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**THE EFFECT OF DIGITAL MARKETING ON
CONSUMER PERCEPTION**

METaverse AND TECHNOLOGY ACCEPTANCE MODEL (TAM)

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ABSTRACT

THE EFFECT OF DIGITAL MARKETING ON CONSUMER PERCEPTION - METAVERSE AND TECHNOLOGY ACCEPTANCE MODEL (TAM)

The marketing environment has shifted significantly over the past decade. Print media gave way to email marketing, which then gave way to social media marketing and the world's most advanced digital marketing strategy is anticipated to be metaverse marketing therefore, this makes very vital that business's long-term plan should include a focus on digital marketing transformation. The 'Metaverse,' a hyper-connected digital world, holds the potential to profoundly alter how consumers, brands, and businesses will conduct business and engage in a flawlessly connected space of virtual realities. The potential of the metaverse is being driven by two trends: (i) consumers engaging in and conducting business in virtual environments; and (ii) businesses investing millions of dollars in creating technology connected to the metaverse. There is, however, a lack of clarity regarding the current scope of the metaverse and the consequent implications for marketing practice and research in Turkey due to its rapid evolution and it resulted as worldwide businesses, but especially those in Turkey, rely their marketing efforts on internet of things (IoT) and simple digital tools.

The purpose of this study is to assess, via the use of TAM variables, the impact that Metaverse has on consumer perception and attitude. This thesis will serve as the foundation for an experimental study to ascertain whether companies need to adapt their marketing strategy to include AI - based and cutting-edge technology like virtual and augmented realities. In order to assess the potential of Metaverse in business marketing tactics, the study proposes an organizing framework for the developing metaverse by integrating the results of a thorough literature survey across several disciplines and the professional opinions of leading business figures. The author then discusses the consequences for marketing practice of how the metaverse affects consumer perception and overall intention toward specific items. At the end of the study, findings will be statistically examining the impact of marketing techniques on consumers' attitudes and behavior intentions toward them.

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Finally, I dedicate Halimo and Salah, my dear parents, whom I devote this study to.

Istanbul, 2023

Sacad Salah Yusuf

LIST OF ABBREVIATIONS

SEO: Search Engine Optimization

AI: Artificial Intelligence

AMA: American Marketing Association

UGC: User-Generated Content

DM: Digital Marketing

e-WOM: Electronic Word-of-Mouth

ICT: Information Communication Technology

CRM: Customer Relationship Management

ROI: Return on Investment

SME: Small and Medium sized Enterprises

TAM: Technology Acceptance Model

PU: Perceived Usefulness

PEOU: Perceived Ease of Use

UTAUT: Unified Theory of Acceptance and Use of Technology

TPB: Theory of Planned Behavior

TRA: Theory of Reasoned Action

RFID: Radio Frequency Identification

SN: Subjective Norm

ATU: Attitude Towards Use

BI: Behavioral Intention

PE: Perceived Enjoyment

MOD: Multimedia on Demand

VR: Virtual Reality

AR: Augmented Reality

3D: Three Dimensional

NFT: Non-Fungible Tokens

PC: Personal Computer

B2C: Business to Consumer

Gen-Z: Generation Z

EFA: Explanatory Factor Analysis

KMO: Keyser-Meyer-Olkin

AVE: Average Variance Extracted

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1. INTRODUCTION

1.1 OVERVIEW – BACKGROUND

Marketing, other than advertising, selling, and delivering products is a social and management process continues throughout the life of the product to retain customer loyalty and attract new ones by providing value market offering. Marketing is a big player in the company's sales missions and agendas where it enhances brand attractiveness and consumer perception. Companies were always using the latest marketing competitive techniques to promote their products, increase their market share and make huge sales. In the past hundred years, most of the companies were operating in customary marketing practices by utilizing the available resources such as Radios, Newspapers, Television and site visiting or face to face marketing. Although these approaches were enough to cover a small group of consumers in a particular local area, they weren't able to globalize their products (Kotler et al., 2008).

As the digital age took off in 1990s, digital marketing was found to be an effective practice to promote products and brands which was then the latest technique that a company can use to enhance their marketing campaigns. Digital marketing, which most often refers to online marketing, is a strategy for connecting with huge audiences of people by promoting brands and products online and through other digital communication channels. Social media, websites, electronic mail (e-mail), content marketing, search engine optimization (SEO), and visual advertising are all included in this. Digital marketing enhanced brand awareness which is the extent customers familiar with the brand and know the products and services provided by the brand, and as marketing campaigns spreading to large samples of public, customer perception towards the brand has been resulted (Jorge, 2021).

Customer perception is the customers' opinions and views of the brand products whether it is direct or indirect experience they had about the product. Customer perception has always been growing parallel to the marketing approaches, because of this in the digital era customer perception has shifted into another level effected by the internet and online interactions between the brands and customers. Digital marketing made easy for marketers to influence the market and convince

products to new customers who haven't purchased yet by using content marketing such as videos, blogs about the products and user experience and web landing pages (Kevin and Denish, 2022).

Digital Marketing technologies have provided businesses with the necessary development to improve their performance. The brands have been able to deliver and value their customers by using the internet as one of the most essential means of communication, allowing them to provide a better product. Today's businesses employ digital marketing not only to advertise their goods but also to learn more about their rivals and get a competitive edge. It's also utilized to interact with clients directly by letting them provide input to remedy problems right away (Tuten and Boudet, 2016).

In 2022, the virtual reality profits are anticipated to increase to 6.71 billion US dollars, doubling that amount to 12.19 billion US dollars by 2024 and this is changing how marketers approach customers and the entire marketing industry. Customers have been going with the new digital marketing campaigns which resulted high expectation of Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) of the technology, not only for customers but also companies as they saved tons of money used to spend to promote products (Tracy et al., 2018).

In this study, it will be discussed about the future of marketing in the Metaverse world and its technology acceptance model. Analyzing how Metaverse effects the consumer perception and attitude as well as the roles of artificial intelligence and robotics in the future of marketing. The future of marketing will be a fun journey as we adjust to new ways of reaching consumers through virtual reality, augmented reality, and mixed reality. By putting the consumer right in the midst of our message, let's measure if whether or not these technologies will enable us to get closer to them than ever.

1.2 The significance of the study

According to marketing scholars Boudet, Cvetanovski and Gregg (2019), 83 percent of global CEO's consider marketing as a major growth driver for most of the companies. In the modern marketing, marketers need to have better knowledge about the future of marketing and the technological growth to find ways of reaching out the consumers in a competitive advantage approach.

The goal of the study is to ascertain how the metaverse affects consumer behavior and perception and to measure the technology acceptance model of Metaverse and future of marketing for firms and marketers. The study will also provide useful insights of consumers' PU and PEOU of the Metaverse and their expectations in the future by conducting comparative survey and analyzing the collected data to know the correlation between the Metaverse measuring parameters and consumer perception. It will enable for the marketers to have a good knowledge about the future of marketing and the Metaverse and how they can collaborate modern technology to approach their target market.

The main importance of this study lies on any company trying for the suitable ways to achieve better marketing strategies in the race to the digital era and any firm that uses traditional marketing approaches. The study lights up the impact of digital marketing mainly Metaverse on the consumer perception and how firms could be able to adapt it. This study will also provide key insights of Metaverse and its technology acceptance model in the marketing world, knowledge of future of marketing and those that use digital marketing to proceed and develop it.

The study's insights will also offer vital information that will aid businesses, the public sector, the government, as well as marketers, in defining new strategies and tactics for the Metaverse and digital marketing.

The results of this analysis will also give academics and aspiring academicians important information about the effects of marketing's use of the Metaverse on consumers' perceptions and the field's future. Additionally, it will add to the corpus of knowledge in the area of study.

1.3 Research aim

The purpose of this study is to evaluate and investigate the of Metaverse on consumer perception, analyze the relationship between the Technology Acceptance Model (TAM) of Metaverse and consumer perception, study the future of marketing on consumer perception. To know the technology acceptance model of digital marketing and the roles of Metaverse and AI in the future of marketing.

1.4 Research objectives

- a) To study the effect of consumer perception on Metaverse.
- b) To examine how consumer perception towards Metaverse is affected.
- c) To study how behavioral intention of consumer is affected.



2. LITRATURE REVIEW

2.1 DIGITAL MARKETING

2.1.1. Overview

In order to fully understand the theory in the field of digital marketing through exploring research in the area, and to serve as a reference point for future studies in the industry, we will examine key definition, method, viewpoint, and concept in this chapter and establishing a link between the consumer perception with its all kinds and the Metaverse in marketing approaches and how it influences overall customer feedback and retention. The chapter goes from marketing definition, its importance, today's marketing and the background of Metaverse and its types and how it's used, technological acceptance model of Metaverse to all the way at future of marketing and AI.

2.1.2. Today's marketing

Marketing is a dynamic, ever-evolving, and restless corporate activity. Due to a number of crises, including terrorism and war, energy and material shortages, inflation, economic downturns, high unemployment, dying industries and companies, and effects of quick technological advancements in some industries, the role of marketing has undergone a significant transformation. A formalized method of gathering precise and timely information about customers, products, the marketplace, and the overall environment is now necessary due to such changes, including the internet, which have forced today's marketing executive to become more market driven in their strategic decision making (Bala et al., 2018).

As per American Marketing Association (AMA) (2019), Today's marketing is the action and process that aims to develop interactions with consumers, partnerships, and the general public in order to offer value in exchange of profit and to develop it will engage consumers.

Marketing is essential to the success of both large and small businesses in order to boost consumer engagement and brand awareness. Technology's development and uptake has a significant effect on marketing. As of January 2020, Statista which is an online platform specialized in market and consumer data and offers statistics and reports, estimates that 560 million individuals in Asia

utilized mobile devices to access the internet (Diwanji, 2020). After the advent of digitalization, businesses started combining traditional and digital marketing.

Word-of-mouth (WoM) marketing is a tactic used to generate natural discussions about recommendations for a product or company. The electronic word-of-mouth (e-WoM) is another factor in digital marketing that is also crucial for digital marketers (Saura, 2019). Because the implementation of digital marketing techniques implies significant benefits to e-business, these new trends emphasize the necessity to adapt traditional marketing communication strategies to a digital environment (Saura, 2017).

To comprehend the significance of digital marketing, refer to the Hootsuite and We Are Social Digital (2021) studies. In January 2021, 67% of individuals globally utilized just mobile devices to access the internet, 57% used the internet, and 45% actively used social media, of which 42% were mobile. The use of mobile devices with internet access has grown, which has sped up the rate of innovation in marketing strategies and technologies.

The rapid advancement of artificial intelligence and machine learning, which enhance the capabilities of technology and enable it to adapt to various needs, has brought about a critical turning point in both technology and digital marketing. Businesses will be able to cut costs and boost revenue by implementing Metaverse and AI in general in 2023, providing them an advantage over their rivals (Dave, 2019). 28% of marketers utilize artificial intelligence for campaign optimization and 26% for product recommendations (Membrillo, 2018).

Consumers often look for products and services using digital communication channels. It is now a common occurrence in people's daily lives. There are now 4.1 billion users of the internet, 92% of whom access it through their mobile devices (Stephen, 2016). Currently, 3.56 billion people use social media regularly worldwide (Dazeinfo, 2018). In their capacity as consumers of goods and services, the vast majority of people heavily rely on social media and digital marketing to learn more about the products they buy and to share their personal experiences with others. Thus, this responds to the marketers of this essential transformation by utilizing more digital marketing platforms (Salloum and Shaalan, 2018).

Users are progressively becoming more knowledgeable because to the accessibility of boundless sources of insights. Menedez (2020) asserts that individuals today look up information on their

own, produce content often referred to as User-Generated Content, (UGC), and share it benevolently on social media, promoting communication and cooperation amongst anonymous users.

The quick growth of a tech culture has had a significant impact on marketing and communications, radically changing the job of the brand creator. The focus is now on Information Communication Technology (ICT)'s revolutionary power, providing a glimpse into what's possible and how we can utilize it to produce amazing consumer journeys across a variety of media, including print and digital (Reketye, 2020).

The gap between purchases motivated by emotional dimensions and purchases motivated by need is fading, and the dynamics of buying behavior are shifting as a result. To improve the purchase experience, a virtual marketer can now be placed in front of a customer to anticipate their requirements and preferences. The digital inclination of today's age has revolutionized the concept in which consumer relationship and communication are becoming more personalized. Contextual marketing and personalization are now more approachable and effective than ever before. Even a tiny business may execute a comprehensive contextual and relational marketing campaign, serving and communicating the widest possible diversified client group, with advanced data crunching and machine learning tools operating in tandem (Kilzi, 2020).

As the study's author opinion, a requirement for the expansion of an organization is the ability to recognize When conducting economic operations that call for a target market and improved Customer Relationship Management (CRM), consider internet marketing advances and use the proper digital marketing instruments. Data transparency, bots, virtual assistants, Augmented Reality (AR), machine learning, the Metaverse, artificial intelligence and video marketing and personalization are some important trends that could be predicted to grow over the next decade.

2.1.3. Importance of Today's marketing

Today's marketing is important for building relationship with the customers and the overall CRM and it is built on trust, understanding, and pride. In making connections between customers and businesses, marketing is essential. In order to guarantee that what is guaranteed is fulfilled both before and during the sale, it works closely with the product team. Customers get a stronger sense of brand loyalty as an outcome of their interactions with the business and their exposure to the

product through marketing, which gives them the assurance to make additional purchases and repeat previous transactions.

By this year 2022, according to Ali, (2019), Voice recognition artificial intelligence technology will be used by roughly 1.8 billion people as these technologies have already entered the enterprise and are no longer just for personal use. The virtual digital assistant industry is anticipated to grow off 2017 levels to reach 3 billion and 15.79 dollars by 2021.

As per Armstrong et al., (2020), today's marketing focuses on customer-centric mindset, of course, putting customers first is not really a radical concept. What's new today is that marketers have clear proof that addressing customers' wants adds value and gives them a competitive advantage. Modern marketers must also be mindful of the complexity and scale challenges that they must overcome in order to attain client centrality. They entail commitments to a number of elements, including a design-thinking approach to resolving customers' problems and unsatisfied needs; a centralized data marketplace with a cohesive customer's view culled from all possible touchpoints; the continual collection of customer-journey insights; the measurement of everything consumers view and engage with; and the employment and development of exceptional individuals who know how to translate customer insights into interactions that engage with customers.

Businesses started utilizing the advantages of the current digital era, particularly when promoting their brands. Digital technologies are crucial to their company operations and client connections, making it easier for them to interact with and get to know their customers. On the other hand, customers may find out more about the company and how it operates while comparing their thoughts and experiences with those of other products and services. Numerous platforms and domains under digital marketing assist us in communicating with our (possible) customers as well as promoting, presenting, and selling our goods and services (Daliborka et al., 2020).

2.1.4. Digital Marketing

The term digital marketing is a variety of promotional methods used to connect with customers online. Similar to traditional marketing, it's critical to use analytical tools and Return on Investment (ROI) to track the performance of digital marketing. Simply said, digital marketing is the combination of marketing and technology. Web marketing, internet marketing, and online marketing are further terms for digital marketing. Respectively an inward and outward movement

is present. It helps spread awareness, entice new customers, and close deals. Additionally, target buyers use search engines on their own to look up information, products, or services online (Neeti, 2020).

Digital marketing is the process of promoting products and services to consumers via digital platforms. This type of marketing makes use of websites, mobile devices, social media, search engines, and other channels that are similar. Digital marketing gained popularity in the 1990s with the advent of the internet. Digital marketing is typically seen as a cutting-edge approach for firms to connect with clients and understand their habits. It has some of the same principles as traditional marketing. In commercial ventures, conventional and digital marketing strategies are regularly employed (Barone, 2021).

Digital marketing, also referred to as online marketing, is the process of promoting brands using the internet and other digital communication channels in order to interact with potential customers. This comprises text and multimedia messages including audio files, video messages, and other types of messages in addition to email, social media, and web-based advertising as marketing channels. Digital marketing refers to any marketing effort that uses digital communication (James, 2021).

Wibisurya, (2018) provided evidence that the use of digital marketing had a substantial impact on consumer buy intent, appealing content, personalization, and customization while Poturak and Softic, (2019) also demonstrated a strong impact of digital marketing on customer relationship management through the exchange of customer and business feedback.

