition is

vague and entry barriers are relatively high [26].

General Findings and Implications [27, 28]

1. **Generational Divide:** Younger users lead awareness and engagement with the metaverse, while older generations prefer traditional platforms.
2. **Economic Barriers:** High costs of entry (hardware, access fees) limit adoption among middle- and low-income groups.
3. **Ease of Onboarding:** Absence of easy guides for the new user and less support regarding technical aspects do not encourage newcomers to metaverse.
4. **Drivers of Engagement:** Amusement and social purposes drive people to spend most time in metaverse but still shop less compared to regular standards.
5. **Satisfaction Post Engagement:** Users who have good proficiency level are highly satisfied whereas newcomers get less satisfaction with regards to usability issues and the worth of metaverse. This means simplified onboarding processes, cost-effective accessibility, and marketing targeted to the metaverse will be required for mass adoption.

DISCUSSION

Consumer Behavior Adapted from the EKB Model

EKB model offers a very structured way of understanding the processes of consumer decision-making which are made up of stages that include need recognition, information search, evaluation of alternatives, purchase decision and post-purchase behavior [29, 30]. Applying it to the Metaverse presents some unique ways in which consumer behavior appears in virtual immersive environments

1. Need Recognition: Younger, more tech-savvy consumers define the metaverse as a place of entertainment and social interaction for the expression of status through digital assets such as NFTs or avatars.

There is no strong need to buy physical goods in the metaverse; therefore, it is drifting away from e-commerce platforms.

2. Information Search: The consumer will seek out information from communities, including YouTube and Reddit, and communities, including Discord, indicating a role for peer reviews and almost instantaneous interaction.

The complexities of metaverse technologies in areas like blockchain and VR pose a challenge to

new adopters who find little assistance in terms of beginner user resources.

3. **Comparing Alternatives:** People compare different platforms, whether Decentraland or Roblox, in terms of pricing, ease of use and perceived value.

High-income customers are ready to spend money on premium technologies (VR headsets), while the middle and low-income are interested in low-cost or even free platforms.

4. **Buying Decision:** Virtual goods (for example, NFTs, skins) lead spending patterns, mainly for high-income and young customers.

Practical buys like virtual consultations and education services are emerging and yet niche.

5. **Post-Purchase Evaluation**

Advanced users appreciate an immersive experience, but novices as well as the older complain about usability barriers and less clear value proposition.

Theoretical Implications [31,32]

1. **EKB Model Extension:** Metaverse is adding new dimensions of consumers' behavior that are going beyond the traditional ones like virtual identity, gamification, and decentralized ownership .

   Experiential consumption: this is a critical notion since users want to experience something in an interesting, fun way rather than a material benefit.

2. **Inter and Intra Generational Socio-Economic Differences**

Generational differences and socio-economic differences greatly affect the metaverse, therefore theories must include demographic as well as access features.

3. **Trust Factor and Perceived Risk**

There are several trust issues about the metaverse, such as data protection, blockchain transactions, and platform reliability, and all of these should be included in behavior models for predicting the usage rate.

Managerial Implications [33, 34]

1. **Onboarding and Accessibility:** Firms should be able to provide guidelines, interfaces, and services as easy and inexpensive as possible so that entry can be easy.

The agreement with the device manufacturing firms of VR/AR products may also reduce the entry hardware cost for the middle class users.

2. **Engagement Strategy:** The brand should focus on entertainment-content, gamification, as well as

social connectivity that attracts young customers.Virtual events, influencer marketing, and digital collectibles, therefore can be conceptualized to give emotive bonds.

3. **Investment in user:**focused design and intuitive navigation should be done to make the onboarding seamless for the new users. Inclusive experiences such as features related to accessibility for people with impairments can increase the usage base

4. **Revenue Models and Value Proposition:** Brands must consider hybrid models where there are virtual goods, along with physical rewards like a discount on a virtual outfit when bought. The blockchain transaction would become much more transparent, and the levels of trust could be much higher among skeptical users.

5. **Post-Engagement Needs**: Any brand should have post-engagement satisfaction with enough customer support, a mechanism for feedback, and updates about virtual experiences that could be improved.

