Use of Metaverse in Socialising: Application of the Big Five Personality Traits Framework

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Abstract

Social media sites, such as Twitter, Instagram and Facebook, are becoming increasingly interconnected with the metaverse, creating a new digital connection and community-building platform. Increased accessibility provides greater social interaction, which in turn allows communities to interact online with greater ease. As the metaverse and social media sites grow ever more connected, new opportunities for digital connection, community-building and virtual socialising arise. This study develops a model based on the Big Five personality theory to empirically test the effect of Gen Zers' individual personality traits on their intention to use innovative technology (metaverse) to socialise. A mixed-methods approach consisting of a qualitative study (n=24) and a quantitative study (n=436) was conducted in India. We use personal innovation and hedonic motivation as moderators. Confirmatory factor analysis (CFA) and structural equation modelling (SEM) were used to analyse the quantitative data statistically. The findings suggest Openness has the highest impact on users' intention to adopt the metaverse, followed by Extraversion and Agreeableness. Personal innovation and hedonic motivation variables show positive moderation with personality traits, unlike Neuroticism and Conscientiousness traits in the case of personal innovation and Agreeableness in hedonic motivation.

Keywords: Social media; Community-building; Virtual socialising; Big Five personality trait theory; Metaverse

Introduction

The metaverse is a new Internet iteration integrating VR headsets, blockchain technology and avatars to merge the physical and virtual worlds (Lee et al., 2021). However, social interaction in virtual worlds has been available since the early and mid-2000s (Dwivedi et al., 2022). By creating a VR space where users can interact with each other in various ways, the metaverse has the potential to facilitate socialisation in several ways. For example, it enables people to connect and interact with others in a shared environment, regardless of their physical location, which is particularly valuable for individuals who live in remote areas or have mobility issues (Dwivedi et al., 2022; Wang et al., 2022; Buhalis et al., 2020). Moreover, the metaverse can offer diverse social experiences, from virtual parties and events to gaming and other activities, which enable users to form friendships and build communities through their avatars (Oh et al., 2022; Fernandez & Hui, 2022). The metaverse's potential applications currently under development encompass VR gaming, social VR and virtual workspaces (Lee et al., 2021; Buhalis et al., 2023). The metaverse is expected to substantially impact social life by introducing novel ways of communication, collaboration, and community development.

Social media platforms such as Facebook, Instagram, and Twitter have played a significant role in popularising virtual interactions. Social media and the metaverse are two digital domains that have become increasingly interconnected in recent years. Social media and the metaverse are increasingly intertwined, offering new opportunities for digital connection and community-building. As the metaverse continues to develop and expand, social media is likely to serve as a gateway for many individuals to enter and engage with these virtual worlds (Lee et al., 2021; Buhalis et al., 2023). Over the years, social media has been a crucial tool for individuals to use to share their experiences and connect with others who share similar interests (Oh et al., 2023). Studies suggest that as the metaverse evolves, social media platforms may begin to incorporate more metaverse-like features, blurring the lines between the two domains even further, offering new opportunities for digital connection, socialising and community-building (Leal et al., 2022). Poskus & Zukauskiene (2017) identify three major motivations for using the metaverse: experiencing new things (41%), communicating with others (40%), and escaping from physical surroundings (28%). However, it is difficult to forecast human behaviour in online environments (Venkatesh et al., 2012) because different personality traits notably affect human behaviour in online environments differently (Arpaci & Kocadag Unver, 2020).

The growing dependency on social media impacts the behaviours, lifestyles and attitudes of younger generations. Research efforts aim to understand the potential impact of younger

generations' reliance on new virtual platforms such as Facebook Horizon, Second Life, VR Chat and Zepeto for social activities (Oh et al., 2023). The metaverse benefits young generations by enhancing their sense of social presence within the virtual environment. Setting themselves as the metaverse, online gaming and social media platforms with massive numbers of users are attracting new people with unique virtual experiences and thrilling social events (Oh et al., 2023). In the metaverse, people can form connections, participate in shared experiences and engage in meaningful communication. This leads to stronger social bonds regardless of geographical barriers. Additionally, the metaverse enables new forms of creative expression and allows for the creation of virtual communities that bring people with common interests and hobbies together (Jekese et al., 2023). The move to the metaverse was propelled further by the changes in daily routines brought about by the pandemic and the use of technology to compensate for the ensuing loss of social support and communication (Nosek, 2023; Chakraborty, 2022; Twenge et al., 2019).

The current study is novel in several aspects. Even though investigations into technology adoption are advancing, the number of empirical studies in the metaverse domain is limited. To date, studies of technology adoption have been largely unidimensional. In contrast, the present study combines insights from psychology, technology and marketing to study the relationship between personality traits and the adoption of the metaverse for socialising. The current research on metaverse adoption is prima facie unique owing to its interdisciplinary approach, focus on personality traits (internal factors) and potential to advance understanding. Earlier research highlights the positive effect of virtual reality games and technology-powered tools on Gen Zers' socialising (Hamari et al., 2018). Although the metaverse concept is widespread, the studies on determinants affecting its social use are limited (Duan et al., 2021). This study focuses on Gen Zers in India who are early adopters of the metaverse and on the interfaces through which they engage in leisure time and interact in social relationships: metaverse platforms of VR chat, Facebook Horizon, Zepeto and Second Life. According to the World Economic Forum Report, 2019, Gen Zers and millennials spend the most time on social platforms such as Facebook and Instagram. Gen Zers spend about 2 hours and 55 minutes daily on social media (World Economic Forum, 2019). India, as the second-fastest digitising economy among 17 leading economies in the world (Ministry of Electronics & IT, 2019), has 97.2 million users of Facebook and 69 million users of Instagram between 18 to 24 years of age with clear indications of growing social media dependency (Sukriti & Shireen, 2022).

Based on the above discussion, within the context of India this study addresses the following research questions:

RQ1: What drives Gen Zers to adopt Metaverse for socialising?

RQ2: Do individual personality traits affect the behavioural intentions of Gen Zers to use the metaverse?

The current research on the adoption of the metaverse for socialising among Generation Z cohorts makes three significant contributions. First, it provides the first thorough and extensive framework for comprehending the factors influencing Generation Z's inclination to use the metaverse for socialising. Its findings add to the current literature on personality traits and technology adoption and enrich the body of knowledge regarding the factors driving adoption in the context of metaverse for socialising. Second, it demonstrates the important role of hedonic motivation and personal innovativeness as moderators in the relationship between personality traits and metaverse adoption. Individual differences in technology adoption are shown to pair to varying degrees with high levels of hedonic motivation and personal innovativeness to affect technology adoption. This insight offers several guidelines to practitioners seeking to promote the adoption of metaverse for socialising among Generation Z individuals. Third, the research focuses on a mixed-method framework based on the narratives of interpretive phenomenology. This approach provides a more comprehensive understanding of the phenomenon under study, allowing researchers to gain a deeper insight into the experiences and perceptions of individuals adopting metaverse for socialising. The use of interpretive phenomenology in the qualitative analysis further strengthens the study's rigour, by offering a systematic approach to examining respondents' subjective experiences.

At the same time, we also wanted to add that the famous technology adoption theories like, UTAUT and TAM theories focus on the technological perspectives or characteristics of the particular technology. Our study focused on individual personality differences affecting convergence to a specific technology. Although UTAUT and TAM are pioneering works in technology adoption research, the focus is on external factors and individual differences affecting technology adoption are not taken into account. Our aim was to examine the drivers for Gen Zers to incline towards metaverse-based socialising, for which the application of Big Five personality traits was deemed more fit and comprehensive. In our study, we considered both internal and external factors that influence Gen Zers' attitudes and behaviour towards metaverse adoption.

The remainder of the study is structured as follows. The next session focuses on the theoretical underpinnings, followed by an exploratory study from the perspective of Hermeneutics Phenomenology, the results of which are utilised to formally propose the hypotheses. Following the quantitative framework presentation, a series of hypotheses investigating the direct and conditional effects are presented. Finally, we outline the theoretical and practical implications of our study to date and discuss the limitations of current research and propose an agenda for future studies.

2. Theoretical Framework

The metaverse has the potential to positively impact younger generations by increasing their engagement and promoting healthy habits based on prior research (Lee & Xie, 2022). It allows users to connect with each other in new and immersive ways, providing opportunities for social interaction, collaboration and learning. Some metaverse apps are designed to encourage physical activity and healthy behaviour, facilitating younger generations' adoption of healthy habits (Jekese et al., 2023). Prior studies on metaverse integration with the Big Five personality traits revealed a wide range of areas including online learning (Mo & Mo, 2023), training and education programmes (Yilmaz et al., 2023), marketing practices (Giang Barrera & Shah, 2023), purchasing decisions (Peng et al., 2012), brand engagement (Hollebeek et al., 2022) and smartphone addiction (Arpaci et al., 2022). Virtual gaming positively impacted younger generations in socialising (Hamari et al., 2018) and made a positive difference in intelligence (Sauce et al., 2022). Digital learning provided several affective benefits for learners (Lee & Xie, 2022) while digital applications offered individuals several health benefits as well as assisting in mental health recovery (Colder Carras et al., 2018). This technology helped younger generations to cope with the psychological loneliness that they faced during the pandemic. Twenge (2019) reported that young generation individuals are frequently acknowledged as the loneliest generation and one whose mental status has been drastically fading due to the social restrictions enacted during the COVID-19 pandemic. This led to the creation of some alternatives to engage them (Junus et al., 2023).

The metaverse is becoming increasingly important in social media as it offers a new way for people to interact with each other and with digital content. By creating immersive, three-dimensional virtual environments that users can navigate and customise, the metaverse allows for more engaging and personalised social experiences. In this digital space, personality traits play a dominant role in shaping how individuals interact with their virtual environment and

with others (Oh et al., 2023). There have been extensive discussions on how personality factors determine technology adoption (Dwivedi et al., 2022; Arulogun et al., 2020). Traits that are relatively stable across an individual's lifetime reflect their unique way of thinking, feeling and behaving. These are usually measured by self-reporting surveys or observer ratings and can be grouped into five broad dimensions known as the "Big Five" personality traits (Goldberg, 1992).