Digital marketing is a cutting-edge strategy in the area of online marketing that affects client involvement on a wide range of interfaces, as according to (Garca et al., 2019) These include Social Networks, Smartphone Apps, Blog, E-mail, and Search Engine Optimization tools. Sawicki (2016) defines digital marketing as the investigation of the vast digital technical environment that has acted as a platform for establishing connections with a sizable population of potential customers. Additionally, digital marketing has enormous potential for promoting products and services through an immediate internet connection e-commerce channel (Chaffey and Chadwick, 2019).

It is essential to attract and retain customers online because an increasing number of individuals Utilize the internet continuously. Businesses may grow by engaging with prospective customers

in a timely manner online. As a result, businesses around the world are coming up with inventive and effective strategies to market their products online in the present climate in order to increase their customer base. Digital marketing is the umbrella term for all information technology-based marketing initiatives. The various strategies that are featured include site advertising, Engine Optimization, pay-per-click advertising, E-mail campaigns, social media marketing, affiliate marketing, mobile marketing, video marketing, content marketing, etc. Depending on the type and size of their enterprises, firms must use digital marketing strategies to flourish in a fiercely competitive digital market (Neeti, 2020).

Digital transformation was evident in the impact of digital technology on the publishing and music industries, as well as in e-commerce (online marketing for sale and purchase). However, most recently, the term digital transformation refers to the creative technologies that firms have employed to alter their business operations and gain long-term competitive advantages. In an effort to discover digital transformation, Fitzgerald et al., (2014), advocated using cutting-edge digital technology to greatly enhance profitability. Maintaining the interests of current consumers is a key component of digital marketing, or it might be further explained to mean that the customer is the focus of a company's attention. For firms that use digital technology, Garcia, (2019) also made the point that these organizations need undergo a full digital transformation since Digital is the transformation agent, not the transformation.

Marketing automation was introduced in 2007 as a response to the current marketing climate. The use of technology to replace conventional marketing procedures is known as marketing automation. Businesses employed marketing automation to segment their customer bases, carry out several marketing campaigns, and give customers individualized information based on their behavior. A user's action consequently generates a personalized message in the platform of the user's choosing. Despite the benefits of marketing automation, a lot of businesses struggle to integrate technology into their daily operations (Warwick, 2019).

As the study's author opinion, digital marketing is the act of promoting products using internet as mediate tool to reach wider target consumers in different demographics to engage their buying behavior and convince them to make purchase.

2.1.5 Importance of Digital Marketing

Everything evolves swiftly in the specialized sector of digital marketing, therefore it's important to predict what firms will require in a few years. As companies learn more about the value of digital marketing and the obligations that go along with it, they are spending more in it (Zalne, 2017).

The introduction of digital marketing has altered the nature of the global economy, and consumer power has become increasingly dominant (Buttle and Maklan, 2019). Business, audience, and a number of other groups now communicate differently thanks to digital technologies. Digital technology is the term for the application of cutting-edge technology to marketing goals (Chaffey and Smith, 2017).

Digital marketing, which is an adaptable, digitally supported process, enables companies to collaborate with customers and partners to jointly create, convey, deliver, and sustain value for all parties (Kannan, Li, 2017). Digital marketing requires the management and use of the "5Ds of Digital": Digital devices, Digital platforms, Digital media, Digital data, and Digital technology (Chaffey, 2018).

The rules of marketing have been completely transformed by digital technology, and many traditional marketing strategies have been rendered useless (Kingsnorth, 2019). Wibisurya, (2018) showed how the use of digital marketing has a favorable impact on consumers' purchase intentions, with particular emphasis on the importance of appealing content, personalization and customization.

Digital marketing is booming as a result of the growing use of digital technology, including Smartphones, Intelligent devices, the Internet of things, and Artificial Intelligence (Berg et al., 2020; Jianjun, 2021). This has a huge effect on business success and is changing how marketing strategy will be in the future (Buttle and Maklan, 2019). According to Algharabat et al., (2020), smartphones provide additional benefits in the form of quick access to services compared to the organization's traditional services, which has the potential to considerably boost business performance.

By integrating with social media, businesses have the opportunity to lower their marketing expenses relative to traditional marketing as a result of the development of digital technology. However, it can be difficult for marketers to select the ideal combination of digital marketing strategies to build brand recognition and achieve the necessary company performance through ongoing customer feedback (Tamrakar et al., 2018). Additionally, digital marketing can encourage a variety of clients to establish productive connections with the business through digital media and guide them in the procurement process (Lodhi and Shoaib, 2017). By sharing the thoughts, opinions, and experiences of consumers,

digital marketing effectively increases the value of the brand and improves customer relationships and corporate performance (Wai et al., 2019).

The manner in which companies interact with their clients has changed over time. In order to allow place for a fresh face to enter the market, traditional marketing has reversed course. Our desire for change and our efforts to bring it about have caused many things to take a new turn. While some of the more traditional marketing approaches still exist, they are now far more widely used than we previously realized (Mckinsey, 2020).

As the study's author opinion, an entirely new market has emerged because to the internet. If you aren't implementing digital marketing, your firm will stagnate because it has become standard for a successful enterprise. There are several ways that digital marketing may help businesses. It might potentially boost visibility and revenues. After all, your primary goal as a business owner is to maximize earnings.

2.1.6. The impact of digital marketing on consumer perception

The widespread usage of the Internet for marketing purposes began fifteen years ago. With the growing number of users and the advancement of the Internet, new opportunities for digital advertising are emerging. Better consumer control, decreased sales expenses, it is measurable and less expensive, it is simpler to reach the target audience, and we can build a strong brand are the key advantages of digital marketing. In recent years, the share of allocation for online advertising has continuously increased, while the share of allocation for other channels of advertising has remained unchanged. In the digital era, a product is intangible and must be presented as genuinely as possible without changing or distorting the product's attributes or specs (Roncovic et al., 2019).

Digital marketing is a kind of inbound cycle that enhances CRM's emphasis on awareness, learning, and market change by analyzing the needs and perception of customers through specific feedback and assessments (Gupta, 2019). Tracking digital marketing, obtaining user reviews, and personalizing marketing techniques all help to foster customer relationships (Ramesh and Vidhya, 2019).

By influencing the consumer's search behavior and time spent browsing the services of the market, digital marketing also influences the customer's purchase intention. Businesses that offer services

work hard to engage both current and potential clients to their websites; this is only achievable by taking into account how digital marketing affects customer interactions (Wong et al., 2019).

The use of CRM provides customers with more tools for data mining, greater comprehension, and access to strategic marketing data, which helps minimize costs by using ineffective marketing strategies. Additionally, digital transformation in the insurance industry can be advantageous in terms of cost savings, accuracy, flexibility, and speed of work. It will also unquestionably increase the competitiveness of the insurers. Insurance companies will launch new products and create various marketing platforms as a result of digitalization (Wong, 2019).

According to Ancillai, (2019), using social media platforms enhances sales and has an impact on relationship and customer performance, as well as organizational and brand performance. With the shifting landscape and fast-moving trends such as interactive chatbots, influencer, and micro influencer marketing, voice search aids in understanding the customer decision-making process, which can be difficult for businesses to understand (Shaw, 2018). Knowing the consumers' perception, behavior, wants, purchasing intentions, access to the technology, and how digital channels engage consumers more successfully in buying decisions are all important aspects of digital marketing (Kumar, 2016).

Amounts in which social media has a significant role in shaping and modifying customer perceptions that influence their purchasing decisions. Customers in today's corporate world want fast access to information that guarantees them viable solutions to their product-related problems. Customers were able to get precise knowledge about the products thanks to a stable visibility of the company's brand via digital marketing channels (Phalle, 2020). Customers' perceptions of value, co-creation, contentment, attitudes, and brand loyalty are all influenced by digital marketing (Laroche, 2013; Chen, 2019; Kamboj, 2018).

Customers directly investigate products via the internet, according to Phalle (2020), while browsing company websites and connecting directly with sellers. Customers have a proclivity to incorporate logical behavior that influences the achievement of efficiency within their decision-making process, in order to achieve cognitive consistency through their decisions while reducing perceived risk connected with future choices.

The explanation for positive customer perception of digital marketing was proved in a study using qualitative analysis (Confos and Davis, 2016). Customers also believe that digital marketing allows them to access a large number of items and services that they want, allowing them to make their own decisions. Even during the COVID-19 crisis, internet marketing made shopping simple for customers, with no need for contact information and a variety of payment options. According to Sathya, (2017), customers view digital marketing and online shopping to be more user pleasant than visiting physical establishments. Its increasing rise can be seen as a reflection of customers' growing positive perceptions of digital marketing.

Despite social media's increasing popularity, 40% of small businesses still do not use it in their day-to-day operations (Mckeeon, 2019). Small businesses do not, however, always use social media. Additionally, according to the study articulated by Mckeeon, it shows that a third of small enterprises said that social media, digital advertising, E-mail marketing, SEO, content marketing, and print ads/direct mail were not part of their marketing strategy.

This is probably because small and medium-sized businesses can only devote, on average, two hours per week to marketing. Feldman (2019) notes that there appears to be a difference between Small and Medium-sized Enterprises (SME) that incorporate social media into their regular marketing strategies and those that do not.

Because of their 24/7 availability, high interactive feature, and ubiquity, digital marketing activities that are encompassed by any channels (social networking sites, online games, applications, websites, emails, or mobile phone text) are firmly popular (Nunan and Di Domenico, 2019). Digital marketing, according to Pelsmacker et al., (2018), is more influencing and active than traditional marketing since it allows businesses to communicate directly with their clients without delay.

In conclusion, with the globalization of digital tools, marketers may now reach customers at any time and from any location (Al Kurdi and Al-Emran, 2019). Customers nowadays use innovative digital platforms to find product information and services related to the value, quality, and inspections of various products (Alghizzawi et al., 2022). Over 4.1 billion people use the internet, and between 93 and 95 percent of them access it through their mobile devices (Chaffey, 2021). Consumers can use digital marketing channels to learn more about the things they want (Salloum, 2018).

The Central Statistical Bureau which is one of the first institutions which was created to coincide with the statistical emergence of Kuwait and Central Asia, reports that since 2018, online purchasing trends have not altered much, indicating that consumers continue to engage in specific online shopping activities. Businesses utilized their websites to primarily provide clients with the opportunity to become familiar with the characteristics of services or products and the pricing list in 2018. To preserve their position on the market and attract new customers, businesses must change how they interact with their clients through the platforms they employ. They must be aware of and adjust to consumer behaviors in order to achieve this.

As the study's author opinion, the portability and accessibility of technology affect consumer behavior and aid in the transformation of conventional corporate structures. One important aspect of the digital transformation could be the capacity of customers and people to adopt new technology. Digital transformation also has an impact on the development and use of digital marketing tools.

2.2. TECHNOLOGY ACCEPTANCE MODEL (TAM)

According to Allen, (2020), the Technology Acceptance Model (TAM) is a customer-centered approach to measuring new technology uptake. TAM is generally credited to Fred Davis, who developed it in 1986 while working at the University of Michigan's Graduate School of Business Administration's Computer and Information Systems department. Despite the fact that there are now many modifications of the model.

2.2.1. Original TAM

The original TAM (Davis, 1989), which used concepts from the Theory of Reasoned Action (TRA) (Fishbein and Ajzen, 1975), highlighted perceived usefulness and perceived ease of use as two key factors influencing intention to use a technology. As a mediating factor between these two variables and behavioral purpose, a third construct, attitude, was included. Furthermore, it was proposed that actual usage may be predicted from behavioral intent. To test these theories, two studies were done. The initial experiment involved 120 IBM employees. The technologies included XEDIT, a generic editor, and PROFS, an electronic mail system. The second experiment involved 40 MBA students and two distinct charting programs.

The results of the two investigations showed that although perceived usefulness and perceived ease of use were statistically demonstrated to be significant factors of behavioral intention, perceived usefulness was a much greater determinant than perceived ease of use (Davis, 1989). This phenomenon was explained by making the claim that the user would disregard ease of use regardless of how good the technology was regarded to be or whether it helped to improve execution performance. The study also discovered that perceived ease of use might not truly be a direct parallel determinant of system usage, but rather more of an antecedent to perceived utility. Usefulness thus takes precedence over convenience of use in the eyes of users. Another research showed that attitude was only a partial mediating factor between behavioral intent and perceived utility and convenience of use.

The following is the original Technology Acceptance Model:

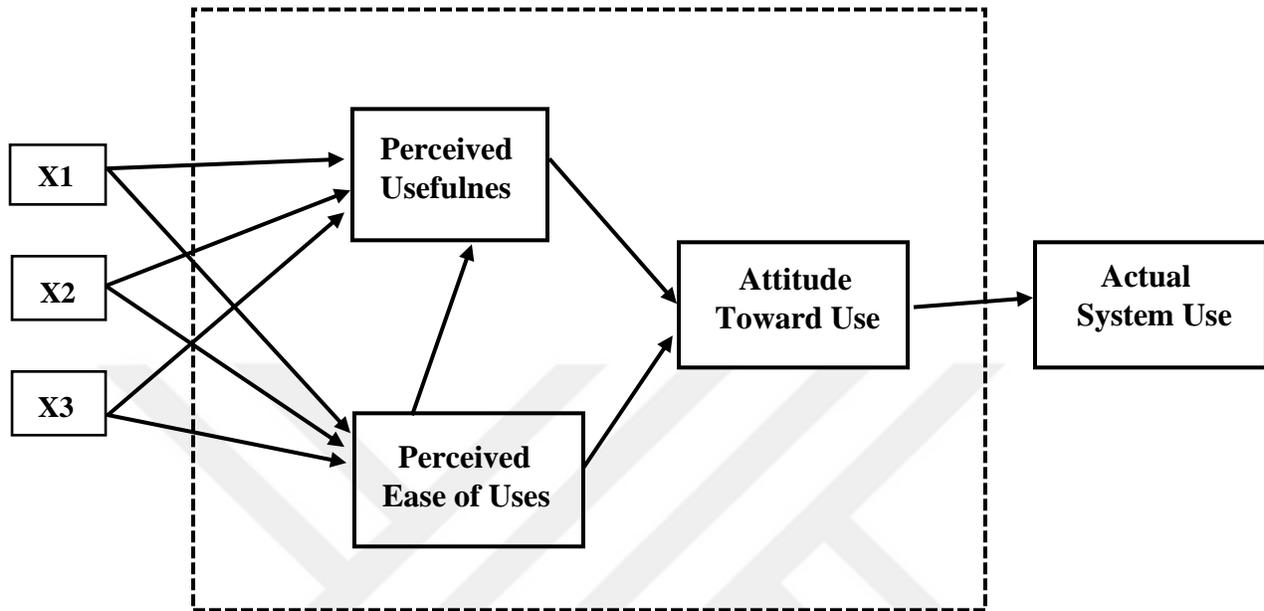


Figure 1: Original Technology Acceptance Model (Davis, 1986).

Davis was seeking for a mechanism to predict and explain system utilization to suppliers and IT managers at a time when computers were being brought into the workplace.

The TAM model, which is built on cognitive models, uses links between user behavior and beliefs, attitudes, and desires to explain computer user behavior. This model aims to describe the key factors that affect user behavior with regard to technology acceptance. It provides more details on technology acceptability, including several factors that may affect user acceptance (Susanti et al., 2019).

TAM has been modified or implemented for a wide range of diverse applications and technology, including numerous social media studies, even though its primary purpose was to quantify computer adoption (Davis, 1989). Users' use of Facebook (Rauniar et al., 2014), college students' acceptance of social media (Efosa et al., 2018), student entrepreneurs' use of social media as a platform for their businesses (Nawi et al., 2019), the use of social media in the tourism sector (Matikiti et al., 2018), and the uptake of social media by small businesses are a few examples for the different sectors it has been used for (Ahamat et al., 2017).

This study proposes an extended TAM to be used to further analyze the adoption of Metaverse in the digital marketing industry.

The original TAM constructs are as follows:

- Perceived Usefulness
- Perceived Ease of Use

Perceived Usefulness (PU)

Defines for the purpose of this study, the individual's subjective probability that employing digital marketing through Metaverse will improve his or her performance within an organizational setting. (Efosa, 2018). For a number of information systems, researchers have used the frameworks of perceived usefulness to explain technological usage/acceptance. Several elements of digital marketing, including other tools in addition to the anticipated principal benefits from employing a digital marketing, have been believed to bring extra "utilitarian value" to the digital marketing user. The more perceived usefulness influences attitudes toward adopting digital in marketing industry, the higher the perceived "utilitarian value." (Rauniar et al., 2014).

