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Factors affecting attitude to use metaverse technology application

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A B S T R A C T

The concept of the "Metaverse" is a three-dimensional virtual world that relies on simulations of reality to represent real-life experiences, and it can be classified as the next generation in using the Internet. In this research, we will examine the factors that may influence user acceptance of metaverse and the relationships between these variables highlight how different factors can be examined. The goal of understanding these factors is to determine how Metaverse developers can improve this technology to meet user expectations and enable users to better interact with this technology. To achieve this goal, a sample of 312 students' participants from different age groups was selected to respond to an online Likert scale questionnaire ranging from) strongly disagree equal) to (strongly agree equal 5). The study found that perceived enjoyment significantly positively influences technology metaverse application. Moreover, perceived curiosity and perceived self-efficacy positively influence technology application metaverse transitions. In addition, perceived ease of use (PEOU) and perceived usefulness (PU) positively influence the attitude toward using the Metaverse technology/application, which means that all the previous factors have an overall positive effect on the attitude toward using the Metaverse technology application.

1. Introduction

The global rise of applied uses of the Metaverse can be attributed to the challenges posed by the COVID-19 pandemic, which drives the need to overcome spatial and temporal limitations in various fields in October 2021, Mark Zuckerberg officially announced the rebranding and repositioning of Meta. A noteworthy innovation is the use of virtual reality glasses, allowing multiple individuals to gather in a virtual environment. The pervasive impact of computer science on our everyday experiences is undeniable, especially with major developments that enhance human trends and communication models. The Metaverse, an emerging field, has been significantly stimulated. Metaverse is a term Derived from "meta" which means (beyond) and "universe" and represents an evolving virtual world that promises interactivity beyond traditional video (Richter & Richter, 2023, Dwivedi et al., 2023). The scope of the Metaverse goes beyond gaming, as it has the power to redefine various aspects of daily activities and potentially serve as a global hub for many interactions and developments. Despite the current spread of Metavers, technological advances continue to shape its course. Innovation in Metaverse applications has humble origins, driven due to the spread of personal computers, mobile devices and Internet networks. Virtual reality represents the fourth

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wave in this advancement, signifying a paradigm shift in our communications via the Internet. The goal of these communications includes education, business within the framework of institutions, and remote work entertainment (Buhalis et al., 2023; Pellegrino et al., 2023).

In the world of Metaverse technology application, headphones play a crucial role in spatial audio, tracking users' body movements to express what is seen – especially hands and facial expressions – to create an immersive experience (Hedrick et al., 2022). Starting the Metaverse project aims to address common problems associated with Internet use, such as inactivity, emotional isolation, and poor self-awareness. Different sectors have started adapting Metaverse technology applications to overcome online limitations. This is essential for entrepreneurs, including policy makers and institutions, to measure the readiness of decision makers to adopt Metaverse technology application. Factors such as perceived usefulness, perceived ease of use, perceived self-efficacy, perceived curiosity, and perceived enjoyment play pivotal roles in the adoption of a Metaverse technology/application, necessitating an evaluation of its usefulness and ease of use.

The results of the study hold significance for the future development of the Metaverse, as they highlight factors that influence the propensity to use a Metaverse technology application. Recent research indicates a growing global interest in the Metaverse, with more than half of Internet users expressing a desire to engage in this virtual space. This research delves into understanding the factors that increase the trend towards Metaverse technology, with a particular focus on the nuances of its adoption across different generations. As it focuses on the booming trend of Metaverse technology application, our study aims to clarify this phenomenon and the factors influencing it across different dimensions.

1.1 Metavers technology and applications

Over the past two decades, the use of digital technology has changed most sectors and valuation (Dwivedi et al., 2022). For example, asynchronous online learning, such as Blackboard and Moodle, has become possible, while virtual meeting platforms, such as Zoom and Imo, have reshaped themselves to remove physical barriers, with the aim of enabling synchronous communication. These technologies have changed the way technology is used and the ways it is applied, New economic opportunities have been created for application providers in general, as new economic options have been created for them and paving the way for multiple systems based on artificial intelligence (Kabudi et al., 2021). However, online technologies applications do not exceed the level of repetition of experiments (Dwivedi et al., 2022; Bubou & Job, 2022).