Based on the literature, we adopt the Big Five personality traits – Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism – as the theoretical framework. Prior studies built theoretically meaningful associations between Big Five personality traits and important life outcomes (Block, 1995), friendship and development (Harris & Vazire, 2016), current political information as relayed by domestic modern media (Zhao, 2022), occupational stress and job satisfaction (Petasis & Economides, 2020), social sustainability (Arpaci et al., 2022), social styles (Chung, 2017), relationship with a virtual environment (Sung et al., 2011), sex differences among adolescents (Abdel-Khalek, 2019) and acceptance of social networking (Rosen & Kluemper, 2008). We applied the Big Five personality traits to gain an understanding of adoption behaviour. Each trait addresses a distinct aspect with varying degrees of impact on behaviour. These traits combine to form a unique perspective and set of experiences shaping each individual's thoughts, beliefs and actions. This leads to a diversity of intentions, goals and motivations that distinguish one person from another (Liao et al., 2006). For instance, an individual with an Openness trait is more likely to be interested in using innovative platforms such as the metaverse (Jang & Kim, 2023). People high in Openness tend to be enthusiastic about adopting new technologies. These early adopters may interpose their intentions to use new technology platforms (Dwivedi et al., 2022; Arulogun et al., 2020). On the other hand, some traits, such as Agreeableness, prioritise the wellbeing of others. Individuals who score highly on Agreeableness exhibit trust and show a great capacity for adapting to people and surroundings (Chung, 2017). Individuals with this trait place value on harmony and cooperation in their relationships and may regard new technology as beneficial to their group (Harris & Vazire, 2016). Responsible and dependable individuals with high Conscientiousness scores often adopt technology (Dangi & Saat, 2021) but they are more likely to carry out research and consider the implications of adoption before making a purchase decision (Buhalis & Karatay, 2022). Individuals with a high Extraversion trait tend to be outgoing and to be more easily influenced by the opinions of others in their social network. They are more likely to adopt a new product if they perceive it to be popular among their peers (Colder Carras et al.,

2018). Individuals with a high Extraversion trait score also are more likely to experience virtual environments and engage in a social context (Colder Carras et al., 2018). In contrast, individuals who score highly on the Neuroticism trait tend to experience more stress and anxiety. Consequently, they may be more cautious about adopting new products or technologies and may require extra information or reassurance before they feel able to make a decision (Arpaci et al., 2022). Prior research has suggested that individuals who have high levels of Neuroticism may be less likely to adopt new technologies (Watjatrakul, 2016). This reluctance can be ascribed to their negative perception of the consequences of new technology use (Arpaci et al., 2022).

In addition to the Big Five personality traits (Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism), Personal Innovativeness and hedonic motivation have been appended to the study as moderators. The reasons for choosing these factors are outlined below. First, adopting technology necessitates personal innovativeness, which facilitates early intentions to use such technology (Lee & Xie, 2022). The interest and acceptance of innovative technology are highly associated with people having high levels of personal innovativeness (Venkatesh et al., 2012). Second, hedonic motivation, which is frequently linked to individual pleasure from leisure activities (Moorthy et al., 2019), is the force that drives users of the metaverse to socialise, which is an activity primarily pursued for entertainment and pleasure.

Individuals' preferences in social activities and technological adoption differ based on personal attributes and motivations. The environment also affects the way that personality traits are expressed, with differences in individuals' actions apparent between real and virtual environments, making it challenging to characterise human behaviour in these settings (Arpaci & Kocadag Unver, 2020). More precisely, research on intentions to adopt the metaverse in daily routines in which people interact in a virtual environment with others via their customised avatars is limited. Thus, the present study explores the level of self-other agreement of personality, the factors that majorly influence individual intentions to use the metaverse in social life. From the above discussions, the present study incorporated personality traits with intention to use the metaverse for socialising. The study employs a mixed-methods approach (study 1 and study 2), with a qualitative analysis component followed by a quantitative analysis component to verify qualitative conclusions.

3. Exploratory Study: Phase 1

3.1 Hermeneutic phenomenological study

The qualitative study was designed in line with Heidegger's Hermeneutic phenomenological approach (Dabengwa et al., 2023). Phenomenological studies incorporate an interpretivist methodology based on the notion that feeling, values and mindset of people impact their behaviours. In other words, it is easy to explore technology adoption behaviour by implementing a phenomenological approach. Such studies are particularly concerned with developing insights about the main focus of inquiry by examining the subjective perceptions of participants and understanding their lived experiences (Casmir, 1983). Using this methodology enables the exhaustive description of participant perception and experience with the causal explanations and psychological biases of the researchers eliminated.

The present study intends to model the metaverse adoption behaviour of Generation Z through the lens of the phenomenological approach. To maintain consistency, one of the authors conducted in-depth interviews with the participants in line with the research questions. An in-depth interview was conducted with twenty-four Generation Z users of various metaverse-based social media platforms in a span of ten days. The respondents for the qualitative study were selected using the snowball sampling technique. Since the usage of metaverse-powered social media platforms is in its nascent stage, we approached a few of our students for assistance. With their help, we identified their peers and other acquaintances within the Generation Z age group who were at the early stage of using the metaverse in social media. We then obtained the informed consent of these participants and proceeded with the interview. Only two interviews a day were conducted to avoid overloading the interviewer and so reducing the credibility and efficiency of the interviews. The questions were specifically designed to understand the influence of individual personality differences on the behavioural intention to use the metaverse in socialising (See Appendix). The ethical aspects were addressed by obtaining the informed consent of the participants during the interview. The interview was audio-recorded in addition to noting relevant points in the interviewer's pocket notebook. The qualitative data were analysed using a series of procedures systematically (Smith et al., 2022). The first process involved the transcription of the audio recordings. The researchers read and reread the transcriptions and notes to obtain a firm grip on the essence of the data. All the sentences were carefully reviewed to understand the depth of expression in participants' statements. The second process involved horizontalisation of data, in which equal

values and weights were assigned to every statement. Consequently, all the non-repetitive and non-overlapping statements were thoughtfully extracted to develop a comprehensive structure of data. The structure of data revealed twenty-two sub-themes related to the inquiry.

The list consisted of frequently observed personality categories such as energetic, enthusiastic, outspoken, empathetic, considerate, trustworthy, forgiving, soft-spoken, co-existing, sincerity, consistency, carefulness, composed, diligent, jubilant, calm, stable, relaxed, inventive, visionary, artistic and curiosity. These sub-themes were clustered into five themes based on the commonalities observed in the participants' personalities (Table 1). The identified themes were initially validated with a reference check to the original notes and it was observed that the themes were consistent with the eloquent quotes and expressions underlying the current phenomenon. To validate the analysis, the author relied on all the co-authors to read, reflect and extract themes from the collected data (Table 1). Through this action, the probable biases that might have occurred from the authors' prior knowledge and psychological dispositions were eliminated. The reliability of the themes was assessed following the recommendations of Miles & Huberman (1994). Two independent researchers (excluding co-authors) were asked to code 50% of the verbatim transcription. The first researcher obtained 82% agreement and the second researcher obtained 78% agreement for the five research themes. An agreement level over 70% is considered consistent. Any incongruities between the researchers were resolved through discussion and cross-verifications with the original transcript and notes.

Table 1. Themes and sub-themes of participants' personality traits

Themes	Sub-themes	Meaning	Example of verbatims
Extraversion	*Energetic*	A person who works round the clock actively and happily	"The energy level after using metaverse system for a short period is high…it helps to boost my mood and I indulge in my routine activities more effectively"
	Enthusiastic	A person who expresses high levels of excitement, happiness and inspire others with high levels of satisfaction	"I always love to and get excited about the new features of technology…I feel joyous and motivated to use the latest technologies and prefers to discuss about it with others"
	Outspoken	A person who expresses opinion frankly without any reservations	"In several instances I convinced people about the use of metaverse in social media…. I liked the metaverse experience and use to restrain from people's criticism about it"

Agreeableness	*Empathetic*	It is the ability to feel what others feel and understand others situations without judgement	"I feel metaverse adoption will take sometime since many persons are not aware of these platforms…. I use to help my friends at times to use these metaverse based social networking sites"
	Considerate	A person who understands the rights and privileges of other people and behave with kindness	"I know that it takes a while to shape and understand the policies of metaverse…. I generally feel that the goodness of technologies should be enjoyed by all"
	Trustworthy	A person who is able to be trusted and stay dependable	"I am very open about the issued involved with metaverse also…. even though there are security vulnerabilities in metaverse, these platforms enhance user interaction effectively"
	Forgiving	Giving up the resentment towards others for their mistake for better relationships and happiness	"Through metaverse I am able to effectively interact with others and solve my socializing concerns…. I feel that metaverse helps in better interaction between persons by increasing better virtual relationships and happiness"
	Soft-spoken	A person who speaks mildly and calmly with an intention to not hurt others	"I feel that every technology has its own purpose and it is up to person for using it properly…. I don't feel metaverse is harmful without affecting the socializing fabric…. interactions will calm the stressed life also"
	Co-existing	Person who likes to live in peace with others in spite of minor disagreements and disputes	"I feel that interactions with diverse people is now enhanced…we will get to know more people with cultural and social differences which will bring harmony among relationships"
Conscientiousness	*Sincerity*	A person who is honest in his/her acts and remains emotionally stable irrespective of the happenings in their life	"I am truthful of my presence in these sites…I never disguised my identity and seldom gets affected by the noises of such social media platforms"
	Consistency	A person who expresses degrees of prudence and justice and treat others with intrinsic value they deserve	"I don't feel I am addicted to metaverse based interactions at all. I generally use it for socializing and leisure purpose…I stick to a particular time frame for using such platforms"
	Carefulness	A person who thinks and works cautiously to reduce the errors and increase efficiency	"I am always more cautious of these platforms…. I use to learn from others about the usages of these sites to reduce my mistakes"

	Composed	A person who is self-possessed and remains free from circumstantial agitations	"I don't think use of metaverse in social networking affects my personal as well as work life…. I don't get easily irritated by the happenings of virtual communities and view it as an entertainment only"
	Diligent	A person who blends hard work with smart work and acquire more opportunities through excellence	"In metaverse people may use metaverse socializing for increasing their opportunities and personal growth….the possibilities of more virtual contacts will help people in exploring opportunities which is otherwise not possible"
Neuroticism	*Jubilant*	A person who feels great joy and happy for their victories and express it tangibly	"I feel that in course of time people will start using metaverse for their business and job purposes…. effective networking will make people successful…I feel happier in interacting using metaverse"
	Calm	Persons radiating friendly energy, lightens others mood choose quiet and peace over noisy movement.	"I feel I enjoy peace of mind with metaverse interface…after the hectic daily routines I feel the metaverse more relaxing and soothing"
	Stable	A person who remains composed under pressurised situation and remains caring and considerate to others	"Metaverse based social media activities makes me stress free…I feel engaged and more immersed and enjoy good mental health through socializing…"
	Relaxed	A person who makes peace with themselves and are inclined to personal truths, happiness, respect and their surroundings	"I use metaverse sometimes to understand and know my surroundings…I can experience better socializing using metaverse experience…. we can understand the immediate environment more effectively"
Openness	*Inventive*	A person who is brilliant, resourceful and provocative of thinking and ideas	"I love to explore the complexities of emerging technologies…I have all those resources at home for easy adoption of metaverse in socializing"
	Visionary	A person with relentless dreams and thinking working for a well-defined purpose for the development of others	"I always look for challenges and solutions for it…I feel metaverse is one such an answer for the technologically connected world…I feel it is more effective when used for well-defined purposes"
	Artistic	A person who is interested in aesthetic criteria with wavering self-esteem and impulsivity	"Use of metaverse supplements enhanced aesthetic experience to me…I enjoy many artistic pleasures using metaverse based networking…I use metaverse for more artistic purposes…."