When managers believed that digital marketing would simplify their work and provide relevant information or insights, perceived usefulness was a key factor in shaping attitudes toward adoption (Austermann and Mertins, 2014). Perceived usefulness influence attitudes or intentions toward adopting specific technology and add to overall perceived usefulness (Matikiti, 2018).

Perceived Ease of Use (PEOU)

Refers to for the purpose of this study the extent to which the user expects digital marketing through Metaverse to be comfortable. Perceived ease of use is one of the key structural variables in the TAM model, this term describes the user's judgment of how easy and straightforward a given system is to use. Al-Gahtani and King (1999); Lu et al., (2005); Jiang, et al., (2000), have examined perceived ease of use as a key component in understanding consumer acceptability of information technology.

According to earlier research, the impact of perceived ease of use on attitudes is a secondary effect mediated by perceived usefulness. However, newer studies Chiu, et al., (2009); Yu and Tao, (2009) claimed a direct relationship between ease of use and attitude toward embracing technology.

The two mechanisms by which perceived ease of use influences intention further emphasize the importance of understanding the determinants of perceived ease of use: (1) perceived ease of use has a direct effect on intention and an indirect effect on intention via perceived usefulness, and (2) it is an initial hurdle that users must overcome for acceptance, adoption, and usage of a system” (Davis, 1989).

This model will show how several elements, such as advantages and usability, influence a user’s choice to use new technology. Usability is a sign of a user’s confidence in technology’s ability to enhance their performance. Convenience, on the other hand, refers to how easy and effortless a user feels using modern technology to be. This idea includes the simplicity of utilizing the system for purposes that are in line with the user’s preferences and the clarity of the technology’s intended application. If the system is simple to use, the user will be more likely to use it (Efosa, 2019).

Both of these characteristics can be used to describe aspects of user behavior, and the TAM model can be used to explain how a user’s perspective affects his attitude toward IT use. This model explains how usefulness and ease of use influence IT adoption more clearly. The TAM study model has been updated to include Perceived Ease of Use, Perceived Usefulness, Perceived Enjoyment, Attitude toward Using, Behavioral Intention to Use, and Actual System Usage. Usability displays a user’s faith in technology’s ability to help them perform better. While convenience refers to the user’s perception of modern technology as being simple and requiring little effort (Susanti and Astuti, 2019).

Acquiring the requirements and desires of clients is one of these perceived benefits. The capabilities to successfully handle internal knowledge and the purposeful inflows of knowledge from customers and competitors are even more crucial for sustainable competitiveness of small- and medium-sized firms (Gonzalez et al., 2020).

Digital marketing information on customers and competitors can provide SMEs a competitive edge. The advantages social media offers SMEs, especially the interactivity given by social media, which in addition to communication also provides the ability to obtain customer intelligence (Alford and Page, 2015). This knowledge can assist business owners and managers in gaining a fresh viewpoint that they otherwise wouldn’t have had if social media hadn’t been incorporated into their daily operations.

2.2.2. Development stages of Technology acceptance model

Theory of Reasoned Action (TRA)

The theory of reasoned action (TRA or ToRA) seeks to clarify how attitudes and behaviors relate to one another in human activity. It is mostly used to make behavioral predictions about people based on their current attitudes and behavioral intentions. The results that an individual anticipates will result from engaging in a certain conduct are what drive their decision to do so. The theory was created in 1967 by Martin Fishbein and Icek Ajzen and was based on earlier work in social psychology, persuasion models, and attitude theories. According to Fishbein's views, attitude and behavior are related (the A-B relationship) (Ajzen and Fishbein, 1980).

The main goal of the TRA is to comprehend a person's voluntary conduct by looking at the fundamental driving force behind their behavior. According to TRA, a person's desire to engage in a behavior is the primary indicator of whether or not they really do so. In addition, whether or not the person will actually engage in the behavior depends on the normative component (i.e., social norms surrounding the act). The theory holds that the intention to engage in a particular conduct comes before the actual behavior. This intention, often referred to as behavioral intention, results from the conviction that carrying out the behavior will produce a particular result. The idea places importance on behavioral intention since these intentions are influenced by attitudes toward behaviors and arbitrary norms. According to TRA, more motivated conduct is more likely to be carried out since stronger intentions result in greater effort (Zolait and Sulaiman, 2008).

Theory of Planned Behavior (TPB)

A psychological theory that connects ideas and conduct is called the theory of planned behavior (TPB). According to the theory, an individual's behavioral intentions are shaped by three fundamental factors: attitude, subjective norms, and perceived behavioral control. The most proximal predictor of human social behavior, in turn, is behavioral intention, which is a core principle of TPB (Ajzen, 1985). Icek Ajzen, (1991), developed the theory in order to increase the theory of reasoned action's capacity for prediction (TRA). The notion of TPB was to incorporate perceived behavioral control. In TRA, perceived behavior control was not included. TPB has been used in research on how beliefs, attitudes, behavioral intentions, and behaviors relate to one

another in a variety of human domains. Advertising, public relations, advertising campaigns, healthcare, sport management, and sustainability are just a few of these areas.

According to the Theory of Planned Behavior, people behave logically in accordance with their attitudes, arbitrary standards, and apparent behavioral control. Although not often actively or consciously taken into account, these elements serve as the framework for making decisions. According to the theory of planned behavior (Ajzen, 1991), attitudes, subjective norms, and perceived behavioral control all three play a role in determining intents, which in turn influence behaviors. Depending on the degree to which a behavior is truly controlled by the individual and the degree to which perceived behavioral control is an accurate indicator of actual behavioral control, external influences may also directly force or prevent behaviors, regardless of the intention.

TAM2

Venkatesh and Davis (2000) proposed TAM2, an updated version of TAM that added new variables to the original model. This model looked at outside factors affecting perceived usefulness. These factors included job relevance, the extent to which the technology was applicable, output quality, the extent to which the technology adequately performed the necessary tasks, and result demonstrability, the production of concrete results. Subjective norm, the influence of others on the user's decision to use or not use the technology. As moderating factors of subjective norm, experience and voluntariness were considered.

A longitudinal investigation was carried out by Venkatesh and Davis (2000) in two voluntary environments and two involuntary situations. 39 employees of personal financial services who were transferring to a Windows-based environment and 38 floor supervisors who were using a proprietary system made up the two optional environments. The two required environments included research done on 36 investment banking professionals using a stock portfolio analysis system and 43 accounting firm services employees using a Windows-based account management system. According to the combined findings from many studies and time periods, perceived usefulness was significantly influenced by subjective norm, image, job relevance, and result demonstrability. Additionally, it was demonstrated that subjective norm, perceived usefulness, and perceived usability were factors directly influencing the propensity to utilize (Venkatesh and Davis, 2000).

Perceived usefulness was significantly influenced by perceived ease of use, just as it was in the original and frugal TAM (Davis et al., 1989). The causes of perceived ease of use were reviewed by Venkatesh in 2000. This model incorporated several more antecedents in addition to computer self-efficacy and objective usability. Computer anxiety, the fear of or apprehension toward information technology; computer playfulness, the urge to play and explore the technology; and perceived enjoyment, which investigated enjoyment separately from performance implications, were some of these precursors.

Extension of TAM

Determinants of intention to use and attitude

In contrast to the conservative TAM (Davis et al., 1989), which demonstrated that perceived usefulness and perceived ease of use were direct determinants, the original TAM (Davis, 1989) identified perceived usefulness and attitude as direct drivers of usage. There have been several other factors proposed as having an immediate impact on user behavior. Chau and Hu (2002) and Hu, Lin, and Chen (2005) both looked at how subjective norms affect behavioral intention. Hu et al. replicated the findings of Venkatesh and Davis (2000) by determining the significance of subjective norm. The findings of Chau and Hu, however, were the opposite, showing that the subjective norm was not important.

According to the Theory of Planned Behavior, perceived behavioral control (Chau and Hu, 2002), application-specific self-efficacy (Yi and Hwang, 2003), and perceived enjoyment (Heijden, 2004) were all discovered to be significant predictors of intention to use.

The results are summarized in Table 1 and 2.

Table 1: Determinants of Intention to Use

Author	Determinant	Finding
Van der Heijden (2004)	Perceived Enjoyment (PE)	Significant
Chau & Hu (2002)	Perceived Behavioral Control (PBC)	Significant
Gong et al. (2003)	Computer Self-efficacy (CSE)	Significant
Hu et al. (2005)	Availability	Significant
Huang (2005); Moon & Kim (2001)	Perceived Playfulness (PP)	Not significant
Mathieson et al. (2004)	Perceived Resources (PR)	Significant

The table above illustrates how perceived enjoyment was included in the TAM by Van der Heijden (2004) in the extended version of the TAM. Its results were examined, and it showed that PE is significant determinant of a technology user's behavioral intention to use.

Table 2: External Variables of Perceived Usefulness

Author	Determinant	Finding
Liaw & Huang (2003); Yi & Hwang (2003)	Perceived Enjoyment (PE)	Significant
AmoakoGyampah et al. (2004)	Shared Beliefs (SB)	Significant
Chan & Lu (2004)	Perceived Risk (PR)	Significant
Chau (2001)	Computer Attitude (CA)	Significant
Hong et al. (2001-2000); Shih (2004)	Relevance	Significant
Hu et al. (2005)	Efficiency Gain (EG)	Significant

The table above illustrates how perceived enjoyment was included in the external variable that effect perceived usefulness by Liaw and Huang, (2003); Yi and Hwang, (2003) in the extended version of the TAM. Its results were examined, and it showed that PE is significant determinant of a technology's perceived usefulness.

Compatibility

In extended versions of the TAM, compatibility has been utilized to indicate for the purpose of this study how Metaverse can effectively help the user execute their purchasing and marketing campaigns with increased productivity (Venkatesh and Davis, 2000; Venkatesh, 2003). This concept aims to clarify how the technology fits the context of use and the user's intended task. The ability of Metaverse to meet the experiences, needs, and values of the user, in this example a SME, and its organizational fit, will be more precisely described in terms of this study (Ghazizadeh et al., 2012). Digital marketing's compatibility with a SME is consistent with the SME's strategic use of Metaverse. Despite the fact that some SMEs and big businesses have adopted particular technologies, a primary reason for the failure of information and communication technology adoption has been highlighted as the lack of a strategic model for implementation without appropriate execution, SMEs are putting their skills to work on projects that might not be profitable for their company (Jones and Alrousan, 2016). According to Quinton et al., (2018), managers of SMEs and big businesses need to look beyond individual efforts and examine organizational practices as well as the broader environment.

Subjective Norm (SN)

Subjective norms, which refer to how opinions of relevant groups of people, such as friends, family, and peers, may influence one's performance of the activity, are another important factor in determining behavioral intention (Fishbein, 1967). Subjective norms are described by Ajzen and Albarracín, (2007), as "felt social pressure to engage in or refrain from engaging in the action." According to TRA, individuals form normative views about what behaviors are appropriate and what behaviors are not. One's perspective of the conduct is shaped by these beliefs, which also influence whether or not one intends to engage in the behavior (Fishbein and Trafimow, 1994).

According to Austermann and Mertins, (2014), subjective norm considers environmental factors that may have an impact on a person's decision to embrace a particular technology (Austermann and Mertins, 2014), Similar to how the subjective norm has been used to examine external influences on businesses and their network of relationships, network externality has also been used to do so (Arajo and Zilber, 2016). However, the subjective norm construct will be used for the purposes of this study and is described as the influence that specific social forces may have on a decision or attitude toward adopting Metaverse.

Businesses owners' opinions of the adoption of digital marketing are influenced by these subjective norms or outside variables. For instance, external variables are considered as key influencers on owner/manager attitudes toward information and communication technology adoption, such as market structures and needs, dynamic competitive strategies, and swiftly emerging opportunities and threats online thus digital marketing has become a significant tool for acquiring external knowledge and competitive information when businesses are trying to learn more about their rivals (Jones, and Alrousan, 2016).

If SMEs and large businesses see other SMEs employing specific social media tools in regard to competition, they could experience mimetic pressure. In other words, the organization feels compelled to replicate the technical behavior of other organizations, (Quinton et al., 2018). This perceived pressure may also have an impact on a company's decision to use social media.

Attitude Towards Use (ATU)

According to TRA, attitudes, or how people feel about a certain behavior, are one of the major determinants of behavioral intention (Ajzen and Albarracín, 2007). Two elements affect these attitudes: the degree to which one holds behavioral beliefs about the results of the conduct engaged in (i.e., whether the outcome is likely to occur) and the assessment of the prospective outcomes (i.e., whether or not the outcome is positive) (Fishbein, 1975). A specific behavior may be met with favorable, negative, or neutral attitudes (Fishbein, 1975). According to the theory, there is a direct link between attitudes and results; as a result, one is more likely to have a good attitude toward a behavior if they believe it will result in a desirable or favorable consequence. On the other hand, one is more likely to have a negative attitude toward an action if they think it will result in an unwanted or bad outcome. Can have an impact on the choice to accept an innovation (Ajzen and Albarracín, 2007).

The factor of attitude towards use (ATU) is influenced by all of the above-mentioned factors, including PEOU, PU, SN, and PE. Additionally, earlier researchers hypothesized that ATU affects behavioral intention (BI). When it comes to the marketing adoption of new technologies like Metaverse in the workplace, ATU defines the attitude towards as such.

A common term used to describe and identify certain behaviors is attitude. For example, attraction, liking, and behavioral intention (BI) are concepts that may be summed up as attitudes and explain things like brand loyalty, brand perceptions, and general attitudes about products. In other words, attitude is a disposition that affects a person's behavior rather than a behavior in and of itself. Every human action is motivated by intentions, according to the theory of reasoned action (TRA), which is based on research by Ajzen and Fishbein (2007). The person's mindset affects their intentions (Ajzen and Fishbein, 2007). TAM is founded on TRA, and when researching ATU in the context of TAM, various empirical investigations have revealed how the user's attitude affects both the intended and actual utilization of a technical system (Hassanein and Head, 2007).

Behavioral Intention (BI)

Behavioral Intention: A person's readiness to carry out a specific behavior is referred to as behavioral intention. It is taken for granted that it precedes behavior right away. It is based on behavioral control perception, subjective norm, and attitude toward the conduct, with each prediction being given a weight based on how significant it is in connection to the behavior and target demographic, (Ajzen, 2002).

Behavior: is a person's discernible response to a certain objective in a particular situation. According to Ajzen, a behavior is a result of congruent intents and senses of behavioral control. A positive intention will only result in a behavior when perceived behavioral control is high, as this will limit the effect of intention on conduct (Liu et al., 2005).

The Fishbein and Ajzen (2003) theory of reasoned action, which is frequently employed for predicting behavioral intents and behaviors, places the BI at the center as its most crucial component. The TRA defines Bis as the actions taken before a person shows a specific behavior. Therefore, BI affects a person's behavior if that person believes there is a connection between the result and a certain action (Liu, 2017).

Behavior intention depends on both attitudes and arbitrary standards for that behavior (also known as the normative component). Subjective norms are the social norms connected to the conduct, while attitudes are how firmly one holds that viewpoint. The A-B relationship should be higher the more positive the subjective norm and the more forceful the attitude. However, it is unlikely that attitudes and subjective norms will be given similar weight when predicting conduct (Miller, Katherine, 2005). Each of these criteria has a weight since they may have various effects on behavioral intention depending on the person and the circumstance (Manstead and Parker, 1995).

Perceived Enjoyment (PE)

Perceived Enjoyment (PE) is the degree to which the use of technology is seen to be joyful in and of itself, independent of any potential performance repercussions (Davis et al., 1992). The goal and intensity of utilizing technology will be influenced by how much that individual appears to be enjoying it (Venkatesh and Bala, 2008).

Over time, it has been discovered that factors external to the user have a substantial impact on their attitudes and intention to use technology. Examples of these factors include subjective norm, conducive conditions, self-efficacy, and technological complexity (Teo and Noyes, 2011). In addition to these elements, several research have discovered that perceived enjoyment is a strong construct that is linked to the TAM's fundamental constructs specifically, perceived usefulness and perceived ease of use in order to explain the intention to use technology (Chesney, 2006; Van der Heijden, 2004; Wu et al., 2007). According to research, PE is crucial to user technological acceptance (Venkatesh et al., 2002; Yi and Hwang, 2003).