In the past two decades, the widespread adoption of digital technology has led to significant transformations in various sectors (Dwivedi et al., 2022). For example, in the educational sector, online learning platforms such as Blackboard and Moodle facilitate while asynchronous learning allows for flexible working, virtual meeting tools like Zoom and IMO enable synchronous learning experiences by removing physical barriers. They have not only changed the use of technology, but also opened new economic opportunities for application providers, laying the foundation for adaptive AI-based systems (Kabudi et al., 2021). However, current online technologies and applications still face challenges in replicating real-world experiences, especially in creating virtual environments that meet specific requirements and deliver a high-level experience (Dwivedi et al., 2022).

The concept of 3D virtual environments emerged with the Introducing technological techniques such as Second Life, which Chandra and Linders (2012) describe as online multimedia 3D digital environments inspired by reality, allowing user interaction through avatars. While the educational and practical applications of virtual environments were and still are the focus of previous research and studies with the aim of development, change and transition to an intangible world, as they do not rise to the level of conveying scientific, practical and emotional experiences such as participation, co-presence, social and group communication, body language, and are unable to fully replicate the business learning experience (Dwivedi et al., 2022). Limitations of virtual technologies, including virtual reality, augmented reality, and mixed reality, have been noted in various studies (Marks & Thomas, 2022; Tegoan et al., 2021).

Metaverse technology, currently under development, combines virtual 3D technology with augmented reality and virtual reality, allowing users to interact in a simulated real-life environment. Despite its developmental stage, the Metaverse has potential for the future, especially in education, where it can create virtual applications and learning environments for decision makers to gain new experiences (Moon & Kong, 2023). In businesses, the Metaverse can serve as a hands-on laboratory, providing users with insights into real-world practices. It can also enhance organizational activities and training courses and offer new 3D virtual learning experiences (De la Peña et al., 2010).

The integration of the Metaverse into technology can facilitate distance learning processes and collaboration with audio, video, and audio learning methods within virtual reality. Students can participate in classes from anywhere using an internet connection and virtual reality headsets (Mystakidis & Christopoulos 2022). During the COVID-19 pandemic, the Metaverse has emerged as a solution for distance education, providing virtual learning experiences for teachers and students (Li & Xiong, 2022; Purwaningsih et al., 2020). This study investigates the factors influencing the adoption of STEM-based Metaverse technology applications, highlighting the potential impact of this technology across various domains, creating a new virtual world for decision makers. Fig. 1 shows the proposed model of this paper where the effects of five factors including self-efficacy, perceived curiosity, perceived pleasure, perceived pleasure, perceived ease of use and perceived usefulness on attitude to use Metavers technology is investigated.