	Curiosity	A person who is compelled to find interesting answers through more learning to make their life interesting	I always feel curious to test and try new things in life, so it was easy for me to use metaverse…I figure to learn something new from emerging technologies…I feel innovative technologies are quiet interesting to me..."

4. Hypotheses Development

Personality traits and patterns are unique to each individual and exert a significant impact on their thoughts and actions. To comprehend how an individual interacts with the world, it is crucial to understand their personality differences. According to Goldberg (1993), examining an individual's personality traits can help to predict their behaviour. An individual's intentions may be affected by various factors such as values, beliefs, experiences and life circumstances. Thus, personality traits are valuable in predicting individuals' behaviour (Zweig & Webster, 2003). Previous studies have also highlighted the role of personality in explaining how individuals use technology (Wang, 2010) and emphasised the importance of considering personality traits in the adoption of new technologies (Terzis et al., 2012). Additionally, an individual's intentions can be influenced by their values and beliefs (Rosen & Kluemper, 2008).

4.1 Openness-Intention

The personality trait of Openness is characterised by an individual's receptiveness to novel experiences and ideas. Research has demonstrated that individuals who exhibit high levels of Openness show a tendency to use metaverse platforms out of a desire to explore innovative experiences and perspectives (Dwivedi et al., 2022). Furthermore, those with high Openness scores tend to be early technology adopters, which could also influence their level of engagement with metaverse platforms (Arulogun et al., 2020).

H1. Openness significantly predicts the intention to use metaverse

4.2 Conscientiousness-Intention

Conscientiousness, characterised by traits such as organisation, responsibility and dependability, has been linked to a greater likelihood of adopting technology (Dangi and Saat, 2021). However, it is unclear whether Conscientiousness affects decisions to adopt the metaverse, and whether it may also predict the intention to use metaverse technology. Buhalis and Karatay (2022) suggest that individuals with high Conscientiousness scores tend to plan ahead and carefully consider the potential benefits of technology. Consequently, they may be more inclined to see the metaverse as a valuable tool for communication, education and entertainment. Thus, we propose:

H2. Conscientiousness significantly predicts the intention to use metaverse

4.3 Extraversion –Intention

According to Harris and Vazire's research (2016), Extraversion is a significant predictor that can impact an individual's goals and intentions. People with this trait tend to be more sociable and outgoing and enjoy social interaction, making them more inclined to participate in virtual environments in which they can socialise with others (Colder Carras et al., 2018). Thus, we posit:

H3. Extraversion significantly predicts the intention to use metaverse

4.4 Agreeableness –Intention

As noted by Hulya Ercan (2017), Agreeableness refers to an individual's inclination towards accepting others, maintaining positive relationships, being modest and helping others. This personality trait can have an impact on an individual's goals and intentions, as highlighted by Harris and Vazire (2016). For instance, individuals who score high in Agreeableness may prioritise the wellbeing and needs of others (Chung, 2017). This study aims to investigate how the Agreeableness trait influences the use of a technology tool that encourages socialising. Thus, we propose to study the relationship between Agreeableness and the intention to use the metaverse.

H4. Agreeableness significantly predicts the intention to use metaverse

4.5 Neuroticism –Intention

Prior research has already established the influence of personality traits on Gen Z's adoption of technology in various contexts (Agyei et al., 2020). Neuroticism is a personality trait that affects emotional stability and balance. People who score low on Neuroticism are considered to be more stable, secure and active (Hulya Ercan, 2017). Studies have suggested that individuals with high levels of Neuroticism may be less likely to adopt new technologies (Watjatrakul, 2016) because they tend to perceive the potential risks and negative consequences associated with technology use more acutely (Arpaci et al., 2022). So we posit that:

H5. Neuroticism significantly predicts the intention to use metaverse

For example, a person who values independence may be more likely to strive for self-sufficiency and autonomy. At the same time, someone who believes in the importance of

community may be more inclined to focus on building and maintaining relationships. Life experiences and circumstances can also play a role in shaping an individual's intentions. For example, a person who has faced significant challenges or adversity may be more driven to overcome obstacles and persevere. In contrast, someone with more privileged experiences may be more inclined to take opportunities for granted. In summary, individual intentions differ because people are unique, complex individuals with different personalities, values, beliefs, experiences and life circumstances (Liao et al., 2006). The literature supported the role of personality traits in social sustainability (Arpaci et al., 2022), relationship with a virtual environment (Sung et al., 2011, Buhalis et al., 2020), social styles (Chung, 2017), friendship and development (Harris & Vazire, 2016), online learning (Mo & Mo, 2023), training and education programmes (Yilmaz et al., 2023).

4.6 Personal Innovativeness (PEI)

Personal innovativeness refers to the extent to which someone is open to new concepts, methods and technologies. It measures an individual's readiness to take risks and accept change (Agarwal & Prasad, 1999). People with high levels of personal innovativeness tend to be more creative, flexible and proactive in solving problems (Lee et al., 2011). Previous research has shown a strong correlation between personal innovativeness and the likelihood of using new technology (Venkatesh et al., 2012). Based on this, we hypothesise that:

H6a,b,c,d,e: Personal innovativeness positively moderates the influence of personality traits on the intention to use metaverse

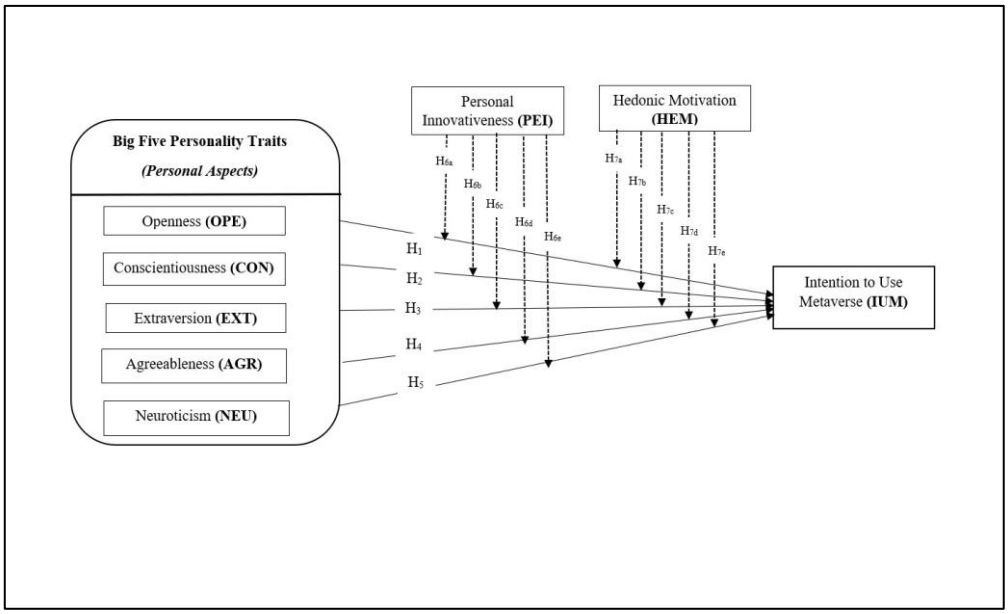
4.7 Hedonic Motivation (HEM)

"Hedonic motivation" refers to the inclination to pursue pleasure and avoid pain. It is a type of motivation that drives people to seek positive emotions and avoid negative ones. Hedonic motivation can influence a variety of behaviours, such as eating, socialising and engaging in leisure activities (Singu & Chakraborty, 2022). It is also believed to be a contributing factor to mental health issues such as addiction and depression (Venkatesh et al., 2012). Previous studies have found a significant correlation between hedonic motivation, behavioural intentions (Nikolopoulou et al., 2020; Chakraborty et al., 2022) and intentions to use e-learning (Moorthy et al., 2019). Based on this, we propose that:

H7a,b,c,d,e: Hedonic motivation positively moderates the influence of personality traits on the intention to use metaverse

Hence, in this context the theoretical model has been developed and is shown in Figure 1.

Figure 1: Theoretical model



5. Methodology Phase 2 (Quantitative Study)

5.1 Methods

Participants who belong to the later stages of the Generation Z category (16-24 years) were considered for the quantitative analysis. Data collection was entrusted to a private market research agency in India who were tasked with collecting data across a range of different demographics. India was selected as the venue for the study for several reasons. India has relatively young demographics with almost 65% of the population under 35 years of age. India has the highest social media footprint spanning over 448 million. With this exponentially increasing user base, it is imperative to analyse how Indians are likely to adopt emerging technologies such as metaverse for socialising purposes. India has the highest smartphone penetration. Smartphones are the primary device used for accessing the Internet and social media, making it crucial to study how people in India are likely to access the metaverse for socialising through mobile phones.

The study began with the respondents being asked two preliminary questions:

a) Are you aged between 16 and 24 years (Gen Z category)?

b) Are you using metaverse-based social media platforms?

The respondents who answered "no" to either or both of the questions were not considered further. A total of 436 respondents were retained. Of these, 73% were male, 68% were students, 79% were from urban areas and only 32% had used all four metaverse-based social media platforms (Facebook Horizon, Zepeto, Second Life and VR Chat). Table 2 presents the demographic measures of the respondents.