Perceived enjoyment, for the purposes of this study, is the extent to which using Metaverse is thought to be delightful in and of itself, without consideration of any performance consequences (PE). PE has been found to be essential for user technology acceptance, and evidence support the link between perceived usability and enjoyment. In earlier investigations, PE has been demonstrated to strongly explain the behavioral intention to use hedonic systems and technologies (Heijden, 2005). In a related study, Liao, Tsou, and Shu (2008) examined how PE affects technology service users' propensity to use a multimedia on demand (MOD) service using an extended TAM as their research framework.

2.2.3. TAM methods

According to Susanti and Astuti (2020), these methods which construct the steps of TAM including:

1. **Independent Variables** – Source variables, also known as independent variables, are variables in this model that are not predicted by other factors. PU, PEOU and PE are all the independent constructs of this study.
2. **Dependent Variables** – These constructs can only be predicted by other independent constructs, but they can only be related to other constructs in a causal way. Behavioral intention to use (ITU) is this study’s dependent variable which can be predicted by the independent constructs. Attitude towards using (ATU) will act as the mediating factor of the study’s model.

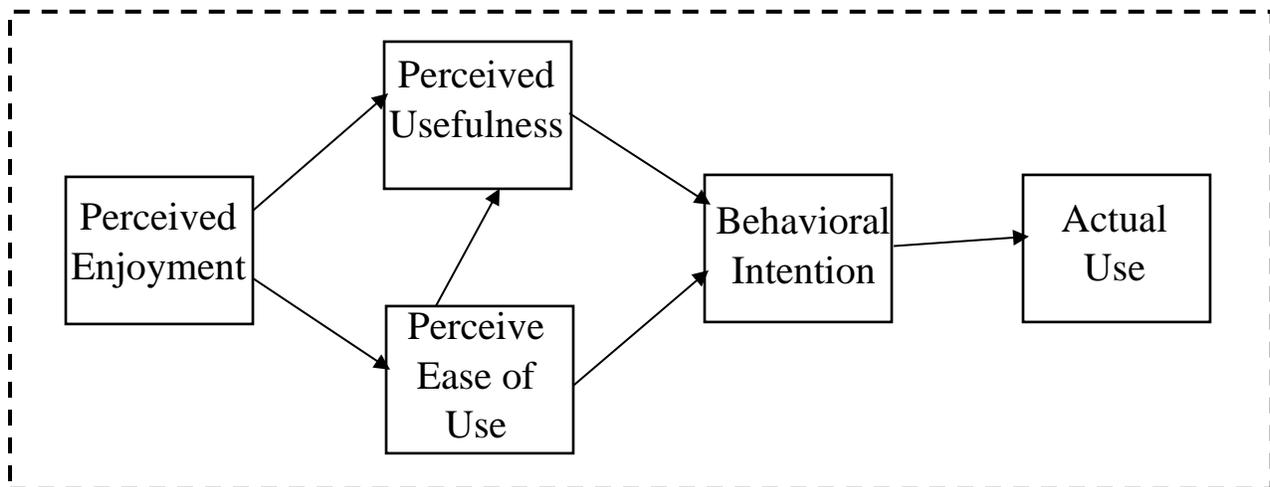


Figure 2: Final version of technology acceptance model (TAM) (Vankatesh and Davis, 1996)

Based on the literature research, the above discussion, concepts, applications, and development of technology adoption models and theories contain a variety of perspectives and interpretations.

Most practitioners and scholars are interested in understanding why and how users embrace new technologies. The solution to this problem could aid them in developing an outstanding approach for predicting, designing, and assessing consumer reactions to new technology. In this regard, technology acceptance models and related theories have been widely used in predicting and explaining user behavior and intention in a variety of domains, including consumer satisfaction, consumer buying behavior, and technology (Alshammari and Rosli, 2020).



3. FUTURE OF MARKETING – METAVERSE AND ARTIFICIAL INTELLIGENCE

Future of marketing, this suggests that rather than actual humans, marketers may in the future market to AI-enabled assistants. Future marketing will be more data-driven, hyper-personalized, one-to-one, and real-time. The era of intrusive, meaningless, and unnecessary advertising may completely give way to consumer advocacy, with Turkey notably seeing this change (Verma et al., 2021).

Marketers must be always up-to-date on the ever-changing marketing landscape, as well as creative and analytical thinkers. Because of rapid technological breakthroughs and disruptive change, thinking “future forward” in marketing is difficult. Etymologists, who research the origins and history of words, claim that the word “marketing” originally originated in reference to the activity of buying and selling at a market in the seventeenth century. It would have been difficult to explain the state of marketing today if a time-traveler had told them back then (Alcañiz and Arcas, 2022).

Facebook, as an example...Marketing was very different ten years ago, before Facebook became what it is today. Facebook Advertising was not even on the radar back then, let alone a primary ad channel for most worldwide corporations. According to Kraus (2022), stated that Facebook made \$26.17 billion in income in the first quarter of 2021, primarily from digital advertising – that’s more than \$100 billion in ad sales every year. It begs the question: where was that money spent ten years ago, before Facebook advertising became a thing? Well, it was mostly spent on traditional media such as radio, television and physical approach techniques of marketing. When you factor in other digital goliaths like Google and Amazon, you can see how much marketing spend has shifted in the last decade.

3.1. Metaverse In Marketing

Although Neal Stephenson first introduced the word “Metaverse” in his 1992 book “Snow Crash,” technology analysts and academics have just recently begun to use it frequently. The Metaverse is portrayed in the book as a virtual reality (VR) setting that utilizes the internet and augmented reality (AR) via software agents and avatars (Bushell, 2022).

Although there isn't yet a widely accepted definition of the term "Metaverse" in the literature, we agree with the concise definition provided in Damar, (2021), where the study defines the Metaverse as "the layer between you and reality" and a "3D virtual shared world where all activities can be carried out with the help of augmented and virtual reality services."

The rapid development and expanding adoption of enabling technologies, such as cloud computing, internet connectivity, augmented reality, virtual reality, digital currencies, and non-fungible tokens (NFTs), strongly promote the concept of the metaverse (Morgan et al., 2022). Due to the COVID-19 epidemic, which has also normalized our online interaction and communication in areas like social media, virtual communities, and other places, our lives have grown more digital (Grover et al., 2020). As a result of the confluence of technological and social forces, governments, businesses, and individuals have all demonstrated a significant degree of interest in the Metaverse.

A collection of three-dimensional virtual environments called a Metaverse was developed to promote social interaction. It is usually described as a hypothetical version of the Internet as a single, universal virtual environment that is made possible by the usage of virtual and augmented reality headsets in futuristic and science fiction works. The Metaverse is made up of virtual worlds, augmented reality, and the Internet. Everyone obtains their own avatar to play, create, explore, and interact in a virtual 3D world in this shared virtual world, which is made possible by virtual enhanced physical reality (Matthew and Brian, 2021).

A real-world-connected economic system makes up the contemporary Metaverse. Real world funds are transferred to the metaverse, and profits are returned there. With the entrance of upscale businesses, the Metaverse's potential as a revenue model has been demonstrated. More real-world goods will be introduced into the Metaverse if a strong and resilient economy is established. The Metaverse market will progressively expand, and this market will aid in creating a Metaverse world that is sustainable. However, due to the Metaverse's reliance on virtual products, asset volatility is considerable. There are no institutional mechanisms for maintaining socioeconomic position (Kshetri and Dwivedi 2019).

The new Metaverse is receiving more attention than the old one did because it is more socially useful. According to Park and Kim (2022), the uses of the Metaverse can be divided into two categories: "Metaverse as a tool" and "Metaverse as a target." The phrase "Metaverse as a tool" refers to the use of the Metaverse to tackle issues and problems in the physical universe. The phrase

“Metaverse as a target” describes how the Metaverse itself is capable of carrying out tasks like expanding the Metaverse and making a profit. In contrast to “Metaverse as a tool” apps, “Metaverse as target” applications are independent and heavily reliant on the virtual environment.

Metaverse as a tool

The Metaverse complements the real world in many ways by carrying out tasks that are difficult to accomplish in reality, like visiting remote regions, offering psychological therapy, and preparing recruits for combat. It replaces familiar environments (such as workplaces, social networking sites, in-person education, and medical care) and makes feasible acts that would be challenging or impossible to carry out in reality due to factors like cost. The Metaverse as a tool increases coherence from a multimodal perspective while reducing complexity (such as in aircraft engineering) (Lewis, 2020).

Zhang et al., (2022) claims that the Metaverse is useful for reproducing social and marketing phenomena. It is possible to duplicate social obstacles, moral conundrums, and policy-related problems without prejudice or social discrimination. Because user experience analysis is more precise than survey analysis based on user opinions, the metaverse is more suitable for business. When compared to soda consumption, people frequently assert that they drink more water, however user logs maintained in the metaverse can aid in reliable research. Additionally, user behavior is modelled using the measurable data from the metaverse.

Metaverse as a target

The Metaverse itself is the target. The Metaverse was originally used as a way to replicate the real world. The Metaverse, however, was where people found value and social engagement. The Metaverse can be used by businesses as a potential new market. Numerous business methods for organizations in the Metaverse produce income and advertising. Users of virtual products, who are still relatively young, can engage in economic activity, but real objects can be produced with fewer steps and resources than those virtual products (İLDAŞ, 2022).

Several of the most well-known tech companies in the world have been interested in the Metaverse. Leading the charge are, among others, Microsoft’s commercial Metaverse, Facebook Horizon, and Nvidia Omniverse. On Metaverse marketplaces like Decentraland, consumer brands like Gucci

and Coca-Cola are selling NFTs. A second reality that reflects the first is being created by a variety of actors, both big and little, in the ecosystem known as the metaverse (Caulfield, 2021).

Below are numerous examples of how marketers have used XR or metaverse notions for commercial purposes.

Product: Users can buy, possess, and exchange distinctive virtual assets that can be identified via blockchain technology using NFTs (Chohan and Paschen, 2021). Businesses can increase interactions between the virtual and physical worlds and expand their product offerings by exploiting NFTs' capabilities. As an illustration, Nike recently attained incredible price points for their premium virtual NFT-based merchandise. Because of their distinctive identifiers, NFTs can be worth incredible sums of money, although conventional virtual goods (such virtual apparel or virtual artwork) are often worth less than their physical counterparts (Hofstetter et al, 2022).

Consumer Interaction: The extensive consumer data made available by the Metaverse architecture will enable the customer interactions. In order to build both customer and brand equity, consumer connection to a firm is essential (Rauschnabel et al., 2022). If social media may be viewed as a platform for gathering consumer data, such as demographics, propensities, habits, and opinions, the Metaverse idea would be a goldmine for data (Alaimo and Kallinikos, 2017).

The reality dissociation that results from altered views of what reality is and how the surroundings, one's body, and the presence of others are experienced means that the metaverse is predicted to radically alter customer, brand, and employee experiences (Kozinets, 2022).

3.2. Digital marketing and Metaverse

With more and more clients turning to the internet to make purchases of goods and services, digital marketing has become the preferred method of promotion (Dwivedi et al., 2021). The popularity of the digital medium among consumers can be attributed to the declining cost of broadband services and rising internet penetration, particularly mobile-based net connectivity. It has transformed how consumers conduct business, both between consumers and between businesses, known as Business to Consumer (B2C) (Hanlon, 2021; Pandey, 2020). Digital marketing has caused a paradigm change in sales and marketing, and it is now prepared for the Metaverse, the

next stage of disruption. While the Metaverse concentrates on applied AR and VR with a three-dimensional spatial experience, digital marketing is the interaction of two-dimensional content and channel (Balis, 2022).

In terms of expression and movement of their avatar participating in the Metaverse environment, the Metaverse will closely resemble the physical world. People will be able to connect in real time with one another inside their social and professional networks by using avatars. By removing obstacles related to time and geography, these virtual spaces are expected to be as genuine as possible and have an impact on both an individual's and an organization's efficiency and marketing operations. It is anticipated that the Metaverse will generate \$1 trillion in revenue (Kshetri, 2021).

3.3. Opportunities for digital marketing in Metaverse

As it is mentioned in the previous literature by Kim (2021), for consumers, companies, and governments, there are many opportunities. Prestigious companies like Nvidia, Microsoft, Meta, and Alphabet's financial commitment to the Metaverse's potential is abundantly obvious. These businesses have either made them currently on the market products available in the Metaverse or have created entirely new services built around this immersive experience. Numerous opportunities exist in the Metaverse for organizations and people engaged in digital marketing. These include:

Virtual marketing based in the metaverse

Nowadays, there are many opportunities for digital marketers to place their products and services in the Metaverse. Similar to how people spent a lot of time on social networking sites like Twitter, Facebook, LinkedIn, and WhatsApp, consumers will spend a lot of time on Metaverse platforms for both personal and professional reasons. Because of this, companies are probably more inclined to choose Metaverse platforms for their day-to-day digital marketing needs than traditional publisher websites that rely on digital marketing. One sort of Metaverse-based marketing involves

the use of digital billboards, which show tailored product advertisements to different avatars based on their earlier digital footprints and orientations. The Metaverse platform would let firms to provide engaging product and service trails by utilizing XR technologies. On the company's Metaverse platform, for instance, anyone buying a sedan vehicle can test drive one, and anyone buying a guitar can do the same on the 3-D platform (Hollensen et al., 2022).

A new tribe of avatar-based influencers who were uncomfortable revealing their identities would also be infused by the Metaverse. This will make it easier to find digitally aware talent that would not have otherwise participated in influencer marketing initiatives (Miao et al., 2022).

Better measurability in the Metaverse

Due to a more immersive user experience, the Metaverse offers rich data points on numerous temporal and spatial dimensions to the host. These data points can be examined using cutting-edge analytical techniques for real-time targeting and retargeting of potential customers. Trackability of target clients would therefore be more effective than conventional digital channels (Jarvinen and Karjaluoto, 2015). As the measurements go beyond clicks and include full user interaction in a three-dimensional format, the Metaverse platform's transparency improves. It incorporates a variety of hand and eye gestures that enhance the data points for illustrating the entire digital client journey. Advertisers and advertising agencies may more precisely evaluate the effectiveness of the digital marketing campaign because of the many verbal and visual data points of interactions (Liu, 2022)

Aversion of consumers to realistic metaverse experiences

Digital marketing adverts are typically not interacted with by users (Barreto, 2013). Adblockers are used by users to block online adverts. Realizing these particular consumers are difficult to reach frustrates advertisements and agencies. Users that participate in intriguing material and interact with the Metaverse using cutting-edge AR-VR tools will have an immersive experience.

Organizations can generate revenue through the development of product placements, platform membership fees, and the sale of NFT (Chen and Liu, 2022).

As the study's author, it is worth mentioning the key Metaverse ideas guiding the the future of marketing in Metaverse: Virtual Reality (VR) and Augmented Reality (AR).

Virtual Reality (VR) – According to Seidal (2022), Virtual Reality (VR) is Today's Metaverse defined as the “digital escape”.

According to Nguyen (2022), Virtual reality is a virtual environment that provides an immersive and interactive experience. With the use of an interface such as a head-mounted device, you can enter a 360-degree environment. VR gives users with visual, sensory, and aural feedback in this way, allowing them to fully immerse themselves in virtual worlds and environments such as the Metaverse.

Augmented Reality (AR) – Augmented reality is a technologically enhanced form of reality that is created by superimposing a computer-generated image in a physical location. Immersion is enhanced by the addition of visual and auditory stimulation (Nguyen, 2022).

3.4 Digital Natives and Metaverse

Generation Z (Gen-Z), colloquially known as zoomers, is the demographic cohort succeeding millennials and preceding generation alpha, from mid-to-late 1990s as starting birth years and the early 2010s as ending birth years (Vine et al., 2022), is without a doubt the most tech innovative generation ever. On a daily basis, Gen Z-ers multitask across five distinct displays, compared to just two for millennials. They use technology to communicate since emoji have almost become a second language, and 76% think technology helps them achieve their goals. Many of them are now older than Google, indicating that growing up in the middle of technological and social progress has produced a generation with higher technological aspirations than ever before. Marketers must adapt by not only creating a Facebook page for Gen Z to “like,” but by fully digitally integrating

themselves in order to communicate with Gen Z as frequently as possible in truly authentic ways (Balkanlı 2021).