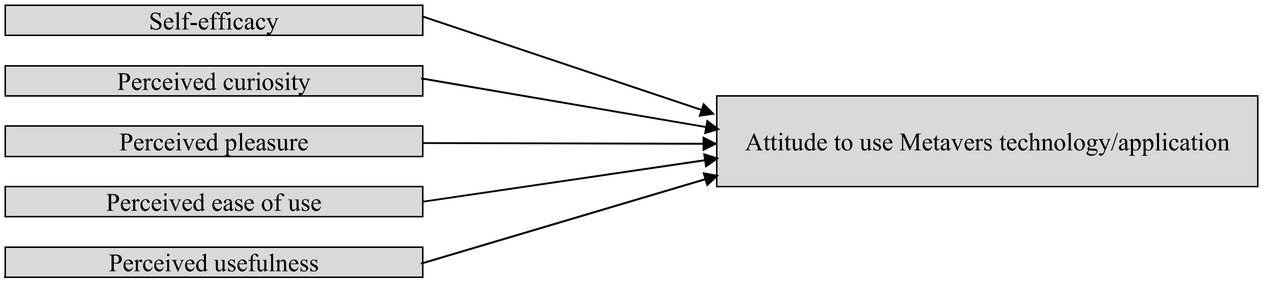

Fig. 1. The research model

1.2 Research gap and study objectives

Our understanding of the Metaverse today is based on the social values of Generation Z, emphasizing that an individual's online identity should closely match his/her real-world identity (Duan et al., 2021). Generation Z has played an active and visible role in shaping the Metaverse, as the concept has evolved beyond its initial concept, prompting the need for redefinition (Park & Kim, 2022a, 2022b). Furthermore, advances in mobile technology and deep learning have expanded accessibility to the Metaverse, enabling users to participate anytime, anywhere, with improved visual fidelity and language recognition for a more immersive experience (Park & Kim, 2022a, 2022b). Therefore, exploring the transformation of the Metaverse in education, its design principles, and associated research trends is crucial. Despite numerous literature reviews on numerous aspects such as Graphics, communications and visualization studies related to the Metaverse, no comprehensive conclusions and visualizations have been identified that summarize the findings in the context of education and practice.

Using bibliometric analysis of visual representations of key concept relationships (Yilmaz et al., 2019), this method provides a clear picture of the background of the research field, concept relationships, and potential future directions (Vogel & Masal, 2015). At the same time, content analysis is used to gain an in-depth understanding of the reviewed studies, which helps in identifying research topics relevant to the Metaverse. The study aims to address specific questions to achieve its objectives.

There are still many unanswered questions, such as what type of Metaverse should be adopted in different sectors, what factors influence the trend towards using Metaverse technology, and how evaluation methods are designed within the Metaverse. To fill this knowledge gap, the study conducts a systematic review of the literature related to the Metaverse.

2. Literature Review

The concept of the "Metaverse" has been subject to various interpretations, representing a transformative phase for the Internet - most famously - As a 3D virtual world, the user can interact and communicate with individuals, locations, and a wide range of objects, prompting understanding and thinking about this virtual world of different digital media activities. In contrast to traditional web browsing, the Metaverse offers an immersive experience by integrating Augmented Reality and Virtual Reality, allowing users to interact with different digital activities, diverse environments, and other participants within a shared space (Dwivedi et al., 2022).

Initial versions of the Metaverse were envisioned as virtual spheres that enabled the user to teleport, calling for understanding about these digital experiences designed by professionals in the field. Users can create alternative worlds, explore diverse digital experiences, and interact with others (Han et al., 2022). A more precise definition of the Metaverse may refer to the unique combination of different spatial and digital experiences in the virtual and physical worlds, which requires understanding this unique integration between the digital and physical worlds. It is an extended collective virtual environment that includes elements of online gaming, social media and virtual reality (Mozumder et al., 2022).

The rapid growth of extended reality, as indicated in predictions for 2022, prompted the Accelerator Studies Foundation (ASF) in 2007 to develop the Metaverse Roadmap, which defines four main types: virtual worlds, mirror worlds, life recording, and augmented reality (Joshua, 2017). By attracting a diverse user base, especially a younger demographic, the Metaverse has gained popularity across various services, including education, entertainment, and social interaction. Popular gaming platforms such as Fortnight, Minecraft, and ZEPETO have joined the Metaverse, allowing users to adopt avatars and participate in social, cultural, and political activities (Richter, 2023). As user numbers rise and platform business models diversify, new business models are emerging for the Metaverse as a cross-platform gaming space, which facilitates interactions between people and diverse experiences and adventures through virtual reality and augmented reality technologies, is central to these models (Knox, 2022). Factors that influence Metaverse technology include enjoyment, challenge, and telepresence, which positively influence flow and satisfaction (Aburbeian et al., 2022). Attitudes, behavioral tendencies, and actual use of the Metaverse are influenced by various factors such as perceived usefulness, perceived ease of use, perceived self-efficacy, perceived curiosity and perceived enjoyment. Virtual world experiences influence consumer behavior, as perceived usefulness, perceived ease of use, perceived self-efficacy, perceived curiosity, and perceived enjoyment have been identified as key factors driving interaction with the virtual world and the trend in using Metaverse technology (Seo, 2021).