Table 2: Demographic measures

Demographic Measures		No. of Respondents	Percentage
Gender	Male	319	73.16
	Female	117	26.84
Occupation	Students	297	68.12
	Working Professionals	139	31.88
Place of living	Urban	345	79.13
	Rural	91	20.87
Users of metaverse based social media platforms	Users of all the four metaverse based social media platforms (Facebook Horizon, Zepeto, Second Life and VR Chat)	140	32.11
	Users of any one metaverse based social media platforms (Facebook Horizon, Zepeto, Second Life and VR Chat)	296	67.89

5.2 Measures

The study measures were adapted from prior established scales. The constructs measuring Big Five personality traits were adapted from the original items of the Personality Inventory Scale (Benet-Martínez & John, 1998). Extraversion was measured using 4 items, Agreeableness (4), Conscientiousness (4), Neuroticism (4) and Openness (8). A few statements were reversed from the original scale for uniformity. Three items measuring intention to use the metaverse were adapted from Venkatesh et al. (2012) and two items were adapted from Teo et al. (2008). The moderators personal innovativeness and hedonic motivation were modified from the items of Agarwal & Prasad (1998) and Venkatesh et al. (2012) respectively (See Table 2 for the list of items used to measure constructs).

5.3 Psychometric properties of measurement model

Confirmatory factor analysis was used to assess the reliability and validity of the measurement model (Normalised Chi-square=1.505, Goodness of fit index=0.902, Normed fit index =0.941,

Root mean square error approximation=0.03) (Table 2). It was observed that all the factor loadings and AVE (average variance extracted) values were higher than 0.5, indicating convergent validity. Internal consistency was established through composite reliability values higher than 0.6 (Table 3).

Table 3: Results of Measurement model

Variable	Statement	Label	Loading	Sources	CR	AVE
Extraversion (EXT)	I feel I am outgoing and sociable person	EXT1	0.935	(Benet-Martínez & John, 1998)	0.955	0.841
	I am very talkative	EXT2	0.924			
	I have an assertive personality	EXT3	0.909			
	I usually generate a lot of enthusiasm	EXT4	0.899			
Agreeableness (AGR)	I am considerate to almost everyone	AGR1	0.884		0.902	0.697
	I like to cooperate with others	AGR2	0.878			
	I am always helpful and unselfish with others	AGR3	0.781			
	I have a forgiving nature	AGR4	0.792			
Conscientiousness (CON)	I will do job thoroughly	CON1	0.943		0.940	0.798
	I do things efficiently	CON2	0.916			
	I stick to my plans	CON3	0.893			
	I am a reliable person	CON4	0.817			
Neuroticism (NEU)	I don't worry a lot	NEU1	0.841		0.919	0.740
	I never get tensed	NEU2	0.882			
	I don't get nervous easily	NEU3	0.892			
	I generally remain calm in tense situations	NEU4	0.825			
	I am more inventive	OPE1	0.853			
	I am open to new ideas	OPE2	0.843			
	I feel I have active imagination	OPE3	0.852			

Openness (OPE)	I like to reflect and play with ideas	OPE4	0.804		0.947	0.692
	I love art, music and literature	OPE5	0.844			
	I am a deep thinker	OPE6	0.821			
	I am curious about many different things	OPE7	0.827			
	I prefer to do works that is challenging	OPE8	0.808			
Intention to use Metaverse (IUM)	I will definitely use metaverse for social networking	IUM1	0.890	(Venkatesh et al., 2012; Teo et al., 2008)	0.890	0.620
	I will use metaverse for all social networking purposes	IUM2	0.740			
	I intend to continue using metaverse in the future	IUM3	0.808			
	I will always try to use metaverse for socializing purposes	IUM4	0.754			
	I plan to use metaverse frequently	IUM5	0.733			
Personal Innovativeness (PEI)	I believe I am ready and capable of using innovative technologies such as metaverse	PEI1	0.877	(Agarwal & Prasad, 1998)	0.924	0.753
	When I hear about new information technology I would look for ways to experiment with it	PEI2	0.902			
	I like to experiment with new IT products	PEI3	0.884			
	Among my peers , I am usually the first to try IT products	PEI4	0.804			
Hedonic motivation (HEM)	Using metaverse in social media platforms are fun	HEM 1	0.942	(Venkatesh et al., 2012)	0.928	0.811
	Using metaverse is more enjoyable	HEM 2	0.917			
	Using metaverse is very entertaining	HEM 3	0.840			

To confirm divergent validity, it was confirmed that the square root of average variance extracted values are higher than the off-diagonal values depicting inter-correlation between the constructs in the correlation matrix (Table 3). Thus, convergent validity, divergent validity and reliability were established as recommended by several studies (Bagozzi & Yi, 1988; Henseler et al., 2015; Tavakol & Dennick, 2011). The results of confirmatory factor analysis indicate satisfactory levels of reliability and validity of the measurement model.

Table 4: Correlation matrix representing divergent validity

Variables	MSV	MaxR(H)	PEI	OPE	CON	EXT	AGR	NEU	IUM	HEM
PEI	0.446	0.929	**0.868**							
OPE	0.346	0.948	0.588	**0.832**						
CON	0.446	0.950	0.668	0.537	**0.893**					
EXT	0.264	0.956	0.500	0.346	0.514	**0.917**				
AGR	0.225	0.911	0.474	0.442	0.405	0.216	**0.835**			
NEU	0.287	0.923	0.536	0.303	0.502	0.483	0.221	**0.860**		
IUM	0.326	0.904	0.571	0.474	0.533	0.379	0.368	0.467	**0.787**	
HEM	0.389	0.940	0.614	0.531	0.624	0.462	0.405	0.526	0.514	**0.901**

The concerns of multicollinearity issues were rejected since all the Variance inflated factors were less than 3 (Diamantopoulos & Siguaw, 2006) (see Table 4).

5.4 Common method bias

The potential pitfalls of common method bias were eliminated by following a priori strategies recommended by Hulland et al. (2018). First, the research consisted of two different studies using different approaches. The respondents of both studies remained anonymous to reduce the presence of biases. Second, the statements were psychologically separated and items were randomised to nullify the sequential effects in respondents ratings (MacKenzie & Podsakoff, 2012). Detailed instructions on how to fill out the research instruments were provided and ethical considerations were explicitly mentioned in the research instrument to reduce item ambiguity. Further, all the measurement scales were adapted with due diligence from well-

established and validated scales. Introducing an unmeasured common latent factor and testing for deviations in the path coefficients revealed that all the path coefficients remained significant. Also, after including the common latent factor, an examination of the confirmatory factor analysis results showed that all the path coefficients remained significant with negligible deviations. To reinforce the absence of common method bias, we measured the inter-correlation between constructs and found it was within the standard values (Bagozzi et al., 1991) (Table 3). Hence, the results of this study are free from the concerns of common method bias.

5.5. Personality traits and intention to use metaverse

Covariance-based structural equation modelling using IBM AMOS was used to examine the influence of personality traits on the intention to use the metaverse for socialising purposes. It was observed that all the personality traits except Extraversion significantly predicted the intention to use the metaverse in social media platforms (R-square=0.401, Adjusted R-square=0.40, F=176.56, $p<0.05$) (Table 5). Among the significant predictors, Neuroticism had the highest impact on the intention of Generation Z to use metaverse ($\beta=0.241$, $t>1.96$, $p<0.05$) while Agreeableness had the lowest influence over the behavioural intention to use the metaverse ($\beta=0.12$, $t>1.96$, $p<0,05$). This result proved that individuals who are less neurotic had the intention to use metaverse. Contradictory to the general assumptions about extroverts, we observed that these personality traits had an insignificant impact on the intention to use metaverse.

Table 5: Results of path analysis

Relationships	β	S. E	C.R	p-value	Hypothesis	Decision
Openness → Intention to use MS	0.210	0.053	3.840	0.01*	H_1	Supported
Conscientiousness → Intention to use MS	0.226	0.050	3.674	0.01*	H_2	Supported
Extraversion → Intention to use MS	0.048	0.038	0.926	0.355	H_3	Rejected
Agreeableness → Intention to use MS	0.120	0.048	2.385	0.017*	H_4	Supported
Neuroticism → Intention to use MS	0.241	0.050	4.432	0.01	H_5	Supported

[a] Absolute t-statistics >1.96, significant at 5% (S.E- Standard error, C.R- critical ratio of differences)

5.6 Moderating role of personal innovativeness and hedonic motivation

Moderating role of personal innovativeness on intention to use the metaverse was examined using Process Macro (Model 1) (Hayes, 2017). Personal innovativeness was used as a moderator because the respondents (Gen Z) felt ready and able to use cutting-edge tools such as metaverse and to experiment with newly implemented technologies or those soon to be implemented and because they wanted to be the first user of the technologies. Gen Zers are always ready to experiment with new technologies as early adopters, which is why we used personal innovativeness as a moderator in this study. Personal innovativeness strengthens the intention to use the metaverse for all the personality traits except Neuroticism and Conscientiousness. The interaction term was found significant and positive only for the influence of Openness on the intention to use the metaverse whereas no significant interaction was observed on the influence of other personality traits in influencing the intention to use metaverse in socialising. It was found that the beta value for all the significant conditional term was positive indicating the strengthening nature of the moderator (Table 6). The result shows that respondents with higher levels of personal innovativeness have an increased tendency to adopt metaverse for socialising purposes. In other words, those respondents who experiment with innovative technologies and have technical expertise have a higher intention to use metaverse for socialising compared to respondents with lower levels of personal innovativeness. Similarly, we used Process Macros (Model 1) (Hayes, 2017) to assess the moderating role of hedonic motivation on the intention to use the metaverse. Hedonic Motivation was used as a moderator because Gen Zers find using the metaverse in social media enjoyable. This encourages them to use technology more and more and to be early adopters. It was observed that hedonic motivation significantly moderates the influence of personality traits on the intention to use the metaverse only for two predictors namely Neuroticism and Openness (Table 6). The interaction term for these two predictors was found to be significant.