According to Du (2022), Gen Zers are, after all, the new generation of consumers, with a combined spending power of nearly \$140 billion in 2021 alone. Those Gen Zers, on the other hand, are a difficult group to work with. They hold brands to high standards, and they don't advertise through traditional methods. 45 percent of Gen Zers say they are online virtually continuously, making it feel as though their entire lives are organized through smart gadgets, which has almost completely changed how marketing is done.

When it comes to marketing to Generation Z, it's critical to communicate your value in a manner that your customers like. Gen Z wants to know what they're getting for their money, and they want to know it right away. Visual assets that explain your brand's purpose and provide vital information that prospects can take away are the future of Gen Z content (Williams, 2022). Gen Z enjoys sharing the experience that a product or company gives on social media, which is essentially free advertising.

In conclusion as per my opinion, as we adapt to new means of reaching consumers through virtual reality, augmented reality, and mixed reality, the future of marketing will be an inspiring journey. By putting the consumer right in the midst of our message, to measure, analyze and evaluate how consumers perceive Metaverse in marketing, whether these technologies will bring our customers closer ever than before. The study implements five main determinants of TAM which are as follows:

- Perceived Usefulness (PU)
- Perceived Ease of Use (PEOU)
- Perceived Enjoyment (PE)
- Behavioral Intention to Use (BI)
- Attitude Towards Using (ATU)

3.5 Artificial intelligence in Marketing

Artificial intelligence (AI) marketing refers to the application of AI methodology and tools, such as data models, algorithms, and machine learning, to produce customer insights that marketers may use to optimize spending, personalize content, and enhance the customer experience. Artificial intelligence (AI) is used in marketing to generate useful advice for relationship management. By fusing various data sources and systems, AI can build a profile for each client, enabling decision-makers to understand what influences their clients' choices and directing them toward their optimal course of action (Fox, 2022).

As according researchers, artificial intelligence (AI) is defined as programs, algorithms, systems, and machines that demonstrate intelligence (Shankar, 2020) and is manifested by machines that exhibit aspects of human intelligence (Huang and Rust, 2018). AI also involves computer programs mimicking “intelligent human behavior” (Syam and Sharma, 2018). It is reliant on several crucial technologies, including as rule-based expert systems, deep learning, machine learning, neural networks, and robotic process automation (Davenport et al., 2020).

AI offers a way to “properly understand external data, learn from such data, and display flexible adaptation” by using these techniques (Kaplan et al., 2022). Another way to define AI is in terms of its marketing and business applications, such as automating company operations, getting insights from data, or interacting with consumers and employees, rather than its underlying technology (Davenport and Ronanki, 2018).

AI has the power to increase income and decrease costs. Better marketing decisions such as pricing, promotions, product suggestions, and increased customer interaction may lead to higher revenues; automation in customer service, marketing, and organized market operations may lead to lower costs. Furthermore, the aforementioned definitions show that businesses are often employing AI to enhance the capabilities of their human employees rather than replacing them. For instance, Stitch Fix employs AI to support its stylists' efforts to make the best decisions for clients (Gaudin et al., 2021).

These machines can interpret verbal cues for emotions, visualize social media trends, and crunch data to make predictions. It is not hard to imagine that in the future, AI will be used more frequently. The AI-based strategy's components are still largely in use today. Modern marketing is becoming more analytical, targeted, and connected to financial outcomes. Advertising and advertisements are becoming more and more in real-time for specific clients. In order to draw in customers, businesses use a range of venues, but they are increasingly dependent on digital content (Tanveer et al., 2021).

The way firms collect and use customer data has changed as a result of AI. The use of new technologies such as AI and big data by organizations has encouraged them to improve customer experience through the usage of intelligent technology solutions in digital marketing (Davenport, 2020). Marketers can better understand their target audiences with the help of these technologies. Modern AI technologies aid in the collection of consumer data based on observation and the analysis of socio-economic trends that vary on a regular basis. Furthermore, AI in digital marketing provides greater speed and dependability in the marketing process, as well as easier access to these platforms by a huge number of clients (Khatri, 2021).

As the study's author opinion, future company models, sales procedures, customer service options, and consumer behavior are all predicted to be significantly impacted by artificial intelligence (AI), as well as marketing methods.

3.6. Artificial intelligence and customer behavior

As new technologies frequently change consumer behavior (Naumov, 2019; Groom, 2011; Hoffman and Novak, 2018; Moon et al., 2003), we anticipate that AI will do the same. We suggest three study areas covering AI adoption, AI usage, and post-adoption concerns of AI.

Artificial Intelligence (AI) Adoption

Customers generally have positive views of AI because of a wide range of characteristics, which is encouraging for adoption. As previously said, these favorable opinions are frequently the result of customers' perceptions that AI can foresee their requirements and preferences (Castelo, 2019; Gray, 2017) or that AI is reasonably capable of identifying what is distinctive about each customer by analyzing the customer's tiny facts about themselves (Longoni and Cian, 2022). Additionally, Luo et al., (2019) proposes that users think AI bots are very sympathetic. Additionally, customers have been more inclined to embrace AI in the last five years in consequential sectors (Castelo and Ward 2016) and for tasks that are important to their identities (Castelo 2019, Leung 2021).

As evidenced by the example of human drivers in cars, consumers appear to hold AI to a higher standard than is normally appropriate. Customers should use AI if doing so significantly reduces the number of accidents; otherwise, they should insist that AI create zero accidents. Understanding the reasons behind this extra caution is crucial. An initial hypothesis holds that since users believe AI cannot feel they have less faith in it and hence hold it to a higher standard (Gray, 2017).

The features of the task also affect the adoption of AI. When a task appears subjective, involving intuition or affect, customers are likely to be far less comfortable with AI (Castelo, 2019). According to studies, customers are less inclined to use AI for tasks involving subjectivity, intuition, and affect because they believe AI lacks the affective competency or empathy necessary to execute these tasks (Castelo et al. 2018).

Artificial Intelligence Usage

Luo (2019) looked at how (possible) customers interact with AI bots in previous research on how customers interact with AI. In practice, AI bots can be four times more effective than unskilled salespeople and as effective as trained salespeople. However, purchase rates decrease by 75% if it is made clear to the buyer that they are speaking with an AI bot. In keeping with earlier findings stated in this study, clients are less likely to make purchases from AI bots because they see them as being less sympathetic.

As the study's author opinion, AI may make it more difficult for users to locate and move toward their preferred options by only showing them options that mirror their prior habits if their ideal

preferences truly diverge from their past actions (for example, users wanting to avoid eating unhealthy foods).

Artificial Intelligence (AI) Post-adoption

The effects of AI adoption also point to a few important study fields. Customers might feel fully autonomous if AI can predict their preferences with accuracy. Theoretically, since AI enables data-driven, micro-targeting marketing services, consumers should see products more favorably (Gans, 2017; Luo, 2019). This is due to the fact that it makes customer searches less expensive. Customers' perceptions of their level of autonomy may also be impacted, which could have an effect on their judgements and choices (Andrea et al., 2018).

And of course, there is a widespread concern about a loss of human connection if people develop relationships with AI-embedded robots (Marr, 2019).

4. HYPOTHESIS MODEL AND METHODOLOGY

4.1. Introduction

The model development, research hypothesis, and research technique are all explained in this chapter. The study's proposed model, goal, research design, questionnaire design, sampling and data collection, and data analysis process are all covered in this chapter. Each choice made in relation to the aforementioned difficulties is also justified to support the research design.

The hypothesis framework and the methodology are the two main components of this chapter. The theory that acts as the conceptual model for this research will be discussed in the first section, and the reasoning for the research's methodology will be discussed in the second section.

4.2 The Proposed Model

According to the paradigm, perceived usefulness and perceived ease of use are the two main predictors of technology acceptance model. Perceived usefulness and perceived ease of use influence attitudes toward utilizing technology. The intention to use technology can be explained by a combination of these factors as well as the strong construct of perceived enjoyment which was then introduced in the extended version of TAM by Van der Heijden (2004), which is linked to the basic constructs of the TAM particularly, perceived usefulness and perceived ease of use (Chesney, 2006; Heijden, 2004; Wu, Chen, and Lin, 2007). The actual system utilization is instantly influenced by behavioral intention, which is influenced by an equal attitude toward conduct and perceived usefulness, with "attitude toward use" functioning as a mediator of framework usage. Attitudes toward use which acts as the mediator of the study is directly influenced by perceived usefulness and perceived ease of use. To investigate people's thoughts, beliefs, and attitudes on the acceptance of digital technology, the TAM primarily looks at two variables: perceived usefulness and perceived ease of use. Perceived usefulness directly influences perceived ease of use, and external factors can influence perceived ease of use in addition to perceived usefulness (Chen, 2007). Heijden (2004) found that enjoyment and ease of use, as well as enjoyment and intention to use, are strongly correlated. These are expected to apply to dual systems as well.

Figure 3: Proposed Model

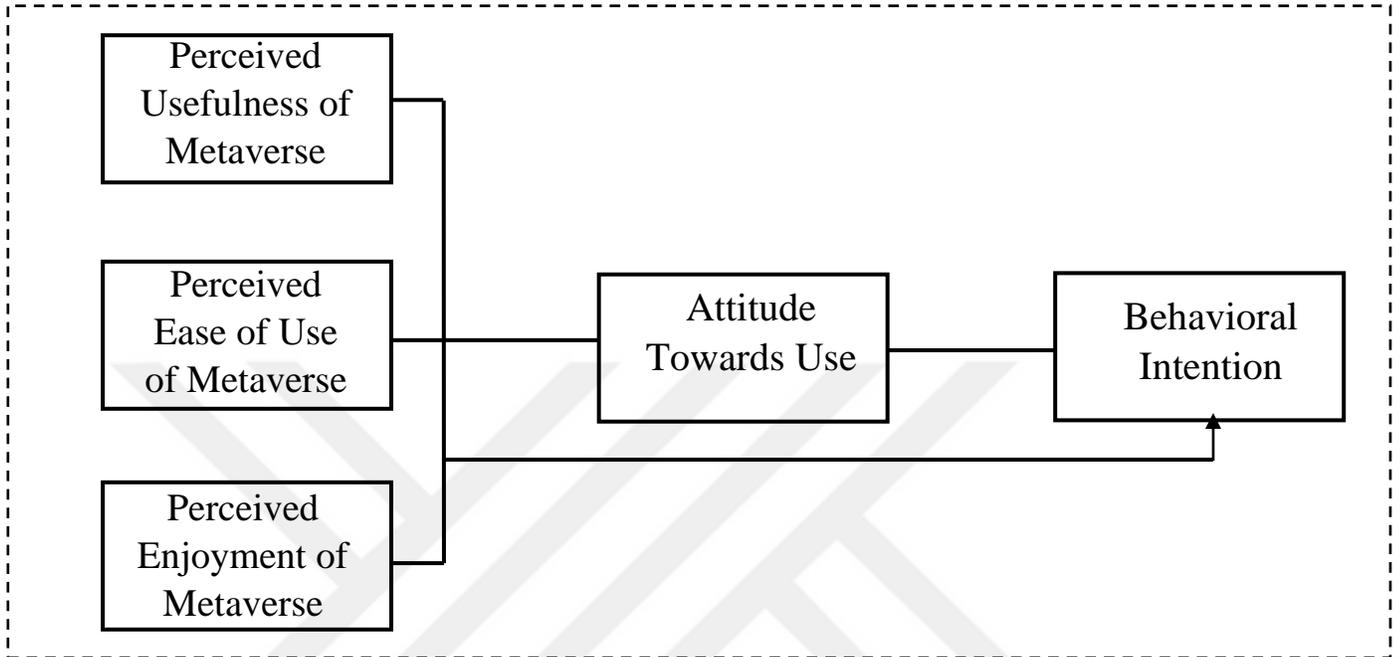


Table 3: Proposed Model Constructs

Constructs	Literature Source	Definition
Behavioral Intention	Chp.2 Literature Review	An individual aspires to accomplish something but makes no promises to do it.
Attitude Towards Use		The extent to which a person thinks a certain behavior is either good or bad.
Perceived Usefulness		The extent to which a person thinks that making use of a specific application framework would increase their ability to do a task effectively.
Perceived Ease of Use		Determines how strongly a person thinks utilizing a system is easy.
Perceived Enjoyment		The extent to which adopting a systematic strategy is thought to be interesting and engaging in and of itself, regardless of the outcomes

4.3 Behavioral Intention and Attitude Towards Use

In this study, Behavioral intention to use is acting as a dependent variable, whereas attitude towards use is the mediating factor of the proposed model of the study. To evaluate their correlation in the model, the study articulates hypothesis-based scenario supported by existing literature to find out the link between BI and ATU in Metaverse acceptance.

Behavioral intention, according to Namkung and Jang (2007), is a concept that describes people's perceptions about what they wish to do in a particular scenario. While behavioral intention is defined by Warshaw and Davis (1985): Jang (2011) as the degree to which an individual has developed a cognitive plan for engaging in or refraining from engaging in some specific future behavior. Additionally, according to Jani and Han (2011), behavioral intention includes both present and potential recipients of word-of-mouth as well as intentions to revisit as well as word-of-mouth that can predict consumers' consumption behavior.

The TAM theory states that behavioral intention influences actual use. A correlation between behavioral intentions and attitude towards use was discovered by several study, according to Moon and Kim (2001), there is a significant correlation between behavioral intention to use internet of things and technological information systems with the attitude towards use of it. The main predictor of behavioral intention is attitude towards use, which is a person's readiness to carry out a specific behavior (Ajzen, 2006). The likelihood of a customer using the Metaverse via the Internet is referred to as behavioral intention in the context of digital marketing (Chen et al., 2002).

The person's willingness to use the system can be converted into behavioral intention to use. The idea that behavioral intention to use is the forerunner to actual system use is supported by the greatest number of researchers in the field of technology acceptance. The aforementioned association has been demonstrated in the majority of studies used to validate the technology acceptance model (Alqasa et al., 2007). The behavioral intention theory developed by Fishbein and Ajzen is where the intention to use comes from (Fishbein and Ajzen, 1975). According to Fishbein and Ajzen's TRA, the intention behind a given conduct can be used to anticipate the behavior itself and It was also shown that behavioral intention, which is influenced by an equal attitude toward behavior and perceived usefulness, immediately affects actual system use.

Actual Usage: According to the TAM towards Metaverse hypothesis, actual usage variables including behavioral intention to use, are used in this study to indicate how people actually Metaverse. Actual usage is defined in a variety of ways. Actual usage, according to Moon and Kim (2001), is the volume and frequency based on users' self-reports. Actual usage, according to Tan et al., (2014), is determined by how frequently a user employs a connectivity element in his internet/technology program.

Attitude towards use is as researchers have created definitions that attempt to sum up what an attitude is, with the majority include a feature of a person's reaction to stimuli according to (Foxall and Goldsmith, 1994). As per Walters (1974), attitude is a factor in consumer awareness that results from the interpretation of stimuli in the mind.

But a common definition of attitude in the context of the TAM framework is whether a person has positive or negative feelings toward engaging in the target action (such as using technology). According to Davis et al. (1989), attitudes about technology were only a mediating predictor of adoption, and people might still use a technology even if they had a negative attitude about it as a whole if they believed it would increase their productivity and be easy to use.

According to Lawson et al. (2013), there are four elements that are typically included in the many definitions and theories of attitudes:

1. A feeling or evaluative reaction is how someone feels about something—whether it's favorable or unfavorable, positive or negative.
2. How a person habitually reacts to a certain item or group of items is known as a learnt disposition.
3. Consists of three parts: affective, cognitive, and behavioral
4. According to a more contemporary theory known as “multi-dimensional,” attitude is a result of a variety of beliefs and is therefore composed of the strength and evaluation of each belief component.

When it comes to customer relationship management and engaging a target audience with a specific product, literature discovers that there's a relationship between attitude towards use and consumer's behavioral intentions. It suggests that attitude toward use and beliefs regarding the various characteristics of the different market offerings, as well as the experience surrounding the

product, such as technological aspects of customer engagement more like convenient and adventurous product try-before-purchase kind of approach are important factors that affect consumer's behavioral intention towards future usage of the product, since consumers also consider the product experience more than the product properties (Kotler et al., 2014).

According to Wong and Sheth (1985), consumers' decision-making towards intention to use a specific product in the future is influenced by both past experience and surrounding environmental and product factors.