2.1 Hypotheses Development and Research Model

2.1.1. Self-efficacy (SE)

Self-efficacy is a person's belief in his ability to complete any activity completely and integrate the behaviors associated with their usual routine (Bandura, 1992). Self-efficacy can also be defined in the previous step as the intention to adopt a certain behavior (Bandura, 1992). People with self-efficacy are more optimistic regarding the use of new information technology, find it easier to accept it, and have a high sense of satisfaction (Chung, & Dong, 2019, Choi et al., 2017). In other words, the expectations, and perceptions that one can study such that oneself selects, applies, and implements new technologies quickly have a positive impact on the Metaverse (Gharaibeh et al., 2021). A study by Aburbeian et al. (2022) discovered that self-efficacy affects the Metaverse, and it also confirms the validity of the relationship between self-efficacy and Metaverse applications. With these findings in mind, we hypothesize:

H₁: *Self-efficacy positively influences consumer's attitude to use Metavers technology application.*

2.1.2 Perceived curiosity

Perceived curiosity is the strong internal desire to acquire new knowledge, a force that motivates human activities and encourages the gathering of information. This definition calls for understanding how perceived curiosity stimulates activity and sustains learning search (Akour et al., 2022). Curiosity is linked to the passion to acquire and develop knowledge, this motivation enhances individuals to understand how to use technology and direct it to serve their interests. As a result, curious individuals appear to learn faster, which calls for understanding the relationship between curiosity and learning processes under ICT. and believe that the process of progress is easy and fun, and it is even easier to use these techniques (Lastowka, 2021). In general, people who are most interested in VR gear will be impressed by the Metaverse applications in VR. Consequently, we hypothesize:

H₂: *Perceived curiosity positively influences consumer's attitude to use Metavers technology application.*

2.1.3 Perceived pleasure

Perceived pleasure refers to the degree to which consumers care about information as they interact within a modern technological environment and perceive it as enjoyable and cognitively significant (Venkatesh et al., 2012). This high level of enjoyment plays a crucial role in enhancing users' understanding of Metaverse applications by making interaction fun. Users who find a particular technology enjoyable are more likely to consider it valuable and easy to use (Tamilmani et al., 2021), which positively influences their attitude toward the Metaverse (Mütterlein et al., 2019). Based on these insights, we propose the following hypothesis:

H₃: *Perceived pleasure positively influences consumer's attitude to use Metavers technology application.*

2.1.4 Perceived ease of use

Perceived ease of use (PEOU) pertains to users' beliefs regarding the simplicity of using a technology. Similar to Perceived Usefulness (PU), PEOU is a component within the self-efficacy perspective variable. Additionally, it is recognized as a crucial prerequisite for influencing users' attitudes toward Metaverse applications, as suggested by Davis et al. (1989) and Pavlou (2003). PEOU significantly contributes to shaping positive attitudes concerning the adoption of Metaverse technology, with Davis et al. (1989) noting its potential positive impact on individuals' perceptions of technology usefulness (Ma et al., 2017). Studies indicate that PEOU serves as a vital precursor to attitudes and business intelligence in the adoption of social media technology (Shin & Kim, 2008). When users find technologies easy to use, PEOU becomes a non-issue. Building upon these findings, we propose the following hypothesis:

H₄: *Perceived ease of use positively influences consumer's attitude to use Metavers technology application.*

2.1.5 Perceived usefulness

Perceived usefulness (PU) refers to individuals' belief in the usefulness of technology (Davis et al., 1989), and constitutes one variable within the concept of self-efficacy that affects the orientation in the Metaverse of technology and is a reason for the development process of Metaverse technology (Davis et al., 1989). PU has been identified as an important influence on users' attitudes and behavioral intentions (Davis et al., 1989; Pavlou, 2003). It is hypothesized that PU forms positive attitudes regarding the use of the Metaverse, which ultimately influences individuals to use business intelligence (BI) technology effectively. Davis et al. (1989) emphasized that PU plays an important role in shaping users' attitudes toward the use of Metaverse technology, influencing their behavioral intention to adopt or reject the technology.