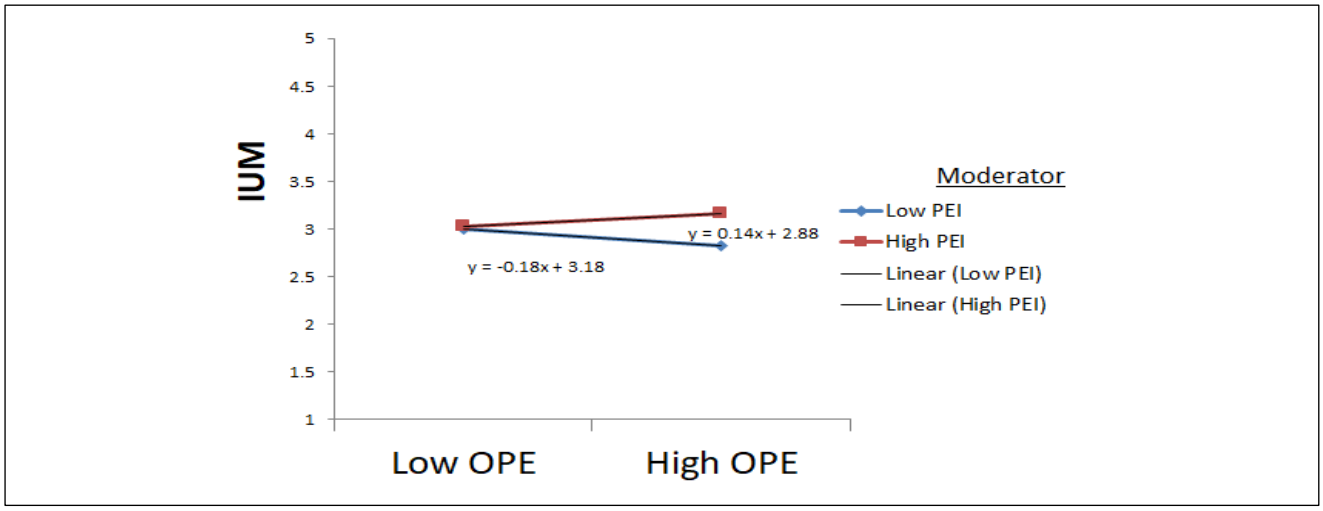
Table 6: Results of moderation analysis

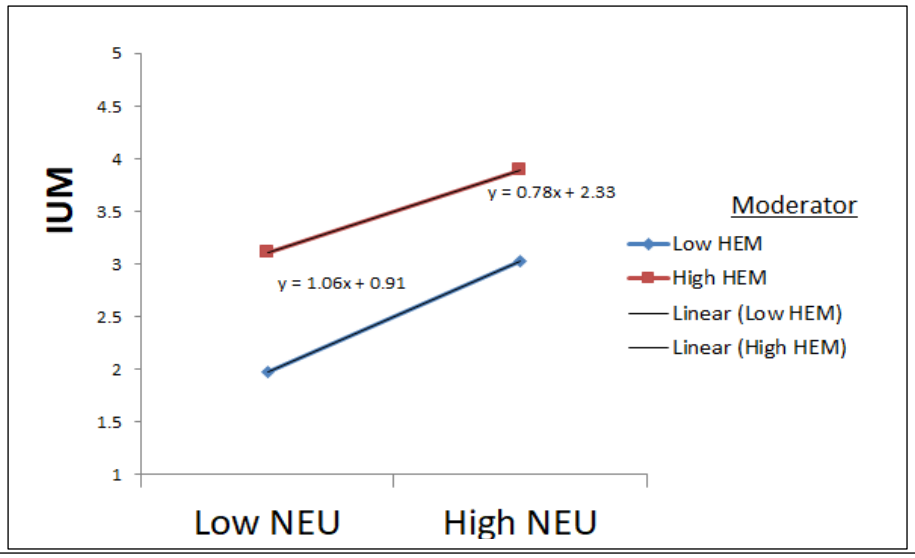
Path	coefficient	SE	t	p-value	LLCI	ULCI	Hypo	Sig
Moderating role of personal innovativeness								
EXT → IUM	-.01	.03	-.24	.81	-.07	.05	H_{6c}	No
AGR → IUM	.04	.03	1.09	.28	-.03	.11	H_{6d}	No
CON → IUM	.05	.03	1.51	.13	-.01	.11	H_{6b}	No

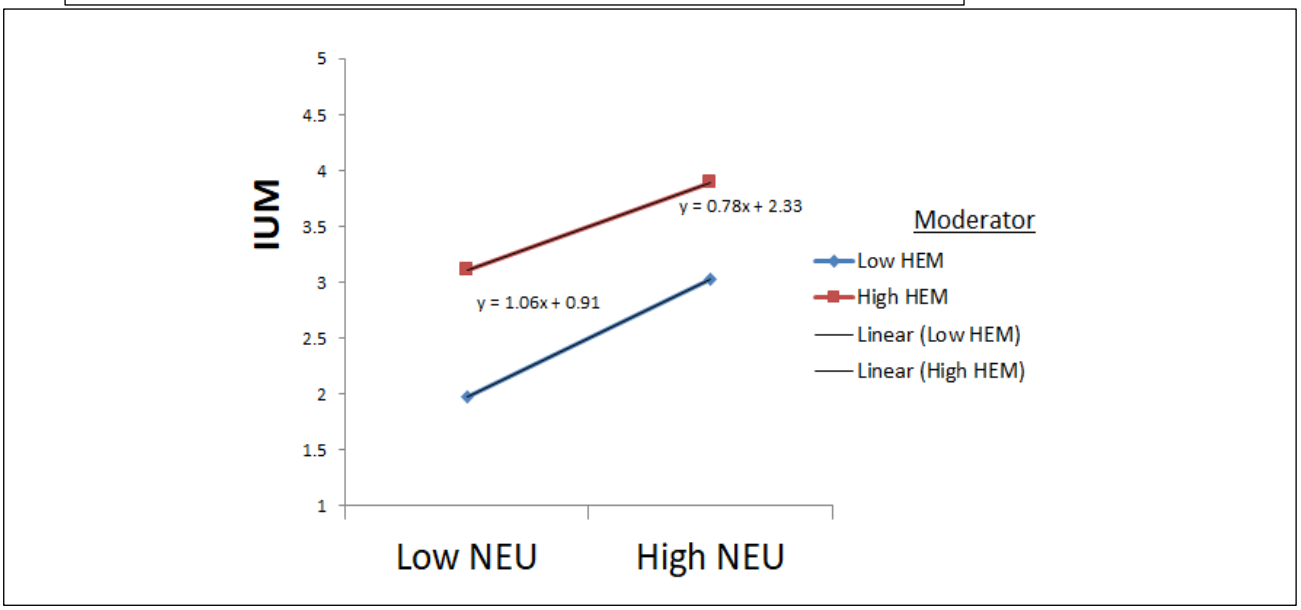
NEU ⟶ IUM	-.02	.03	-.57	.57	-.08	.05	H_{6e}	No
OPE ⟶ IUM	.08	.03	2.29	.02	.01	.15	H_{6a}	Yes
Moderating role of Hedonic motivation								
EXT ⟶ IUM	-.02	.03	-.56	.58	-.07	.04	H_{7c}	No
AGR ⟶ IUM	-.05	.03	-1.57	.12	-.12	.01	H_{7d}	No
CON ⟶ IUM	.04	.03	1.52	.13	-.01	.10	H_{7b}	No
NEU ⟶ IUM	-.07	.03	-2.27	.02	-.14	-.01	H_{7c}	Yes
OPE ⟶ IUM	.09	.04	2.58	.01	.02	.16	H_{7a}	Yes

All the β values of the significant interaction terms are positive, indicating the enhancing role of moderators on the outcome variable (Figure 2). The parsimonious measures for all the significant moderation are given in Figure 2. It was observed that none of the levels in the graphs were parallel to each other, signalling the presence of moderation. Also, it was noted that with higher levels of personal innovativeness, the intention to use metaverse for socialising was higher among participants with Openness. Similarly, it was noted that at higher levels of hedonic motivation the intention to use the metaverse was high for respondents with traits such as Neuroticism and Openness (Fig 2).

Fig. 2: The moderating effect of personal innovativeness and hedonic motivation


IUM
5
4.5
4
3.5
3
2.5
2
1.5
1
Low OPE
High OPE
y = 0.14x + 2.88
y = -0.18x + 3.18
Moderator
Low PEI
High PEI
Linear (Low PEI)
Linear (High PEI)


IUM
5
4.5
4
3.5
3
2.5
2
1.5
1
Low NEU
High NEU
y = 0.78x + 2.33
y = 1.06x + 0.91
Moderator
Low HEM
High HEM
Linear (Low HEM)
Linear (High HEM)


IUM
5
4.5
4
3.5
3
2.5
2
1.5
1
Low NEU
High NEU
y = 0.78x + 2.33
y = 1.06x + 0.91
Moderator
Low HEM
High HEM
Linear (Low HEM)
Linear (High HEM)

6. General Discussion

The findings of the present study established an empirically validated framework for understanding the influence of personality traits on the intention to use metaverse in social media platforms in India for users in the age group of 16 to 26 years. Previous studies have already agreed on the role of personality traits on the Generation Z technology adoption process in various contexts. However, studies focusing exclusively on analysing the adoption behaviour of Generation Z respondents regarding the metaverse are scarce. Using interpretive phenomenological analysis, the authors explored the personality traits underlying the behavioural intentions to use the metaverse: Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. The insights of qualitative analysis were used to model the behavioural intentions of Generation Z in using metaverse-based social media platforms with personal innovativeness and hedonic motivations as the conditional variables. Numerous intriguing conclusions concerning the level of metaverse adoption among Generation Z users in the Indian setting were drawn from the quantitative analysis. Male participants were found to be engaged in more metaverse-based socialisation activity than female participants. Males were also less sceptical and more confident in their ability to use technology for networking than women. In line with our expectations, students made up the bulk of the respondents. The main drivers of this exponential growth in the student community's use of the metaverse were social networking, rising smartphone usage among students, and improved access to technology. Although metaverse-based social networking is growing in popularity, our findings indicate that the proportion of participants using many such platforms was significantly low. However, once more aggressive transmission techniques are employed, a gradual rise in these numbers should be seen.

Structural equation modelling was used to substantiate the impact of Generation Z's personality traits on intention to use metaverse. It was observed that all the personality traits except Extraversion significantly and positively influence the intention to adopt the metaverse. Neuroticism had the highest influence on behavioural intention (H_5, β=0.241) followed by Conscientiousness (H_2, β=0.226), Openness (H_1, β=0.210) and Agreeableness (H_4, β=0.120). To our surprise, Extraversion (H_3, β=0.048) revealed an insignificant impact on the intention to use metaverse.

Openness is concerned with being creative in nature, open to new ideas, having an active imagination, playing with thoughts, showing deep thinking and regarding work as a challenge. These are all characteristics of Gen Zers and hence Openness has a significant impact on their intention to use the metaverse. Conscientiousness entails doing a job properly, doing good work

whatever the nature of the task provided, being reliable and achieving goals. It is quite evident that these characteristics will lead respondents towards intending to use the metaverse. These characteristics are ones which people require if they are to use new or innovative technologies effectively. A low score for Neuroticism means that people do not worry very much, become less stressed than others, do not get nervous easily, and remain calm in tense situations. These traits are very much required to use the metaverse and the results support this. Agreeableness focuses on showing kindness to almost everyone, being able to work effectively with other people, showing a willingness to help others and being an understanding person. These are all characteristics required by people to use the metaverse. Extraversion mainly refers to being friendly and open, talkative and able to generate a great deal of excitement. However, in our findings, it has a non-significant relationship because the respondents place a higher value on conversations with friends or colleagues in which they can physically interact than they do on interacting through technology. Interacting by using technologies is perceived as lacking the ability to evoke the fully-fledged emotions generated through physical interactions. Individuals who score highly on Extraversion and who want to enthuse others will prefer physical interaction over technology-assisted interaction.