Behavior is influenced by people's desires (personal motivation) and beliefs (Attitude) about what they should do (from social norms). These factors include social norms, personal habits, and reward or punishment perception (Ajzen & Fishbein, 1974). The consistency between attitudes and behavior intention is evident when these four factors—attitude, social norms, habits, and reward—are in harmony and consistent with the behavior. If not, attitude and behavior are incongruent, making it harder to anticipate behavior from attitude alone.

The concept has been established and used in later models of consumer behavior, such as the Theory of Reasoned Action and Theory of Planned Behavior, according to Fishbein and Ajzen (1975;1985 and 1991), who had shown how behavioral intention was affected by attitude and is continued in Davis' (1989) Technology Acceptance Model, which shows strong link between attitude and behavioral intention.

H1: Attitude towards use has a significant and positive effect on consumers' behavioral intention.

4.4. Perceived Usefulness of Metaverse and Behavioral Intention

In this study, PU is the base of the independent variables or the predictors of the model. According to Davis (1989), perceived usefulness is the degree to which a person thinks employing a specific system will enhance his or her ability and efficiency to fulfill task using particular system. The term is derived from the word "useful," which indicates that it can be applied profitably (Davis, 1989). Perceived usefulness, according to Jayasingh and Eze, (2015), explains how users judge how much a technology will improve their efficiency. According to Ndubisi and Jantan, (2006),

perceived usefulness is a term connected to an evaluation of the advantages experienced by a person or organization as a result of using technology.

PU is also defined as the idea that utilizing a particular technology would help to improve the activity being conducted (Abioye et al., 2017). This defines in this study; how efficient and useful consumers find Metaverse and how it is approached digitally.

Perceived usefulness is the best determinant of behavioral intention, according to a study of many TAM meta-analysis research conducted by Chin and Gopal, (1995); Davis and Venkatesh, (1996); Agarwal and Prasad, (1997), suggests that there are connections between BI, PU, ATU and PEOU. As shown in Table 2, which as of this study one of three categories is used to translate the relationships as “strong support” refers to the majority of research (more than 50% of the studies) evaluating the connection between PU and BI as significant in the meta-analysis study. It implies that only the link between PU and BI is supported by nearly all six meta-analysis studies (only one medium support). Thus, perceived usefulness has been shown to be the most accurate determinant that effects behavioral intention across all six investigations.

Table 4: The summary from TAM meta-analysis studies (2003-2010), Chin and Gopal, (1995), Davis and Venkatesh, (1996).

TAM Meta-analysis Study	PU-BI	PEOU-BI	ATU-BI
Legris, Ingham, and Colletette, (2003)	Strong Support	Strong Support	Strong Support
King and He, (2006)	Strong Support	Weak Support	N/A
Schepers and Wetzels, (2007)	Strong Support	Strong Support	Strong Support
Yousafzai, Foxall, and Pallister, (2007)	Medium Support	Weak Support	Medium Support
Turner, Kitchenham, Brereton, Charters, and Budgen, (2010)	Strong Support	Strong Support	N/A
Holden and Karsh, (2010)	Strong Support	Medium Support	Strong Support

Another study shows According to Santouridis and Kyritsi (2014), that perceived usefulness was the most important factor in determining behavioral intention to use technology. Perceived

usefulness is hypothesized to influence behavioral intentions to utilize a system, which in turn influence actual system usage (Davis et al., 1989), in accordance with the theoretical underpinnings of TRA.

H2: Perceived usefulness of Metaverse has a significant and positive effect on consumers' behavioral intention.

4.4.1. Perceived Usefulness of Metaverse and Attitude Towards Use

The variety of technological programs being used and their frequency of use serve as the benchmarks for measuring perceived usefulness. The more positive attitude users have toward used an information system, the more likely it is that they will maximize perceived usefulness or usage. The better the user's perception of the advantages of a technological system, the more positive an attitude they have toward using the system. Several research have been done on the attitude toward use and perceived usefulness (Wong and Sheth, 1969). According to Yuliyani and Dewi's (2016) research findings, there is a significant and positive relationship between perceived usefulness and the attitude toward adopting technology or information systems. Yadnya, et al., (2017) study's findings demonstrate that the variable perceived usefulness of a technology is seen has a positive and significant impact on the attitude toward use.

According to Wida et al., (2016), perceived usefulness significantly affects attitudes towards use. Another literature also provides that perceived usefulness and its elements have a direct impact on attitudes toward use (Davis et al., 1989). Perceived usefulness work as determinants in attitude toward technology use (Teo et al., 2008). The attitude toward use is affected by both perceived usefulness and perceived ease of use (Davis et al., 1989).

H3: Perceived usefulness of Metaverse has a significant and positive effect on consumers' attitude towards use.

4.5. Perceived Ease of Use of Metaverse and Behavioral Intention

PEOU construct is acting as one of the independent or predictors variables in the model with PU. Perceived ease of use refers to how much a person thinks using a particular technology would be simple (Davis et al., 1989). According to Lin (2007), perceived ease of use reveals how simple people find it to use a technology and navigate through it.

According to Jayasingh and Eze (2009); Shen and Chen (2008), perceived ease of use affects consumers' usage intentions in a positive way. Perceived ease of use has a direct impact on behavioral intention toward using technology, according to Jayasingh and Eze's (2009) research. The adoption of ease of use, however, was proven to have a substantial impact on people's intentions to utilize technology and the internet of things by Sambasivan et al, (2010). According to Venkatesh and Morris (2000); Luarn and Lin (2005), perceived ease of use significantly affects the intention to engage in a given behavior. According to Wang et al. (2003), behavioral intention is significantly and favorably impacted by perceived ease of use. According to the research that have been analyzed, the majority of them have shown that perceived usefulness and perceived ease of use have a large, favorable impact on people's behavior and intentions to use technology and the Internet (Al-Somali et al., 2009; Nasri & Charfeddine, 2012; Santouridis & Kyritsi, 2014).

H4: Perceived ease of use of Metaverse has a significant and positive effect on consumers' behavioral intention to use.

4.5.1. Perceived Ease of Use of Metaverse and Attitude Towards Use

According to TAM, PEOU directly and positively affects a person's attitude toward utilizing the system. The complexity of a specific system will act as a barrier to the adoption of an invention (Rogers, 1995). According to the data now available, perceived ease of use is a key factor that affects an individual's attitude toward system utilization. Additionally, it is believed that PEOU has a significant effect on attitude. Self-efficacy and instrumentality are two fundamental ways via which PEOU influences attitude and behavior resulting in real usage. The stronger the user's sense of effectiveness and personal control regarding his or her capacity to carry out the behavioral sequences required to operate the system, the easier it will be to interact with the system (Bandura, 1982; Lepper, 1985).

The ease of use of information technology influences users' attitudes toward using it, which are increasingly improving. Therefore, the more positively users perceive the ease of use of information technology systems, the more positively attitudes of users will improve to use the system itself. Regarding perceived ease of use or attitude toward use, numerous studies have been conducted. According to Widiyanto et al., (2020) research, shows that perceived ease of use has a positive impact on attitudes towards use. Similar findings by Nugraha and Laksito (2014); Wida et al., (2016), demonstrates that attitude toward use is positively and significantly impacted by perceived ease of use.

H5: Perceived ease of use of Metaverse has a significant and positive effect on consumers' attitude towards use.

4.5.2. PEOU – PU

It is suggested that perceived ease of use directly affects perceived usefulness. The benefits of a technology in terms of performance improvements are assumed to increase with how simple it is to employ technology. Perceived usefulness and perceived ease of use, according to Davis (2000), are closely connected. In other words, if two systems have identical capabilities, a user should find the system that is simpler to use to be more advantageous. According to Davis (1993), a user should become more productive overall if the ease of use is made easier, as this will increase productivity. This is due to the fact that some of the users' work entails using computers in particular. It is not assumed that perceived utility will affect how simple something is to use. According to Davis (1989), making a system easier to use should make the system more useful, all other things being equal. The opposite is not true, though.

Furthermore, Davis et al, (1989) hypothesized that perceived ease of use affects perceived usefulness. In general, the more a system is utilized, the more its use can enhance user performance (Venkatesh and Davis, 2000).

Perceived ease of use will influence perceived usefulness, but only in this one way and not the other, claimed by Davis et al. in their (2000) study. This is because perceived usefulness and perceived ease of use are different; whereas perceived usefulness concentrates on the overall

implications of technology use on user experience (process and outcome), perceived ease of use refers to the actual use of the technology.

H6: Perceived ease of use of Metaverse has a significant and positive relationship on perceived usefulness of Metaverse.

4.5.3. PEOU – PE

Both philosophically and empirically, the relationship between perceived enjoyment and perceived ease of use (PE – PEOU) is supported. The commonly used technology acceptance model (TAM), which is based on the idea that individuals underestimate the difficulty of using technologies because they enjoy the process itself and do not regard it to be tough, is employed in studies in this direction (Venkatesh, 2000). Second, the existence of the opposing direction (PEOU – PE) has also been hypothesized and verified. This approach is widely used in studies that include use Deci's (1975) motivational theory or Davis' (1989) work on the Technology Acceptance Model (Davis et al., 1992).

Systems that are perceived as being simpler to use are more likely to be thought of as pleasurable, according to Teo et al. (1999). To clarify the connection between PEOU and PE. Additionally citing Bandura's self-efficacy theory was Igbaria et al. (1995). (Bandura, 1977; Bandura, 1986). This hypothesis contends that self-efficacy significantly influences affect, and as a result, PEOU as self-efficacy is anticipated to significantly influence PE affect.

H7: Perceived ease of use of Metaverse has a significant and positive relationship on perceived enjoyment of Metaverse.

4.6. Perceived Enjoyment of Metaverse and Behavioral Intention

Perceived enjoyment as of this study acts as predictor variable alongside with PU and PEOU. The perceived enjoyment is the degree to which actions involving a certain system are regarded as enjoyable in and of themselves, independent of any negative effects on performance (Venkatesh and Davis, 2000). The degree to which utilizing technology is considered as fun and joyful in and

of itself, without regard to any performance repercussions, is known as perceived enjoyment (Davis et al., 1992). This defines in this study, how fun and enjoyable Metaverse seem to the consumers and how it is excited to use digitally.

According to research, perceived enjoyment is crucial to users' acceptance of technology and the intention and degree of technology use will be influenced by the user's perceived enjoyment (Venkatesh and Bala, 2008). A person using technology for convenience and enjoyment will perceive the application as comfortable because they have already experienced the initial behavior intention. The feeling of excitement, pleasure and satisfaction that is connected to an individual's act in putting a particular technology or digital internet of things into practice can be used to describe this perceived enjoyment. Teo and Lim (1999), discovered that perceived enjoyment had a positive and significant effect on intention to use in South East Asia.

H8: Perceived enjoyment of Metaverse has a significant and positive effect on consumer's behavioral intention.

4.7. Perceived Enjoyment of Metaverse and Attitude Towards Use

The attitude toward adoption will be positive if the user can have fun while utilizing new technologies. When compared to the identical activity that is not enjoyable, a person will be more driven to do or repeat the delightful activity (Davis et al., 1989).

The TAM model also highlights the idea that a person's attitude toward utilizing a technology depends on his or her level of comfort, also known as perceived enjoyment, and that this comfort is what leads the person to believe that using the technology is a good idea (Venkatesh and Bala, 2008). According to Amelia et al., (2019), perceived enjoyment has a positive and significant influence on a consumer's attitude towards use of a technology.

H9: Perceived enjoyment of Metaverse has a significant and positive effect on consumer's attitude.

4.8 METHODOLOGY

The many research methodologies have distinct properties, making them suitable for various study objectives, types of data involved, and other situations. Both research techniques can frequently be used in tandem to support one another's findings. Therefore, this component of the study will concentrate on the research's methodology roadmap.

The research's methodology is divided into the following framework:

- Purpose of the study
- Research design
- Method of data collection
- Sampling technique and population
- Method of data analysis

4.8.1 Purpose of the Research

The primary This study's objective is to look at the fundamental TAM principles in order to emphasize the impact of Metaverse and virtual adoption on customer perception in the future of marketing. In order to analyze and evaluate how consumers perceive Metaverse in marketing, the research quantitatively measured five key TAM values, namely:

- Perceived Usefulness (PU)
- Perceived Ease of Use (PEOU)
- Perceived Enjoyment (PE)
- Behavioral Intention to Use (BI)
- Attitude Towards Using (ATU)

These five key concepts are considered to be the fundamental principles that will be used to measure and evaluate how much consumers perceived the Metaverse in digital marketing and how they will generally feel about the Metaverse in the future of marketing. In conclusion, this study will evaluate the effects of Metaverse on consumer's intention to use and the actual use of it. Some of the advantages that result from using the Metaverse to engage customers and interact with them and link it to the aforementioned variables were previously highlighted in the literature review and chapter four as well.

4.8.2 Research Design

Because the quantitative technique is a strategy that seeks to inquiry into a topic that has been acknowledged, it was used in this study's methodology to produce an effective and credible depiction. It is based on statistically assessing the results after testing the theory measure numerically.

To make the research worthwhile, the researcher employed explanatory studies that were concerned with evaluating the present-day marketing methods as well as the marketing practices of the future, with a focus on the Metaverse and its technological adoption towards consumer perception.

Furthermore, quantitative-based approach was used to analyze the acquired data, which was collected by using questionnaire, and this data was statistically tested using scientific statistical computational software (SPSS) to answer the research questions and it has been done by statistically presenting, analyzing, and interpreting data.

4.8.3. Methods of Data Collection

Relevant data was needed for this study in order to fulfill its goals, and it was primarily gathered from primary sources in order to verify theories and hypotheses and uncover facts that could be applied generally. Accordingly, a formal survey was used to gather the basic data. The chosen participants were required to complete an official survey questionnaire, which used closed-ended multiple choice questions. Additionally significant information for the study's literature came from secondary data. The secondary data for this study was acquired from relevant books, journals, articles, research papers, and government publications that may be accessed in libraries, online, and in other places and updates from Turkey's major corporations.

4.8.3.1 Questionnaire

This study was used self-administered online questionnaire consisted of 21 questions put together as a closed-ended type of questions and 5 demographic questions, which was prepared in order to explore the technological adoption of Metaverse and its effect on consumer perception in Turkey's context measuring in a Likert-scale type of questioning. This questionnaire is composed six sections, where in the first section perceived usefulness of Metaverse is measured and is consisted

of 5 questions. In the second section of the questionnaire perceived ease of use of Metaverse is measured with 4 questions in it, while the third and fourth sections consists of 4 questions each section about perceived enjoyment and behavioral intention to use, respectively.

The fifth section with 4 questions is about to measure attitudes towards use of consumers to Metaverse. These total of 21 items were evaluated using 5-point Likert scale, terms being started from “Strongly Agree” to “Strongly Disagree”. In the last section, respondents were asked to provide their demographic information such as: gender, age, educational level, income and marital status all being evaluated using range scale except for gender and marital status questions. The questionnaire was first prepared in the English language version and then later it was translated into Turkish to make it easy for everyone living in Turkey to conveniently participate without language barrier as long as it’s prepared in two languages which made it easy to be understandable for the respondents.

4.8.3.2 Measurement of Independent and Dependent Variables

A theoretical framework is a conceptual representation of the link between many elements that have been suggested to be crucial to the subject (Danesh et al., 2012). Variables and cases are always included in the components utilized in research.

Variables might take on several roles in any given study. Independent variables and dependent variables play two important functions. All measurements of independent and dependent variables have been adopted or established in this study based on the literature. The dependent variables in this study are the consumers’ Behavioral Intention which is also the outcome variables that this study is aiming to assess and evaluate. When conducting Regression Analysis “Attitude toward Use,” once acts as dependent variable alongside with BI to find significance among the study’s constructs but in the proposed model, ATU acts as mediating factor which is a contributor to the extent that independent variables have an impact on the dependent variable. The goal of the research is to determine how the independent variables—also known as predictors or explanatory variables—in this study “perceived usefulness, perceived ease of use, and perceived enjoyment”—affect the dependent variables and to examine their relationships within the Metaverse setting. In other words, they are the causes.

Both Turkish and English translated survey was distributed as a pilot sample of 30 people living in Turkey via online for better understandability and content clarity. Table 5 below provides details on each theoretical dimension's measurement, scale and the source of the adopted literature.