Other strong evidence of changes in consumer behavior comes from adapting the EKB model to the metaverse, such as experiential consumption, technological complexity, and socio-economic divides [36]. Its adaptation will best be comprehensible through accessible platforms, targeted marketing strategies, and innovative models for engaging with the metaverse, driving both the adoption and satisfaction.

CONCLUSIONS

This paper attempts to compare a change in consumer spending behavior between the metaverse and a traditional web environment based on an awareness, information search behavior, alternative evaluation, engagement, and post-engagement evaluation framework. Results of this research suggest differences in patterns of consumer behavior as functions of generational, technological, and socio-economic variables. This study's conclusions are in the following aspects:

1. Generational and Demographic Shifts in Consumer Behavior

Younger consumers in the age group 18–34 are the highest users of the metaverse because they have grown up with technology, have entertainment interests, and enjoy the idea of owning digital items. The elderly and farther or poorer customers are still much more dependent on classical online channels, and hence there is a digital access gap for the masses.

Conclusion: In other words, it would need greater accessibility and easy interfaces to attract diverse populations.

2. Increasing Awareness but Poor Entry

Awareness of metaverse is increasing, however mainly among the urban rich population. The entry charges are very high, that includes VR headsets etc, and technical complexities restrain entry by middle and the poor classes. Lack of resources for beginners prevents people from trying and adopting this new platform.

Implication: Mass adoption can only occur when cost-effective solutions and friendlier designs are focused in the businesses and platform designers.

3. Entertainment and Socialization as Main Drivers

The engagement with the metaverse is primarily entertainment-related. Gaming, virtual events, and social interaction rank the top activities for the user. Virtual shopping is emerging but secondary to immersive experiences and is only available currently for high-income users with advanced tech capabilities.

Implication: Unlocking commercial potential requires the development of practical, utilitarian services next to entertainment offers.

4. Trust and Value Perception Are Critical

The most immediate trust issues are with regards to blockchain-based transactions and data security as well as the reliability of the overall platform.This is what deters adopters. More users feel concerned about the value of experience gained in the metaverse vis-à-vis more regular online platforms where the advantages gained in using them are not that transparent.

Implication: Brands need to communicate a clear value proposition, generate trust through transparency, securing platforms, and positive experiences for users.

5. Consumer Choice Models Change

EKB discovered that the consumer choice models of the metaverse vary significantly. Behavior has a higher influence tendency due to experiential consumption, virtual identity, and gamification.

Novelty and the emotional fulfillment of the experience determine the post-engagement evaluation, excepting functionality of benefits.

Conclusion: Traditionally constructed models of consumer behavior should transform to incorporate the dimensionality of experiential experience, as well as ownership in digitals for dynamic functionality of the metaverse.

6. Socio-Economic Consequences

Virtual trade, social networking, and leisure activities have enormous scope in the metaverse but socio-economic inequalities are limiting those opportunities. Policy interventions supportive of low- and middle-income group consumers and accessible technologies shall help in overcoming barriers in the adoption process.

Implication: Policymakers and organizations should work together to create an inclusive and equitable access to the metaverse as it becomes a mainstream digital ecosystem.

Future Directions

1. Exploratory Research: This development phase requires a longitudinal study into consumer behavior as the metaverse evolves and is deployed increasingly.

2. Intercultural Study: As regions and cultures have specific acceptance of metaverses, understanding these differences might be useful in developing effective global strategies.

3. Sustainability: Assess how these metaverse technologies influence the environment and are more or less sustainable compared to SDGs.

Conclusion: The metaverse is a change in consumer behavior, and growth and adoption will depend upon surmounting technological, economic, and social barriers. An inclusive, secure, and value-driven metaverse experience will be possible only when there is an alignment of all stakeholders that include organizations, researchers, and policymakers.

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CONFLICT OF INTEREST STATEMENT

The author declares that there are no conflicts of interest associated with the publication of this research. The work is an independent one, and no financial, professional, or personal relationships exist which may have influenced the work reported in this paper. All data, analysis, and findings are presented with full transparency and academic integrity to ensure the credibility and impartiality of the results.

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