PU stands out as the most pivotal variable influencing acceptance or rejection of the Metaverse. Previous research has shown the influence of PU on the acceptance or rejection of certain technologies by teachers and students in the educational sector. Springer and Schwaninger (2021) conducted an evaluation study on how PU affects students' engagement with four digital educational technologies, revealing that mobile VR scored lowest after three months of Metaverse use. The low PU level is due to the large time needed to prepare the VR sequence on mobile devices and technical issues. Luik and Taimalu (2021) found that PU is critical for female technology users, with positive attitudes towards the beneficial use of virtual reality (Scherer and Teo 2019). The analysis of intentions to integrate technology pointed out that PU, in more than 80 percent of primary studies, acts indirectly through attitude to predict Metaverse and also has a direct effect. Based on these ideas, we suggest:

H_5: *Perceived usefulness positively influences consumer's attitude to use Metavers technology application.*

3. Methodology

Within the framework of the literature review, the influence of argument quality and source credibility, the factors affecting Metavers technology application will be investigated. Because this study aims to examine the factors that support the tendency to use Metavers technology application, quantitative analysis is appropriate. The following subsections explain details of measuring variables and collecting data to analyze it. This approach provides an objective description of the phenomenon by utilizing data collected through the application of tools and methods used in scientific research (Nayeri & Aghajani, 2010).

3.1 Population and Data Collection

This study aims to know the influence of the factor on the tendency to use Metavers technology application in various sectors. A questionnaire was developed to collect study data and distributed electronically. The number of participants was (312) students' respondents.

3.2 Study Instrument

Previous research and studies related to the research topic were reviewed in this study, and the researchers benefited from previous reformulation studies related to the topic. The research instrument was developed by conducting a field survey using a questionnaire specifically designed for this purpose. A questionnaire was defined as a list of printed questions that were given to participants, which they were asked to complete and return to the researchers. The use of questionnaires allows for systematic data collection, enabling results to be generalized to the entire population when a representative sample of the target population is used (Rattray & Jones, 2007). The researchers administered and collected questionnaires from participants using Google Forms. Participants were asked to provide accurate answers to all questions, whether open or closed. The questionnaire included factors influencing attitude (as an independent variable) and Metaverse technology applications (as a dependent variable). A five-point Likert rating was used to evaluate responses to questions, where possible options were: "(strongly agree =5),) agree=4),) neutral =3),) disagree =2),) strongly disagree=1).

4. Results

This section presents the results of the study that was achieved using analysis of the study data in SPSS.26. and Smart PLS. The first section presents the descriptive statistics of demographic data for respondents and the second section presents the test of study hypotheses that were conducted using simple linear regression.

4.1 Demographic data for respondents

Table 1 presents descriptive statistics for respondents' demographic data including the frequency and percentage for each of them:

Table 1
Descriptive statistics of demographic data for respondents

variable	Category	Frequency	Percent
Gender	Male	194	62.2
	Female	118	37.8
Age	Less Than 22 Years	61	19.6
	22–35 Years	78	25
	36–50 Years	101	32.4
	More Than 50 Years	72	23.1
Education	College	70	22.4
	University	176	56.4
	Postgraduate Or Above	66	21.2
Employment	Public Sector Employee	61	19.6
	Private Sector Employee	101	32.4
	Own Business	72	23.1
	Student	78	25

The results presented in Table 1 show that the males in the study sample were (62.2%) of total respondents, while the females were (37.8%) of total respondents in the study sample. With regard to the age of respondents, the largest percentage of study samples were in the age group (Between 36–50 years old) as they reached (32.4%) of the total study sample. Most of the respondents hold a university degree (56.4%) and 32.4 %work in the private sector as employees.

4.2 Internal Consistency of Reliability

Internal consistency of reliability refers to the degree to which all components of a given scale measure the concept of that scale (Sun et al., 2007). In organizational research, Cronbach's alpha and composite reliability coefficients are commonly used indicators to estimate the composite reliability and internal consistency of a scale, especially for a scale on multiple items (Peterson & Kim, 2013). In this study, the reliability coefficient based on Cronbach's alpha was found to evaluate the internal consistency of the adapted scales for several reasons. Scholars argue that the composite reliability coefficient provides a less biased estimate of reliability than Cronbach's alpha. This is because Cronbach's alpha assumes that all indicators contribute simultaneously to the parent construct, without considering the individual contributions of each component. Moreover, unlike Cronbach's alpha, which may lead to underestimation or overestimation of scale reliability, composite reliability acknowledges differences in item loadings in the model, similar to Cronbach's alpha but with a more nuanced interpretation. As shown in Table 2 and Fig. 2 the composite reliability coefficients for the study constructs indicate the internal consistency of the latent variables was satisfactory, as all of them exceeded the acceptable minimum of 0.70.