Table 5: Measurement of independent and dependent variables

	Dimension		Source	Measurement
	English	Turkish	References	Scale
PU	S1: Perceived Usefulness	Algılanan Fayda		
1	Using Metaverse would be useful.	Metaverse kullanmak faydalı olacaktır.	Kim & Hahn (2012).	5-point Likert scale
2	It would be important to use metaverse for the future.	Gelecek için metaverse kullanmak önemli olacaktır.	Kim & Hahn (2012).	5-point Likert scale
3	Using Metaverse would be helpful.	Metaverse kullanmak yardımcı olacaktır.	Kim & Hahn (2012).	5-point Likert scale
4	Using Metaverse would be functional.	Metaverse kullanmak işlevsel olacaktır.	Kim & Hahn (2012).	5-point Likert scale
5	Metaverse would be time-saving to use.	Metaverse insanlara zaman kazandıracak bir uygulama olacaktır.	Kim & Hahn (2012).	5-point Likert scale
PEOU	S2: Perceived Ease of Use	Algılanan kullanım kolaylığı		
6	Use of Metaverse would be easy.	Metaverse kullanımı kolay olurdu.	Kim & Hahn (2012).	5-point Likert scale
7	Metaverse would not require a lot of mental effort.	Metaverse çok fazla zihinsel çaba gerektirmez.	Kim & Hahn (2012).	5-point Likert scale
8	Metaverse would be easy to navigate.	Metaverse gezinmek kolay olurdu.	Kim & Hahn (2012).	5-point Likert scale
9	Metaverse would be easy to learn.	Metaverse öğrenmesi kolay olurdu.	Kim & Hahn (2012).	5-point Likert scale
PE	S3: Perceived Enjoyment	Algılanan Zevk		
10	Metaverse would be entertaining to use.	Metaverse kullanmak eğlenceli olurdu.	Kim & Hahn (2012).	5-point Likert scale

11	Using Metaverse would be enjoyable.	Metaverse kullanmak keyifli olurdu.	Kim & Hahn (2012).	5-point Likert scale
12	Metaverse would be fun to use.	Metaverse kullanmak eğlenceli olurdu.	Kim & Hahn (2012).	5-point Likert scale
13	Using Metaverse would be exciting.	Metaverse'i kullanmak heyecan verici olurdu.	Kim & Hahn (2012).	5-point Likert scale
BI	S4: Behavioral Intention to Use	Davranışsal Kullanım Amacı		
14	I would think of using Metaverse in the future.	Gelecekte Metaverse kullanmayı düşünürdüm.	Cowen (2009)	5-point Likert scale
15	I may have motivation to use Metaverse in the future.	Gelecekte Metaverse kullanmak için motivasyonum olabilir.	Souza (2016), Lewis (2019), Feriera (2016)	5-point Likert scale
16	I may intend to use Metaverse in the future.	Gelecekte Metaverse kullanmayı düşünebilirim.	Cowen (2009)	5-point Likert scale
17	I have positive perception about using Metaverse.	Metaverse'i kullanma konusunda olumlu bir algıya sahibim.	George, John & Dimitrios (2009)	5-point Likert scale
ATU	S5: Attitude Towards Using	Kullanıma Yönelik Tutum		
18	I have positive thoughts about Metaverse usage.	Metaverse kullanımı hakkında olumlu düşüncelerim var.	Chang (2004)	5-point Likert scale
19	Using Metaverse would be a good idea.	Metaverse kullanmak iyi bir fikir olabilir.	Chang (2004), Lewis (2009)	5-point Likert scale
20	I may think of using Metaverse in the future.	Gelecekte Metaverse kullanmayı düşünebilirim.	Chang (2004)	5-point Likert scale
21	Generally, I have a positive attitude on Metaverse usage.	Genel olarak, Metaverse kullanımına olumlu bakıyorum.	Lu (2007)	5-point Likert scale
DD	S6: Demographic Data	Demografik veri		

22	GENDER	CİNSİYETİNİZ:	MALE, FEMALE, OTHER	A closed-ended question, personal factual question about the respondents' gender.
23	AGE	YAŞINIZ:	RANGE NUMBERS	A closed-ended question, about the respondent's education level.
24	EDUCATION	EĞİTİM DURUMUNUZ:	PRIMARY, SECONDARY, COLLEGE, BACHELOR DEGREE, MASTER, PHD.	A closed-ended question, about the respondent's education level.
25	AVERAGE INCOME	AYLIK ORTALAMA GELİR:	NUMBERS (MONETARY UNIT – TL, EURO, USD ETC.)	A closed-ended question, about the respondent's monthly income
26	MARITAL STATUS	MEDENİ HALİNİZ:	MARRIED, SINGLE, SEPERATED, DIVORCED	A closed-ended question, about the respondent's marital status.

The intended responders received the questionnaire online. The profile of the sample is measured using nominal and ordinal scales as follows: Data are commonly evaluated in practice using ordinal or nominal scales, especially in the social sciences (Hip and Bollen, 2006; Lee and Song, 2003; Schoenberg and Armingier, 1989)



4.8.4. SAMPLING TECHNIQUES AND POPULATION

Target population of this study is the population living in Turkey. The population of Turkey was 85.06 million as of 2021 (Turkish Statistical Institute, 2022), with roughly three-quarters of those living in towns and cities, according to the Address-Based Population Recording System. The population is growing annually by 1.35 percent, based on the projection for 2021. Turkey has 97 people per km² of average population density. The population is made up of people aged 0 to 14, who make up 25.3% of the total, people aged 15 to 64, who make up 67.4%, and those 65 and more, who make up 7.3%. (Turkish Statistical Institute, 2022).

Up until recently, the vast majority of sample size recommendations were just general guidelines based on the experience of experts. Absolute numbers are used in some of the most often referenced rules. At least 100 people should be sampled, according to Mundfrom (2005); Kline (1994). The following scale of sample size adequacy was presented by Kyriazos (2018): 50 = very poor, 100 = poor, 200 = fair, 300 = good, 500 = very good, and 1,000 or more = excellent. Additionally, authors have suggested minimal sample size to variable number ratios.

Considering the above contrast on the determination of the sample size and considering 26-questions survey, 300 self-administered questionnaires were distributed in Turkey's population mainly in Istanbul and Ankara via online through social media platforms and community gathering applications such WhatsApp groups and via personal emails as well. The data is collected from 1st September to 3rd November 2022; and after monitoring any unusuality and missing data or inconsistencies, 300 questionnaires were obtained achieved a return rate of 100%. A sample size of 300 participants is considered as good according to Mundfrom (2005).

4.8.5. METHOD OF DATA ANALYSIS

According to the nature of the data provided by respondents, the researcher quantitatively examined and interpreted data. Different statistical methods, including descriptive statistics, was used to evaluate and interpret the quantitative data in order to compare, contrast, and explain the samples' individual and current practices. For more complex statistical analysis, the Statistical Package for Social Science (SPSS) computer program was employed as a tool. Finally, a conclusion and a suggestion were developed in light of the results.

5. RESEARCH FINDINGS

The research findings are provided in this section, starting with the sample's descriptive analyzes focusing on the demographic category of the study. An additional analysis was also employed in the study, such as explanatory factor analyses (EFA) and also regression analyses, as well as validity and reliability evaluation, will be covered after descriptive statistics.

5.1. Descriptive Analysis of the Model

Table 6 shows the demographic of the entire sample, including gender, age, education level, income, and marital status. The sample's gender split is 57.7% male and 42% female, with half of the sample (~50%) aged between (25 – 29) and nearly half of the sample's educational level (49.7%) are at master's degree level. 25.3% of the sample's total earn is between 5001TL and 10000TL each month, compared to 34.3% who make between 10001 and 15000TL. 57.3% of the sample in total is single, compared to 30.7% of the sample's married group.

Table 6: Gender, age, education level, income and marital status of the sample.

Gender		
	Frequency	Percent
Female	126	42.0
Male	173	57.7
Other	1	0.3
Age		
	Frequency	Percent
18 – 24	44	14.7
25 – 29	150	50.0
30 – 35	81	27.0
36 – 40	23	7.7
41 – 49	2	.7
Marital Status		
	Frequency	Percent
Divorced	10	3.3
Married	92	30.7
Separated	26	8.7
Single	172	57.3
Total	300	100.0
Education Level		
	Frequency	Percent
Master degree	149	49.7
PHD	17	5.7
Secondary school	2	.7
Undergraduate (Diploma / Degree)	132	44.0
Total	300	100.0
Income Rate		
	Frequency	Percent
0 – 5000 TL	38	12.7
10001 – 15000 TL	103	34.3

15001 – 20000 TL	68	22.7
20001 – 30000 TL	12	4.0
30000 TL +	3	1.0
5001 – 10000 TL	76	25.3

5.2. Explanatory Factor Analysis and Reliability Assessment.

Factor analysis is often employed as a multivariate statistical approach and is recognized as the preferred way for evaluating self-reporting surveys in the fields of information systems, psychology, business, and education (Byrant et al. 2003). Through FA, a large number of variables (factors) are reduced to a more manageable amount. It also illustrates basic connections between measurable variables and latent constructs, aiding in the growth and development of hypotheses. Additionally, it provides evidence that self-reporting scales have construct validity (Gorsuch 1988; Hair, Anderson et al. 1995; Tabachnick and Fidell 2001; Thompson 2004). Explanatory factor analysis is mainly employed in this study to determine the structure of the interrelationships between the variables and their loadings.

All items are used in an explanatory factor analysis with IBM-SPSS software. Factor analysis was used to evaluate all of the items' independent and dependent variables, such as PU, PEOU, PE, ATU, and BI constructs. To ensure that all structures have the same factors assessed by the same components or objects, uncommon things were deleted. EFA employs principal axis factoring with varimax rotation because it is a more effective way of factor extraction (Lee and Hooley, 2005).

Three approaches, including the correlation matrix of variables, the Bartlett test of sphericity, and Keyser-Meyer-Olkin (KMO) were used to assess the sample adequacy in order to establish whether this study is appropriate for factor analysis (Erouglu, 2009). KMO test is a measure of how suited your data is for factor analysis while Bartlett's test of sphericity is used to test the null hypothesis that the correlation matrix is an identity matrix. It is expected that the correlation matrix will have a larger correlation since the higher the correlation between variables, the greater the likelihood it signals to construct a factor an objective test of the factorability of the correlation matrix is Bartlett's (1954) test of sphericity, which statistically investigates the hypothesis that the correlation matrix contains ones on the diagonal and zeros on the off-diagonals (Kaiser, 1974). It

was therefore created using random data. This test must have a statistically significant chi-square value in order to warrant the use of EFA. In other words, the study's data set should consider any significant value in the KMO that is greater than 0.05.

Because the Bartlett test is sensitive to even small departures from randomness in high sample sizes, the results should be supplemented with a measure of sampling adequacy. The Kaiser-Meyer-Olkin (KMO; Kaiser, 1974) measure of sampling adequacy is the ratio of complete and partial correlations, which illustrates the extent to which correlations are a function of the variance shared by all variables rather than the variance shared by particular pairs of variables. KMO values, which range from 0.00 to 1.00, can be determined for both the full correlation matrix and each individual measured variable. (Lloret et al., 2017; Vogt et al., 2017). According to (Child, 2006; Hair et al., 2010; Kaiser, 1974), overall KMO values below .50 are typically regarded as unacceptable, and the correlation matrix cannot be factored. According to Kaiser (1974), KMO values imply that in the .90s are marvelous; in the .80s, meritorious; in the .70s, moderate; in the .60s, mediocre; in the .50s, horrible; below .50, unsatisfactory. As table 8 shows, the study's EFA-KMO run 0.959 which based on the existing studies is amazing for factor analysis.

In the factor of the sample, all items that are loaded below 0.50 were eliminated from the dataset considering that these items indicate insufficient explanatory power of variables (Costello and Osborne, 2005). And according to the guidelines of Hair et al., (1998), identifying significant factor loadings based on sample size, factors which have loadings in between 0.65 – 0.95 are considered a sample size of 250 – 350 respectively and this shows since this study's sample size was 300, then the lower standard of the loadings should be at least 0.50 and any item below this value should be eliminated from the factor analysis.

The consistency or stability of a measurement is referred to as reliability, and reliability evaluation is carried out in IBM-SPSS. If no other unrelated factors affect the outcome, the respondent will obtain the same score on repeated administrations of the test or instrument. A respondent rarely receives the exact same score across tests because random errors are likely to change repeated assessments of any occurrence. Testing aims to reduce random mistakes and improve measurement dependability because completely accurate measurements are rare (Bernstein, 1994). Test-retest reliability is a metric used to determine a test's consistency across time.

Reliability between tests is based on the idea that the construct being assessed is largely stable throughout time. Özhan (2009) made a classification of reliability scores and concluded that scores below 0.40 indicate that the scale is not reliable, whereas the scores in between 0.40 and 0.60 indicate the scale has low reliability, scores between 0.60 and 0.80 considering having very good reliability and scores between 0.80 and 1.00 indicates a very high reliability. Table 7 shows the factor loadings, Eigenvalues, variance explained and reliability of the factors.

Table 7: EFA and reliability for all the constructs of the study.

Items	Factor Loadings	Eigen Values	Variance Explained	Reliability
S1: Perceived Usefulness		11.371	59.847	0.924
Using Metaverse would be useful.	0.731			
It would be important to use metaverse for the future.	0.768			
Using Metaverse would be helpful.	0.741			
Using Metaverse would be functional.	0.783			
Metaverse would be time-saving to use.	0.697			
S2: Perceived Ease of Use		7.894	67.741	0.915
Use of Metaverse would be easy.	0.814			
Metaverse would not require a lot of mental effort.	0.803			
Metaverse would be easy to navigate.	0.828			
Metaverse would be easy to learn.	0.797			
S3: Perceived Enjoyment		5.164	72.905	0.905
Using Metaverse would be enjoyable.	0.642			
Metaverse would be fun to use.	0.691			
Using Metaverse would be exciting.	0.756			
Metaverse would be entertaining to use	0.753			
S4: Behavioral Intention to Use		3.552	76.457	0.887

I would think of using Metaverse in the future.	0.726		
I may intend to use Metaverse in the future.	0.614		
I have positive perception about using Metaverse.	0.661		
S5: Attitude Towards Using	2.635	79.092	0.888
I have positive thoughts about Metaverse usage.	0.530		
I may think of using Metaverse in the future	0.503		
Generally, I have a positive attitude on Metaverse usage.	0.715		

Table 8: KMO and Bartlett's Test.

Keyser-Meyer-Olkin measure of sampling adequacy	.959
Bartlett's Test of Sphericity	Approx. Chi-Square 4842.905
	df 171
	Sig <.000

Table 7 shows as based on Özhan (2009) classification that in this study, all factors have very high reliability scores ranging from (0.887 to 0.924), which indicates that all items are reliable and internal consistency of the measurement exists. The reliability test is done to each variable; The highest reliable across all variables is “Perceived Usefulness” with Cronbach’s Alpha of (0.924) with the number of variable’s items being 5. This clearly shows that the consistency of measurement in PU’s items is rigidly stable and reliable. BI has the lowest reliability score of (0.887) which at the same based on the literature indicates very high reliability.

Table 7 of EFA also shows factor loadings of each item above (0.50) score of loading of all the variables. Two items in ATU and BI were automatically eliminated due to having loading score

less than (0.50). The factor loadings of the items range between (0.828 – 0.503) which indicates strong correlations between the item and the factor. According to Wetzel, (2012), a factor loading of more than (0.50) usually indicates a moderate correlation between the item and the factor, and as in Table 7 shows, only two items indicate moderate correlations to their factors and all other items indicate very good to very strong correlations to their factors.

Table 8 shows the KMO and Bartlett's Test of the model having (0.959) KMO score and as according to Kaiser (1974), KMO values imply that in the .90s are marvelous. This indicates that the degree of information among variables overlap greatly and the presence of a strong correlation exists. It also shows that the significance of the study is less than ($<0,50$), which indicates that the study's correlation matrix is indeed not an identity matrix (rejection of null hypothesis).

5.3. Regression Analysis and Validity Assessment

Regression analysis, which involves figuring out and evaluating the relationship between a dependent variable and one or more independent variables—the variables are frequently designated as dependent or independent—is one of the most well-liked statistical techniques in the social, behavioral, and physical sciences. In this study, the dependent variable (also known as an outcome) is BI, and ATU acting as a dependent variable once in the regression model to examine the relationship between the predictors and ATU. Independent variables are PU, PEOU, PE, and ATU in one regression model to find out the relationship of all independent variables and BI as the dependent variable.