Generation Z cohorts are believed to be tech-savvy, inventive, open to change, highly adaptive and enthusiastic users of innovative technologies. Studies on Generation Z behaviour have emphasised their flexibility and optimistic nature compared to their immediate predecessors (Chillakuri, 2020; Schroth, 2019; Taibah & Ho, 2023). Individuals' behaviour, including technology adoption, is shaped by their personality; the inclination towards the use of technological products significantly affects Generation Z's individual personality differences. The study results confirm the findings of previous studies in understanding Generation Z's technology adoption scenarios pertaining to the metaverse (Dwivedi et al., 2022; Hilken et al., 2022; Kumar et al., 2022).

The moderating role of personal innovativeness and hedonic motivation was also investigated in the current study. Surprisingly, it was observed that personal innovativeness positively moderates the direct path only between Openness (H_{6a}, $\beta=0.08$, $p<0.05$), and the outcome variable. The enhancing moderating role of personal innovativeness was reflected in positive significant interaction term. Moderation was not supported for H_{6b}, H_{6c}, H_{6d} H_{6e} since all the effect size and interaction terms were insignificant ($p>0.05$). Generation Z users who are technically skilled and innovative have higher levels of personal innovativeness. Personal innovativeness enhances the intention to use the metaverse in such a way that people with higher levels of innovativeness will have enhanced behavioural intention to use metaverse in

social media. With higher levels of personal innovativeness, people can easily adapt to the technicalities of the metaverse and use it more efficiently. Our findings support the findings related to the role of personal innovativeness in the intention to use technological innovations and immersive experiences such as metaverse (Akour et al., 2022; Ciftci et al., 2021; Sagnier et al., 2020).

Similarly, the moderating role of hedonic motivation in strengthening the intention to use the metaverse was examined. The results revealed a significant moderation for two personality traits. The conditional effects were significant in two direct paths, namely the path connecting Neuroticism and intention to use metaverse (H_{7c}, β=-0.07, $P<0.05$) and that connecting Openness and the predictor variable (H7a, β=0.09, $p<0.05$). It was found that hedonic motivation acts as an enhancing moderator that amplifies the intention to use metaverse in socialising. The intention to utilise social media platforms powered by the metaverse is heavily influenced by hedonic motivation, which is represented as the enjoyment gained from acts. The need for more social pleasure increases the inclination to use metaverse systems. Generation Z enthusiasts of social media spend the majority of their time on these systems networking for enjoyment. They seek escape from their monotonous daily routines and relief from the stress of their jobs. The enjoyment of participating in online groups, making new friends, and taking advantage of educational possibilities all affect people's intentions to utilise metaverse on social media sites. Hence the hypothesis testing H_{6a} and H_{7a}, H_{7c} are supported for enhancing moderation while $H_{7b,}$ H_{7c} and H_{7d} are not supported. Our findings agree with the findings of previous studies (Cheah et al., 2022; Fiore et al., 2005; Hartman et al., 2006).

Our study is a testament to the importance of comprehending how personality differences between people can affect their willingness to use metaverse on social media sites. A clear framework is lacking for metaverse, which is still in the early stages of penetration in India, to comprehend the adoption patterns of different users. This study focuses on the behaviour of Generation Z users, as the group with the biggest social media footprint. The results of this mixed-method study are important for comprehending the barriers to and enablers of metaverse adoption at the individual level in India. The study's findings are made more fascinating by the generational disparities between these cohorts and their personality peculiarities. Our findings act as a springboard for further research into the extent to which the metaverse is used by individuals from various demographic groups and possible metaverse domains.

7. Managerial Implications

The current research offers significant managerial implications. First, the study exemplifies the importance of considering individual differences in personality when developing strategies for marketing metaverse platforms to the younger generation in the context of socialising. Understanding the nuances of the Big Five personality traits of potential users will help managers to customise marketing campaigns to appeal to the target population. Second, managers of metaverse platforms can focus on promoting the hedonic benefits of the metaverse to appeal to individuals with high hedonic motivation, while also highlighting the new and unique features of the metaverse to attract individuals with high personal innovativeness. Third, managers may need to ensure that the metaverse offers a variety of activities and experiences that cater to both hedonic and personal innovativeness motivations. Fourth, digital platform management should cater to the needs of all types of users by focusing on user engagement through the creation and exploration of new features designed to enhance user pleasure and experiences, such as social interactions, within the metaverse. Fifth, managers may provide training and support for employees to navigate the use of the metaverse to meet the needs of users with different personality traits effectively. Managers can retain their consumers by offering them customised and unique services. It is critical to remember that these are only hypothesised consequences. Additional research is required to fully comprehend the connections between individual innovativeness, hedonic motivation and metaverse utilisation. Finally, the mixed-method approach provides more depth in the perspectives of metaverse users and their interactions with these platforms. This can assist managers in better comprehending the preferences and needs of their target audience and realigning their tactics as warranted.

8. Theoretical Implications

The study into the adoption of metaverse for socialising by Generation Z individuals offers several theoretical contributions to the literature. First, the study provides insights into the relationship between the Big Five personality traits and technology adoption. The study found that the Openness trait has the highest impact on the intention to adopt metaverse. The reason may be that individuals high in this trait are curious and enjoy trying new things, which may make them more likely to utilise technology (Agarwal & Prasad, 1999; Lee et al., 2011). Further, Extraversion and Agreeableness also showed a significant relationship with the intention to use metaverse. Because individuals who exhibit these traits are outgoing and enjoy social interactions, they are more likely to use the metaverse as a social platform. People with high Agreeableness are sympathetic and cooperative and cherish harmony, which may increase

their propensity to interact with the metaverse in a way that fosters connection and collaboration. In addition, the study found no significant influence of Neuroticism and Conscientiousness on the intention to use metaverse. This could be because individuals high in this trait are anxious, prone to worry, and more likely to perceive potential risks and negative consequences associated with metaverse use. Individuals with high Conscientiousness traits are organised, reliable and disciplined, which may make them distrust technology and the risks associated with using the metaverse. This finding aligns with previous research on technology adoption and personality traits. However, the study provides a unique contribution by focusing on a specific type of technology: the metaverse. Second, the study investigated the interactive roles of hedonic motivation and personal innovativeness in the direct relationship between personality traits and technology adoption. The results confirming significant moderation predicted that individuals who are motivated by pleasure and novelty-seeking behaviour are more likely to adopt the metaverse for socialising if certain personality traits are present. The study's findings contribute to understanding the mechanisms underlying technology adoption and offer insights into how personality traits can interact with other factors to shape adoption decisions. Finally, the study's use of a mixed-methods approach, with interpretive phenomenology for qualitative analysis, strengthens the existing literature. This approach increased researchers' understanding of individuals' subjective experiences and perspectives regarding technology adoption, thus paving the way for more comprehensive future research frameworks.

9. Limitations and Future Research Directions

The results should be approached with caution in light of three major limitations. The probability of biases and subjectivity due to prior knowledge of the interviewer, co-authors and independent researchers involved in analysing the phenomenological data cannot be underestimated. We used a private market research agency for the collection of data. We acknowledge the chances of ethical lapses in the collection of data to an extent. The present study is configured to understand the intention to use the metaverse on the basis of a particular age. However, gender and other socio-demographic background factors also have a salient impact on determining behavioural intentions.

We have adopted a mixed-method research design using interpretive phenomenological analysis and a quantitative framework using moderations. In our study, we hypothesised the intention to use metaverse as the outcome variable to enable us to understand the personality determinants of early-stage adoption of the technology. Future studies exploring the advanced

stages of behavioural intentions using time-lagged data could be pursued using more third-party variables.

We have analysed the separate moderation effects of personal innovativeness and hedonic motivation in the current framework but not the effect of their combined interaction on the outcome variable. Another area that could be explored in the future is the inclusion of the interaction of personal innovativeness and hedonic motivation with other drivers of intention to use metaverse in social media platforms.

The current study is based on the Gen Zers' intention to use the metaverse in the Indian context. To understand the role of cultural differences, studies incorporating intercountry contexts to explore the dynamics of Gen Zers' intention to use metaverse in social media should be comprehensively attempted. Also, studies involving intergenerational cohorts are warranted in future. It should be noted that although the study does not focus on a specific metaverse-powered social networking platform, future research should acknowledge Gen Zers' intentions to use the metaverse based on the specificities of such platforms.

10. Concluding Remarks

The managerial implications of the widespread adoption of the metaverse are transformational, helping the metaverse platform companies to offer expected services in the virtual reality experiences of users. Many challenges exist for decision-makers regarding the extent and timeliness of their investments and how they can adapt their business models to deliver real benefits from virtual reality platforms. This study has discussed forty-one personality traits of the Big Five trait theory and found a significant relationship to adopting the metaverse. As a part of its methodological approach, the study used extensive interpretative phenomenological analysis to conduct a qualitative analysis, which was leveraged to understand the impact of individual personality differences on the intention to use metaverse in socialising. The study used multiple regression analysis and moderation using process macros in its quantitative analysis. Amongst the five traits, the study revealed that the Openness trait has the highest impact on the intention to adopt the metaverse, and Neuroticism has the least impact. Personal innovation and hedonic motivation showed enhancing moderation in personality traits.

References

Abdel-Khalek, A. M. (2019). Sex Differences in the Big Five Personality Factors among Egyptian Adolescents. *Mankind Quarterly*, *59*(4), 532–542. https://doi.org/10.46469/mq.2019.59.4.6

Agarwal, R., & Prasad, J. (1998). A Conceptual and Operational Definition of Personal Innovativeness in the Domain of Information Technology. Information Systems Research, 9(2), 204–215. https://doi.org/10.1287/isre.9.2.204

Agarwal, R., & Prasad, J. (1999). Are Individual Differences Germane to the Acceptance of New Information Technologies? *Decision Sciences*, *30*(2), 361–391. https://doi.org/10.1111/j.1540-5915.1999.tb01614.x

Agyei, James & Sun, Shaorong & Eugene, Abrokwah & Penney, Emmanuel & Ofori-Boafo, Richmond. (2020). Mobile Banking Adoption: Examining the Role of Personality Traits. *SAGE Open. 10. 215824402093291*. 10.1177/2158244020932918.