Table 2
Reliability and internal consistency results

Factor	Item Name	Factor Loading	Cronbach's Alpha >.7	Composite Reliability (Cr) >.7	AVE >.5
BI	BI1	0.85	0.709	0.837	0.632
	BI2	0.701			
	BI3	0.827			
CUR	CUR1	0.798	0.754	0.838	0.522
	CUR2	0.673			
	CUR3	0.841			
	CUR4	0.814			
	CUR5	0.793			
PEU	PEU1	0.788	0.753	0.843	0.573
	PEU2	0.786			
	PEU3	0.733			
	PEU4	0.719			
PU	PU1	0.758	0.859	0.895	0.588
	PU2	0.758			
	PU3	0.7			
	PU4	0.787			
	PU5	0.753			
	PU6	0.844			
Pp	Pp1	0.793	0.765	0.85	0.591
	Pp2	0.821			
	Pp3	0.817			
	Pp4	0.819			
SE	SE1	0.777	0.708	0.833	0.625
	SE2	0.861			
	SE3	0.728			

4.5 Discriminant Validity

Discriminant validity is a form of validity that signifies the measurement model of a construct is devoid of redundant items, demonstrating that a construct is distinct from other constructs by empirical standards (Fornell & Larcker, 1981). To assess discriminant validity in Smart-PLS, various criteria are employed, with Fornell and Larcker being one of the widely used methods. The details of this method will be discussed in the following section.

4.6 Variable correlation using the Fornell–Larcker criterion

Table 3 presents the results of the multivariable correlation analysis using the Fornell-Larcker approach to evaluate the discriminant validity of the measurement model. According to the method defined by Fornell and Bookstein (1982), discriminant validity is determined when the square root of the average variance extracted (AVE) is greater than the correlation between the factors that comprise each pair. In another way, the AVE values should exceed other off-diagonal relationships in the rows and columns, which is what the correlation matrix represents in this study. This confirmation indicates discriminant validity of the terms of the predictor variables.

Table 3
Reliability and internal consistency results (continuation)

	CUR	PEU	PU	Pp	SE
CUR	0.723				
PEU	0.55	0.757			
PU	0.682	0.717	0.767		
Pp	0.626	0.٦57	0.7٠5	0.769	
SE	0.572	0.703	0.477	0.666	0.791

4.7 Hypotheses Testing (Path Coefficient)

This section discusses the findings of the path coefficient used to test research hypotheses. The finding of direct effect hypotheses of the Metaverse on the supply chain (Awarance, Engagement, Experience and interest) (H1, H2, H3, H4, H5), presented in Fig. 2, and Table 4.

Table 4
Hypothesis testing of model

	Original sample(O)	Sample mean	STDEV	T statistic	P value	
CUR → att. Meta	0.35	0.343	0.116	3.017	0.003	supported
PEU → att. Meta	0.228	0.165	0.077	2.943	0.014	supported
PU → att. Meta	0.268	0.281	0.077	3.468	0.044	supported
Pp → att. Meta	0.453	0.411	0.102	4.462	0	supported
SE → att. Meta	0.316	0.225	0.076	4.142	0.047	supported

Notes: Significant level at α=0.05,

Table 4 shows the assessment of the full model. The result of the study confirms four direct effect hypotheses which are; **H1** which is related to the impact of the Perceived efficacy on the Metaverse (beta =0. 316, P= 0.047), **H2** which formalized to examine the impact of Perceived curiosity on the the Metaverse (beta =0.35, P= 0.003) and **H3** which is related to the impact of Perceived pleasure on the Metaverse (beta =0.453, P= 0.000), while the result of the study support **H4** which is related to the impact of Perceived ease of use on the Metaverse (beta =0.228, P= 0.014). **H5** which is related to the impact of Perceived usefulness on the Metaverse (beta =0.268, P= 0.044).