Akour, I. A., Al-Maroof, R. S., Alfaisal, R., & Salloum, S. A. (2022). A conceptual framework for determining metaverse adoption in higher institutions of gulf area: An empirical study using hybrid SEM-ANN approach. *Computers and Education: Artificial Intelligence*, *3*, 100052. https://doi.org/https://doi.org/10.1016/j.caeai.2022.100052

Arpaci, I., & Kocadag Unver, T. (2020). Moderating Role of Gender in the Relationship between Big Five Personality Traits and Smartphone Addiction. *Psychiatric Quarterly , 91(2), 577-585*.https://doi.org/10.1007/s11126-020-09718-5

Arpaci, I., Karatas, K., Kusci, I., & Al-Emran, M. (2022). Understanding the social sustainability of the Metaverse by integrating UTAUT2 and big five personality traits: A hybrid SEM-ANN approach. *Technology in Society*, 71, 102120. https://doi.org/10.1016/j.techsoc.2022.102120

Arulogun, O. T., Akande, O. N., Akindele, A. T., & Badmus, T. A. (2020). Survey dataset on open and distance learning students' intention to use social media and emerging technologies for online facilitation. *Data in Brief*, *31*, 105929. https://doi.org/10.1016/j.dib.2020.105929

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, *16*(1), 74–94. https://doi.org/10.1007/BF02723327

Bagozzi, R. P., Yi, Y., & Phillips, L. W. (1991). Assessing Construct Validity in Organizational Research. *Administrative Science Quarterly*, *36*(3), 421–458. https://doi.org/10.2307/2393203

Benet-Martínez, V., & John, O. P. (1998). Los Cinco Grandes across cultures and ethnic groups: Multitrait-multimethod analyses of the Big Five in Spanish and English. *Journal of Personality and Social Psychology*, *75*(3), 729–750. https://doi.org/10.1037/0022-3514.75.3.729

Block, J. (1995). A contrarian view of the five-factor approach to personality description. *Psychological Bulletin*, *117*(2), 187–215. https://doi.org/10.1037/0033-2909.117.2.187

Buhalis, D., & Karatay, N. (2022). Mixed Reality (MR) for Generation Z in Cultural Heritage Tourism Towards Metaverse. *Information and Communication Technologies in Tourism 2022*, 16–27. https://doi.org/10.1007/978-3-030-94751-4_2

Buhalis, D., Andreu, L., & Gnoth, J. (2020). The dark side of the sharing economy: Balancing value co-creation and value co-destruction. *Psychology & Marketing*, 37(5), 689-704.. https://doi.org/10.1002/mar.21344

Buhalis, D., Leung, D., & Lin, M. (2023). Metaverse as a disruptive technology revolutionising tourism management and marketing. *Tourism Management*, *97*, 104724. https://doi.org/10.1016/j.tourman.2023.104724

Casmir, F. L. (1983). Phenomenology and hermeneutics: Evolving approaches to the study of intercultural and international communication. *International Journal of Intercultural Relations*, *7*(3), 309–324. https://doi.org/https://doi.org/10.1016/0147-1767(83)90035-4

Chakraborty, D. (2022). Purchase Behavior of Consumers Toward GSAs: A Longitudinal Assessment. *Journal of Computer Information Systems*, 1-26. https://doi.org/10.1080/08874417.2022.2123065

Chakraborty, D., Singu, H. B., & Patre, S. (2022). Fitness Apps's purchase behaviour: Amalgamation of Stimulus-Organism-Behaviour-Consequence framework (S–O–B–C) and the innovation resistance theory (IRT). *Journal of Retailing and Consumer Services*, *67*, 103033. https://doi.org/10.1016/j.jretconser.2022.103033

Cheah, I., Shimul, A. S., & Phau, I. (2022). Motivations of playing digital games: A review and research agenda. *Psychology & Marketing*, *39*(5), 937–950. https://doi.org/https://doi.org/10.1002/mar.21631

Chillakuri, B. (2020). Understanding Generation Z expectations for effective onboarding. *Journal of Organizational Change Management*, *33*(7), 1277–1296. https://doi.org/10.1108/JOCM-02-2020-0058

Chung, D. (2017). The Big Five Social System Traits as the Source of Personality Traits, MBTI, Social Styles, Personality Disorders, and Cultures. *Open Journal of Social Sciences*, *05*(09), 269–295. https://doi.org/10.4236/jss.2017.59019

Ciftci, O., Berezina, K., & Kang, M. (2021). Effect of Personal Innovativeness on Technology Adoption in Hospitality and Tourism: Meta-analysis. In W. Wörndl, C. Koo, & J. L. Stienmetz (Eds.), *Information and Communication Technologies in Tourism 2021* (pp. 162–174). Springer International Publishing.

Colder Carras, M., Kalbarczyk, A., Wells, K., Banks, J., Kowert, R., Gillespie, C., & Latkin, C. (2018). Connection, meaning, and distraction: A qualitative study of video game play and mental health recovery in veterans treated for mental and/or behavioral health problems. *Social Science & Medicine*, *216*, 124–132. https://doi.org/10.1016/j.socscimed.2018.08.044

Dabengwa, I. M., Young, S., & Ngulube, P. (2023). Rigour in phenomenological and phenomenography studies: A scoping review of library and information science research. *Library & Information Science Research*, *45*(1), 101219. https://doi.org/https://doi.org/10.1016/j.lisr.2022.101219

Dangi, M. R. M., & Saat, M. M. (2021). Interaction Effects of Situational Context on the Acceptance Behaviour and the Conscientiousness Trait towards Intention to Adopt: Educational Technology Experience in Tertiary Accounting Education. *Educational Technology & Society*, 24(3), 61–84. https://www.jstor.org/stable/27032856

Diamantopoulos, A., & Siguaw, J. A. (2006). Formative Versus Reflective Indicators in Organizational Measure Development: A Comparison and Empirical Illustration. *British Journal of Management*, *17*(4), 263–282. https://doi.org/https://doi.org/10.1111/j.1467-8551.2006.00500.x

Duan, H., Li, J., Fan, S., Lin, Z., Wu, X., & Cai, W. (2021). Virtual Event. *Metaverse for Social Good: A University Campus Prototype*. In Proceedings of the 29th ACM International Conference on Multimedia (pp. 153-161). https://doi.org/10.1145/3474085.3479238

Dwivedi, Y. K., Hughes, L., Wang, Y., Alalwan, A. A., Ahn, S. J. (Grace), Balakrishnan, J., Barta, S., Belk, R., Buhalis, D., Dutot, V., Felix, R., Filieri, R., Flavián, C., Gustafsson, A., Hinsch, C., Hollensen, S., Jain, V., Kim, J., Krishen, A. S., & Lartey, J. O. (2022). Metaverse marketing: How the metaverse will shape the future of consumer research and practice. *Psychology & Marketing*. https://doi.org/10.1002/mar.21767

Dwivedi, Y. K., Hughes, L., Wang, Y., Alalwan, A. A., Ahn, S. J. (Grace), Balakrishnan, J., Barta, S., Belk, R., Buhalis, D., Dutot, V., Felix, R., Filieri, R., Flavián, C., Gustafsson, A., Hinsch, C., Hollensen, S., Jain, V., Kim, J., Krishen, A. S., … Wirtz, J. (2022). Metaverse marketing: How the metaverse will shape the future of consumer research and practice. *Psychology & Marketing*, *n/a*(n/a). https://doi.org/https://doi.org/10.1002/mar.21767

Ercan, H. (2017). The relationship between resilience and the big five personality traits in emerging adulthood. *Eurasian Journal of Educational Research*, *17*(70), 83-103. DOI:10.14689/ejer.2017.70.5

Fernandez, C. B., & Hui, P. (2022). Life, the Metaverse and Everything: An Overview of Privacy, Ethics, and Governance in Metaverse. *arXiv preprint arXiv:2204.01480.* https://arxiv.org/abs/2204.01480

Fiore, A. M., Jin, H.-J., & Kim, J. (2005). For fun and profit: Hedonic value from image interactivity and responses toward an online store. *Psychology & Marketing*, *22*(8), 669–694. https://doi.org/https://doi.org/10.1002/mar.20079

Gent, E. (2022). Lessons From a Second Life > Before Meta, Philip Rosedale Created an Online Universe. *IEEE Spectrum*, *59*(1), 19–19. https://doi.org/10.1109/mspec.2022.9676346

Giang Barrera, K., & Shah, D. (2023). Marketing in the Metaverse: Conceptual understanding, framework, and research agenda. *Journal of Business Research*, *155*, 113420. https://doi.org/10.1016/j.jbusres.2022.113420

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, *4*(1), 26–42. https://doi.org/10.1037//1040-3590.4.1.26

Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, *48*(1), 26–34. https://doi.org/10.1037/0003-066x.48.1.26

Hamari, J., Malik, A., Koski, J., & Johri, A. (2018). Uses and Gratifications of Pokémon Go: Why do People Play Mobile Location-Based Augmented Reality Games? *International Journal of Human–Computer Interaction*, *35*(9), 804–819. https://doi.org/10.1080/10447318.2018.1497115

Harris, K., & Vazire, S. (2016). On friendship development and the Big Five personality traits. *Social and Personality Psychology Compass*, *10*(11), 647–667.

https://doi.org/10.1111/spc3.12287

Hartman, J. B., Shim, S., Barber, B., & O'Brien, M. (2006). Adolescents' utilitarian and hedonic Web consumption behavior: Hierarchical influence of personal values and innovativeness. *Psychology & Marketing*, *23*(10), 813–839. https://doi.org/https://doi.org/10.1002/mar.20135

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115–135. https://doi.org/10.1007/s11747-014-0403-8

Hollebeek, L. D., Sprott, D. E., Urbonavicius, S., Sigurdsson, V., Clark, M. K., Riisalu, R., & Smith, D. L. G. (2022). Beyond the Big Five: The effect of machiavellian, narcissistic, and psychopathic personality traits on stakeholder engagement. *Psychology & Marketing*, 39(6), 1230-1243. https://doi.org/10.1002/mar.21647

Hulland, J., Baumgartner, H., & Smith, K. M. (2018). Marketing survey research best practices: evidence and recommendations from a review of JAMS articles. *Journal of the Academy of Marketing Science*, *46*(1), 92–108. https://doi.org/10.1007/s11747-017-0532-y

Jang, J., & Kim, J. (2023). Exploring the Impact of Avatar Customization in Metaverse: The Role of the Class Mode on Task Engagement and Expectancy-Value Beliefs for Fashion Education. *Mobile Information Systems*, *2023*, 1–13. https://doi.org/10.1155/2023/2967579

Jekese, G., Zvarevashe, K., Makondo, W., Marima, I. J., & Hwata, C. (2023). *Virtual Communities in Supporting Access to Health Services During COVID-19 Pandemic: The Implications and Impact on Zimbabwe's Health System* (pp. 169–185). https://doi.org/10.1007/978-3-031-21602-2_8

Joshua. (2017). Information Bodies: Computational Anxiety in Neal Stephenson's Snow Crash. *Interdisciplinary Literary Studies*, *19*(1), 17. https://doi.org/10.5325/intelitestud.19.1.0017

Lee, J. S., & Xie, Q. (2022). Profiling the affective characteristics of EFL learners' digital informal learning: A person-centered approach. *Innovation in Language Learning and Teaching*, 1–15. https://doi.org/10.1080/17501229.2022.2085713

Lee, L.-H., Braud, T., Zhou, P., Wang, L., Xu, D., Lin, Z., Kumar, A., Bermejo, C., & Hui, P. (2021). All One Needs to Know about Metaverse: A Complete Survey on Technological Singularity, Virtual Ecosystem, and Research Agenda. *ArXiv:2110.05352 [Cs]*. https://arxiv.org/abs/2110.05352

Lee, S.-G., Trimi, S., Byun, W. K., & Kang, M. (2011). Innovation and imitation effects in Metaverse service adoption. *Service Business*, *5*(2), 155–172. https://doi.org/10.1007/s11628-011-0108-8

Leal, W. E., Boccio, C. M., & Jackson, D. B. (2022). The Interplay Between Virtual Socializing, Unstructured Socializing, and Delinquency. *Crime & Delinquency*, 001112872210838. https://doi.org/10.1177/00111287221083898

Liao, C., Palvia, P., & Lin, H.-N. (2006). The roles of habit and web site quality in e-commerce. *International Journal of Information Management*, *26*(6), 469–483. https://doi.org/10.1016/j.ijinfomgt.2006.09.001

MacKenzie, S. B., & Podsakoff, P. M. (2012). Common Method Bias in Marketing: Causes, Mechanisms, and Procedural Remedies. *Journal of Retailing*, *88*(4), 542–555. https://doi.org/https://doi.org/10.1016/j.jretai.2012.08.001

Miles, M. B., & Huberman, M. A. (1994). Qualitative Data Analysis: an Expanded Sourcebook (2nd ed.). Sage Publications.

Ministry of Electronics & IT. (2019). *India's Trillion Dollar Digital Opportunity*.

Mo, J., & Mo, F. (2023). A Study of Online Learning Context Optimization Strategies under the Metaverse Perspective. *Journal of Education, Society and Behavioural Science*, 30–42. https://doi.org/10.9734/jesbs/2023/v36i11201

Moorthy, K., Tzu Yee, T., Chun T'ing, L., & Vija Kumaran, V. (2019). Habit and hedonic motivation are the strongest influences in mobile learning behaviours among higher education students in Malaysia. *Australasian Journal of Educational Technology*, *35*(4). https://doi.org/10.14742/ajet.4432

Nikolopoulou, K., Gialamas, V., & Lavidas, K. (2020). Acceptance of mobile phone by university students for their studies: an investigation applying UTAUT2 model. *Education and Information Technologies*, 25(5), 4139-4155. https://doi.org/10.1007/s10639-020-10157-9.

Nosek, S. (2023). The impact of the Covid-19 pandemic on college students with marginalized identities. *Equity in Education & Society*, 275264612211490. https://doi.org/10.1177/27526461221149035

Oh, H. J., Kim, J., Chang, J. J. C., Park, N., & Sangrock, L. (2022). Social Benefits of Living in the metaverse: The relationships among social presence, supportive interaction, social self-efficacy, and feelings of loneliness. *Computers in Human Behavior*, 107498. https://doi.org/10.1016/j.chb.2022.107498

Oh, H. J., Kim, J., Chang, J. J. C., Park, N., & Lee, S. (2023). Social benefits of living in the metaverse: The relationships among social presence, supportive interaction, social self-efficacy, and feelings of loneliness. *Computers in Human Behavior*, 139, 107498. https://doi.org/10.1016/j.chb.2022.107498

Peng, Y.-S., Hsiung, H.-H., & Chen, K.-H. (2012). The Level of Concern about Feng Shui in House Purchasing: The Impacts of Self-efficacy, Superstition, and the Big Five Personality Traits. *Psychology & Marketing*, *29*(7), 519–530. https://doi.org/10.1002/mar.20539

Rosen, P., & Kluemper, D. (2008). The Impact of the Big Five Personality Traits on the Acceptance of Social Networking Website. *AMCIS 2008 Proceedings*. https://aisel.aisnet.org/amcis2008/274/

Sagnier, C., Loup-Escande, E., Lourdeaux, D., Thouvenin, I., & Valléry, G. (2020). User Acceptance of Virtual Reality: An Extended Technology Acceptance Model. *International Journal of Human–Computer Interaction*, *36*(11), 993–1007. https://doi.org/10.1080/10447318.2019.1708612

Sauce, B., Liebherr, M., Judd, N., & Klingberg, T. (2022). The impact of digital media on children's intelligence while controlling for genetic differences in cognition and socioeconomic background. *Scientific Reports*, *12*(1), 7720. https://doi.org/10.1038/s41598-022-11341-2

Schroth, H. (2019). Are You Ready for Gen Z in the Workplace? *California Management Review*, *61*(3), 5–18. https://doi.org/10.1177/0008125619841006

Singu, H. B., & Chakraborty, D. (2022). I have the bank in my pocket: Theoretical evidence and perspectives. *Journal of Public Affairs*, *22*(3), e2568. https://doi.org/10.1002/pa.2568

Smith, J. A., Flowers, P., & Larkin, M. (2022). Interpretative phenomenological analysis: Theory, method and research. SAGE.

Sheth, J. (2020). Impact of Covid-19 on consumer behavior: Will the old habits return or die? *Journal of business research*, *117*, 280-283.

Statista. (2021). *Roblox gamers users distribution worldwide September 2020, by age.* Https://Www.Statista.Com/Statistics/1190869/Roblox-Games-Users-Global-Distribution-Age/.

Sung, Y., Moon, J. H., Kang, M., & Lin, J.-S. (2011). Actual Self vs. Avatar Self: The Effect of Online Social Situation on Self-Expression. *Journal for Virtual Worlds Research*, *4*(1). https://doi.org/10.4101/jvwr.v4i1.1927

Taibah, D., & Ho, T. (2023). Improving Gen Z Contextual Work Performance Through Langford's Leadership Big 5 and Structural Empowerment. In B. Alareeni & A. Hamdan (Eds.), *Explore Business, Technology Opportunities and Challenges After the Covid-19 Pandemic* (pp. 910–923). Springer International Publishing.

Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, *2*(6), 53–55. https://doi.org/10.5116/ijme.4dfb.8dfd

Teo, T., Luan, W. S., & Sing, C. C. (2008). A cross-cultural examination of the intention to use technology between Singaporean and Malaysian pre-service teachers: an application of the Technology Acceptance Model (TAM). *Journal of Educational Technology & Society*, *11*(4), 265-280.

Terzis, V., Moridis, C. N., & Economides, A. A. (2012). How student's personality traits affect Computer Based Assessment Acceptance: Integrating BFI with CBAAM. *Computers in Human Behavior*, *28*(5), 1985–1996. https://doi.org/10.1016/j.chb.2012.05.019

Twenge, J. M., Spitzberg, B. H., & Campbell, W. K. (2019). Less in-person social interaction with peers among U.S. adolescents in the 21st century and links to loneliness. *Journal of Social and Personal Relationships*, 36(6), 1892–1913. https://doi.org/10.1177/0265407519836170

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. MIS Quarterly, 36(1), 157–178. https://doi.org/10.2307/41410412

Venkatesh, V., Thong, J. Y. L., & Xu, X. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, *36*(1), 157–178. https://doi.org/10.2307/41410412

Wang, W. (2010). How personality affects continuance intention: an empirical investigation of instant messaging. *July 9-12*, 1160–1170. https://aisel.aisnet.org/pacis2010/113

Watjatrakul, B. (2016). Online learning adoption: effects of neuroticism, openness to experience, and perceived values. *Interactive Technology and Smart Education*, 13(3), 229–243. https://doi.org/10.1108/itse-06-2016-0017

World Economic Forum. (2019). *This graph tells us who's using social media the most.* https://www.weforum.org/agenda/2019/10/social-media-use-by-generation/

Yilmaz, M., O'Farrell, E., & Clarke, P. (2023). Examining the training and education potential of the metaverse: Results from an empirical study of next generation Safe training. *Journal of Software: Evolution and Process*, e2531. https://doi.org/10.1002/smr.2531

Yusliza, M. Y., Fawehinmi, O., Mat, N. H. N., & Mohamed, M. (2022). Exploring the Intention to Cheat Among Undergraduate Students through the Lens of the Theory of Planned Behaviour. *International Journal of Business and Society*, 23(2), 1042-1065.

Zhao, Y. (2022). The correlation between the Big Five personality traits and political information exposure. *Chinese Public Administration Review*, 153967542211297. https://doi.org/10.1177/15396754221129707

Zweig, D., & Webster, J. (2003). Personality as a moderator of monitoring acceptance. *Computers in Human Behavior*, *19*(4), 479–493. https://doi.org/10.1016/s0747-5632(02)00075-4

Appendix:

Abridged version of the questions asked in the in-depth interview (Qualitative study):

- How do you generally feel about using new technologies and in particular metaverse?
- Why did you started using metaverse based social networking? Do you feel it was challenging initially?
- Do you feel that metaverse based socializing is more entertaining? How will you evaluate the metaverse based socializing experience?
- Debates about insecurities and vulnerabilities of metaverse based social media platforms are mushrooming- how do you evaluate these concerns?
- Do you think social media platforms requires innovations such as metaverse? What are the features that you liked the most in these metaverse powered platforms?
- How well you manage your time using metaverse? Do you feel use of metaverse is addictive and impedes the normal life?

- How well you manage the virtual connections using metaverse? Do you feel metaverse enhanced your virtual connections?

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