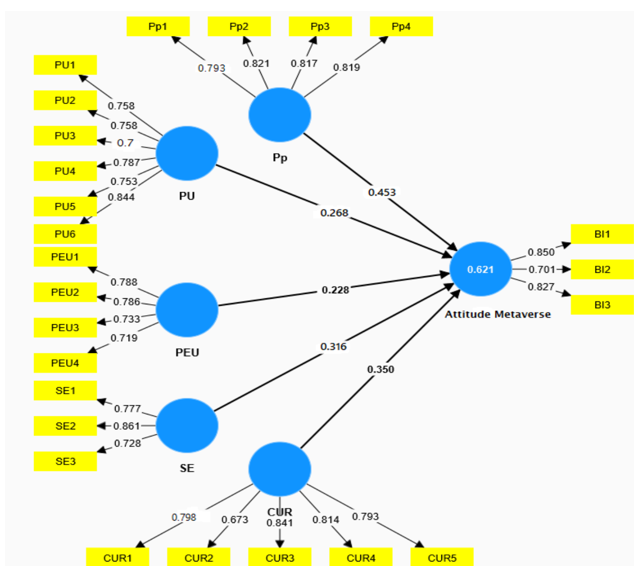

Fig. 2. Path analysis for the research model

5. Conclusions and Discussion

This study has examined the integration of metaverse technology and the determinants that facilitate its adoption, with the aim of understanding users' propensity towards leveraging the metaverse .The research brings together the various factors that influence users' willingness to engage with the metaverse. Using a variety of data collection models and methods, including survey data, the study has used structural equation modeling and qualitative comparative analysis to evaluate the construct of the indicator system, test the feasibility of hypotheses, and analyze the interaction between independent variables that contribute to the functioning of the indicators of technology application metaverse. The research has delved into the factors that influence support for adoption of metaverse applications, leading to specific findings. First, the empirical results from the structural equation model reveal that perceived usefulness, perceived ease of use, perceived self-efficacy, perceived curiosity, and perceived enjoyment significantly and positively influence users' attitudes toward using the Metaverse app. It is worth noting that perceived enjoyment emerges as the most influential motivating factor, followed by perceived curiosity, with ease of use being the least influential of all factors.

In previous related research, factors influencing metaverse technology have been identified with respect to BI, SE, PU, and PEU (Akour et al., 2022; Fatima et al., 2017). This suggests that individuals with high levels of innovation, persistence, and understanding of technology are more likely to adopt and develop new technologies and acknowledge that the adoption process will not be straightforward at first. Thus, knowledge of the factors influencing metaverse technology stimulates business intelligence which facilitates the successful adoption of new learning and business technologies, by employing Metaverse-based technologies and applications, it has shown that individuals with a high passion for technology tend to approach challenges with enthusiasm and recognize them as opportunities for personal development. This calls for thinking about how passion for technology influences individuals' response to challenges and how to turn them into opportunities for growth. By exploring new technologies and experimenting with their capabilities, these people can enhance their expertise and enhance their confidence in the effective use of information technology, including the metaverse.

Additionally, innovative decision makers appear to experience less complexity when it comes to using new educational technologies such as the Metaverse, due to their technical proficiency. Technical discrimination affects the ability to make decisions effectively and deal with challenges in the context of advanced educational technology. This positively affects their perceptions regarding the use of these technologies. Specifically, they are expected to find modern Metaverse-based educational and scientific technologies more accessible and easier to use.

5.2. Implications

Knowing the factors that influence metaverse technology increases our understanding of the metaverse and accreditation in practical and scientific applications. The results of this study add to the importance of factors affecting metaverse technology application. This technology has been a fascinating topic, and a great deal of research has been conducted, which calls for our understanding of developments in this field., but its potential practical applications in projects are lacking Because it did not receive much attention. As a result, our study enriches this knowledge and provides useful insight into the adoption of Metaverse technology in organizations. The proposed model successfully has explained 62.1% (R^2=0.621) of the variance of orientation for the Metaverse technique (building results). This has explanatory power, and it is considered satisfactory. Moreover, this research is believed to be one of the few that has been done to explore the critical factors that influence Metaverse adoption intentions. Thus, the results of this study provide insights that can be useful. This study can be completed as a booster for similar investigations into the metaverse and improving effects and the factors that affect the trend towards metaverse technology in the future.

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