An independent variable is an input, a motivation, a predictor, or a component that affects a dependent variable. For figuring out problems and making adjustments, it is quite beneficial. Using estimates of the parameter values and a model of the predicted link, an estimated regression equation is produced. The model is then submitted to a series of tests to determine its viability. If the model is deemed to be satisfactory, the generated regression equation can be used to forecast the value of the dependent variable given values for the independent variables (Aldrich and John, 1995).

A relationship that may be represented by a straight line or that can be applied to many dimensions is examined using linear regression. By changing the original variables in a way that establishes linear correlations between the transformed variables, many more problems can be handled using

linear regression than would otherwise be the case. When there is only one continuous dependent variable and one independent variable, the method is known as a basic linear regression analysis. The study assumes that there is a linear relationship between all variables. The link between a number of independent or predictor factors and a dependent or criterion variable is examined using multiple regression (Francis, Coats, and Gibson, 1999). The study used employed three different linear regression analysis; one regression model BI as the basic dependent variable and PU, PEOU and PE as predictors; second model as ATU as dependent variable and PU, PEOU and PE as predictors; and third model BI as the dependent variable and two predictor models, one with ATU and PU, PEOU and PE as the predictors; all this models to examine the relationships between all variables in the proposed model.

To identify statistically relevant predictors of the equation in this study, multiple regression analysis is done using IBM-SPSS coefficient table of regression statistics. The Model 1 of regression analysis examines the impact of the independent variables that have the highest Beta effect with the dependent variable. Model 2 does regression analysis. This process is repeated sequentially until no significant correlations between the independent and dependent variables could be found (Kendall, 1955). Table 9 shows the models' summary of the coefficient of regression analysis. The method found 3 models that are strongly correlated to the dependent variable of the study. The table also provides the B scale of correlation which shows to what extent that each variable has impact on the dependent of the model.

Table 9: Model Coefficients^a

Model 1					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1. (Constant)	2.093E-15	.031		.000	.000
Zscore(PUtotal)	.312	.048	.312	6.526	.000
Zscore(PEOUtotal)	.206	.041	.206	5.048	.001

Zscore(PEtotal)	.433	.050	.433	8.731	.000
a. Dependent Variable: Zscore(BItotal)					
Model 2					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1. (Constant)	9.108E-16	.031		.000	.000
Zscore(PUtotal)	.322	.048	.322	6.753	.000
Zscore(PEOUtotal)	.163	.041	.163	4.021	.001
Zscore(PEtotal)	.460	.049	.460	9.286	.000
a. Dependent Variable: Zscore(ATUtotal)					
Model 3					
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1. (Constant)	2.093E-15	.031		.000	.000
Zscore(PUtotal)	.312	.048	.312	6.526	.000
Zscore(PEOUtotal)	.206	.041	.206	5.048	.001
Zscore(PEtotal)	.433	.050	.433	8.731	.000
2. (Constant)	1.688E-15	.028			
Zscore(PUtotal)	.169	.046	.169	3.662	.000
Zscore(PEOUtotal)	.133	.038	.133	3.541	.001
Zscore(PEtotal)	.229	.051	.229	4.522	.000
Zscore(ATUtotal)	.445	.052	.445	8.500	.000
a. Dependent Variable: Zscore(BItotal)					

In table 9, three models have been found in regression analysis and it shows the standardized coefficient Beta and the significance of each variable in the tables. According to Agresti et al., (1992), a standardized beta coefficient compares the strength of the effect of each individual independent variable to the dependent variable. The higher the absolute value of the beta coefficient, the stronger the effect. Based on this literature, in model 1 it shows that perceived enjoyment has the highest effect across all other variables on behavioral intention which is the actual dependent of the model with a value of (0.433). This means that PE in TAM determinants have the most effect on BI of the consumers and can be easily compared to each other. Perceived usefulness comes as to the second highest effect on consumer's behavioral intention towards Metaverse since consumers always consider the usability of a system.

In model 2, ATU acts as dependent variable but in the proposed model it is a mediating factor. All other three predictors are in the same position and still it shows that PE has the lead on the effect on consumer's attitude towards use of Metaverse as dependent variable in this model. Perceived enjoyment got value of (0.460) and is the most influencer across all other predictors on ATU. Perceived usefulness has also the second the effect on ATU as consumers' attitude towards Metaverse depends on the usability of the system.

In model 3, the mediating factor ATU is included in the predictors and BI as the actual dependent of the model to see how the mediating factor combined with the actual independent variables together effect on consumer's BI. It shows that ATU has dominated the most effect on BI and all other predictors have less beta value than ATU. This either means that consumers can't separate ATU from BI as Metaverse has not yet been used commonly around the globe or that ATU has more effect than just being mediating factor and it could be the strongest predictor of consumer's BI towards Metaverse. With the regression analysis each model has got R square which is statistical measure in a regression model that determines the proportion of variance in the dependent variable that can be explained by the independent variable. In other words, R squared shows how well the data fit the regression model (the goodness of fit). Higher R square is good for the regression model (Colin, 1997). Model 1 has R square value of (0.720) while model 2 got R square value of (0.721) and model 3 with R square value of (0.775) which indicates that the model's data is suitable for the regression analysis. So because of these findings, hypothesis of the study are accepted and significant.

Table 10: Hypothesis Test

Hypothesis:	Result
H1: Attitude towards use has a significant and positive effect on consumers' behavioral intention.	Accepted
H2: Perceived usefulness of Metaverse has a significant and positive effect on consumers' behavioral intention.	Accepted
H3: Perceived usefulness of Metaverse has a significant and positive effect on consumers' attitude towards use.	Accepted
H4: Perceived ease of use of Metaverse has a significant and positive effect on consumers' behavioral intention to use.	Accepted
H5: Perceived ease of use of Metaverse has a significant and positive effect on consumers' attitude towards use.	Accepted
H6: Perceived ease of use of Metaverse has a significant and positive relationship on perceived usefulness of Metaverse.	Partially Accepted
H7: Perceived ease of use of Metaverse has a significant and positive relationship on perceived enjoyment of Metaverse.	Partially Accepted
H8: Perceived enjoyment of Metaverse has a significant and positive effect on consumer's behavioral intention.	Accepted
H9: Perceived enjoyment of Metaverse has a significant and positive effect on consumer's attitude.	Accepted

5.4. Validity Assessment

A measurement tool's validity is determined by examining whether it captures the behavior or quality that it is intended to evaluate Newsom et al., (2000). Validity is determined by a pertinent and appropriate interpretation of the data collected from the measuring equipment as a result of the analysis. Whiston and Feldwisch (2015) defined validity as obtaining data that is appropriate for the intended use of the measuring equipment. Validity tests are then used to see whether the scale's expressions result in measurements that are appropriate given the objectives of the study.

The literature has provided a variety of validity criteria to assess the reliability of the measurement device (Oluwatayo, 2012). The list of these is as follows: The following terms are used to describe the validity of statistical conclusions: internal validity, external validity, construct validity, face validity, systemic validity, theoretical validity, jury validity, consequential validity, cultural validity, and translation validity. Content validity and construct validity are generally regarded to be of substantial significance in the literature, albeit this list could be expanded further. Even though the aforementioned validity types are frequently used for different things, some of them are suitable replacements.

Content validity: Content validity is a qualitative sort of validity that evaluates whether the terms in the measuring tool accurately reflect the object being evaluated, according to Bollen (1989). This definition refers to a content validity study of the measuring instrument as validity research that assesses the extent to which each component of a measuring instrument serves the intended purpose. By using content validity in scale development or adapting the established scale for the pertinent culture and language, the most appropriate expressions to enhance the quality of the measuring instrument's expressions and to serve the purpose of the scale may be determined. In order to measure any behavior or quality, it is ensured that the prepared measuring equipment has a functional scale with content capability. Many ideas' subject areas are not always clear, especially in studies in the social sciences. The meanings and specifics of the bulk of ideas are therefore disputed in the literature. A researcher must determine the content (dimensions) of the relevant idea and theoretically characterize it before performing a content validity study. The literature has recommended a number of methods for establishing content validity. Among them, seeking advice from professionals and applying statistical methods are two of the most popular methods.

Construct validity: Construct validity is the degree to which an instrument evaluates the idea, behavior, quality, or other theoretical construct that it claims to measure. It is the ability to distinguish between participants who display the desired behavior or quality and those who do not. If personnel with high organizational commitment earn high scores and those with low organizational commitment receive low scores on an Collen (1996) measuring instrument, it is assumed that the instrument has construct validity. In conclusion, the construct validity of the measuring instrument, which is another way of expressing that it confirms the construct to be

measured, shows the ability to reveal the construct. Construct validity, which is based on the rational relationships between variables, is commonly used by researchers. A fabricated fit of the study is insufficient when assessing validity. Assessing the convergent and discriminant validities following the construct validity test is essential for the study to yield results that are helpful. To assess concept validity, the literature has created a number of different methods. One of these strategies, that of Cronbach and Meehl, highlights inter-construct interactions rather than relationships between items and constructs (1955). Campbell and Fiske developed the multi trait-multimethod matrix in 1959. It is relatively easy to construct and is based on evaluating convergent/discriminant validities.

Convergent Validity: According to convergent validity, the expressions of the variables and the parts they produce are connected. This means that the measuring device used to evaluate a particular build actually measures that construct. According to the idea of convergent validity, expressions should be connected to one another and to the factor that is meant to quantify the same concept. Convergence validity illustrates the strength of the link between the observable variables used to measure the latent variable (Hair et al., 1998).

Discriminant Validity: To make sure they accurately reflect the latent variable, the observed variables in the measurement model are examined for discriminant validity. Discriminant validity, or the relationship between one item and one factor, is the state in which the expressions of a scale are more closely related to one particular factor than to the other factors. The ASV value is calculated by dividing the sum of the squares of the variance shared by additional components by the total number of shared variances. The arithmetic mean of the squared sum of the correlation coefficients between the elements is, in other words, the ASV value.

All items chosen for all constructs in this inquiry are adaptations from previous studies since content validity demands that the selected items must represent the notion about which generalizations are to be formed (Punniyamoorthy and Raj, 2007). Convergent validity is supported by the statistical significance of factor loadings for each item inside a single construct. Table 10, includes a correlation matrix of the variables using SPSS Pearson Correlation format. Each variable items are being tested their validity solely to examine the relationship between the items of each variable, for example; Perceived Usefulness' five items are tested their inter-

correlation Pearson matrix. Then all variables' items are being tested to each other to study their relationship in the model.

Table 11: Discriminant Validity and AVE of all factors

Factors	F1	F2	F3	F4	F5	AVE	SqR of AVE
PU	-	.593	.750	.737	.728	0.554733	0.861478
PEOU		-	.630	.645	.610	0.657018	0.884538
PE			-	.769	.787	0.710609	0.803872
BI				-	.805	0.666946	0.706980
ATU					-	0.582602	0.609753

Table 10 show the discriminant validity of study's factors, examining their Average Variance Extracted (AVE) and Square AVE. The finding shows that the SqR AVE values extracted are higher than the factor correlations so that the study is also valid in terms of discriminant validity. All factors have also strong correlations on each other as the proposed model constructed and there are no opposite correlations like factors having minus (-) value of correlations on each other.

6. CONCLUSIONS

This section involves the discussion of the research findings, implications and the conclusion of the study.

6.1. Discussion and Conclusion

This study presented the extended Technology acceptance model of Metaverse in the digital marketing industry and tested it in the population living in Turkey who were the primary target of this study. The model examined perceived usefulness, perceived ease of use, perceived enjoyment and attitude towards use's impact on behavioral intention of the consumers; together with exploring the interrelationships among these constructs. In addition to the above stated primary objective, the study also examined the attitude towards use of Metaverse construct as being the mediating factor between the predictors and the actual dependent or the outcome of the model which is behavioral intention to use Metaverse by the consumers. All together nine hypotheses were proposed; all of which were analyzed via regression analysis using IBM-SPSS 27.

The study results indicated and confirmed a positive, significant and direct effect of attitude towards use on consumer's behavioral intention as suggested by the studies of Davis (1989), Nysveen et al., (2005), Chang and Wang (2008), Moon and Kim (2001); These studies all agreed that attitudes toward using a system have been discovered to be the strongest predictor of intention to use Metaverse and Virtual advertisements because attitudes toward a particular system have an impact on customers' actual behavior in their minds (such as: buying, using, referring and intentions about future reputation). According to the studies, behavioral intention is influenced by perceived usefulness, perceived ease of use, perceived enjoyment and attitude towards use. These factors together account for 80% of the total variance in behavioral intention, of which attitude alone accounts for 56%. The studies also discovered that a more positive attitude towards the use of online communication tools corresponds to a greater behavioral intention to use them. This suggests, in the context of this study, that more than half of consumer behavior is influenced by their attitudes toward using the Metaverse. Compared to other factors that have an impact on consumer's behavioral intention, attitude towards use is the most effective predictor of consumer behavior with regard to using the Metaverse and the firms' ability to gain customer reputation.

According to the studies of Zomore and Ajzen (2014), Scherus et al., (2009), Hsiao and Chang (2013), Nigg et al., (2009), Peter et al., (2014), Sari and Kusuma (2014); had all supported the concept that ATU affects BI and found that one of the key indicators of intention is one's attitude toward the behavior. Despite the fact that the direct connection between attitude and behavioral intention has been thoroughly investigated and confirmed to be important in many earlier research. On the other hand, there is sufficient evidence in the literature to show that some antecedents play a part in shaping the attitude toward the intention. These facts therefore strengthen the effort to investigate the mediating role of attitude in elucidating the connection between behavioral intention and the components involved in attitude formation.

According to Link et al. (2010), the study showed that all aspects of attitude, such as affective (feelings), behavioral (attitude's impact on behavior), and cognitive (belief and knowledge) of the consumers about the Metaverse, were in a position to positively influence the consumers' behavioral intention. The researcher uncovered some additional characteristics that may affect the relationship between attitude and intent, but the study also revealed that consumer perspectives on belief and awareness of the system have a substantial impact on behavioral intention. Accordingly, it may be inferred from a number of studies available in the earlier literature that showed the involvement of specific elements, such as attitude, as a predictor or mediator between the relation of the consumer's behavioral intention and the actual predictors of the extended TAM. All of the above-mentioned studies support this study on the direct and the significance effect of attitude towards use of the consumer on the behavioral intention to use of Metaverse.

The study also confirmed the significant and direct positive impact of perceived enjoyment on behavioral intention and attitudes of consumer's use towards Metaverse as empirically concluded on the studies of Shin (2009), Nysveen et al., (2005), Mäntymäki and Salo (2011) and others; perceived enjoyment has a significant and direct positive impact on consumers' behavioral intentions to use the Metaverse. In particular, enjoyment is a strong predictor of intentions and attitudes in technological system contexts. These studies also demonstrate that using digital and experiential services, such as Metaverse, is often done for fun. Their research found a high correlation between enjoyment and behavioral intention and attitude toward using virtual services. They also suggested that employing enjoyable digital experiences is a more compelling incentive (like Metaverse). Perceived enjoyment has a favorable impact on behavior intention and attitude

toward using social virtual worlds, according to earlier studies. The study also found that enjoyment predicted user adoption of virtual worlds in terms of behavior and attitude.

According to Kurniasih et al. (2022) and Khiong (2022) stated that Perceived Enjoyment has a positive influence on Behavior Intention, this is evidenced by the Beta value of PE in the regression analysis thus indicates that consumers feel using Metaverse is fun, enjoyable and comfortable and their intention of future reputation is positive. It can be seen from the answers of respondents who gave a fairly high score, implying that more and more people feel comfortable and think they will enjoy using the system. Research conducted, according to Gawron et al. (2021), Haudi et al. (2022), Huang et al. (2022); stated that the perception of enjoyment has a strong influence on the behavioral intention of consumers to use a virtual system like Metaverse. Consumers will be more prepared to adopt with the Metaverse system if the system is fun and enjoyable to use. This shows that perceived enjoyment has a strong influence in encouraging Behavior Intention to virtual users specially Metaverse. As per study conducted by Carr et al., (2001), the more enjoyable the virtual system, the more likely consumers will intend to use that system in the future. According to the data, the students of Faculty of Economic and Business Sam Ratulangi University Manado think that Perceived Enjoyment is one of the factors that influence their intention to use technology system and virtual services like Metaverse.

Numerous researchs including Agarwal and Karahanna (2000), Davis et al., (1992), Igbaria et al., (1996), Teo et al., (1999), Van der Heijden (2004), Mäntymäki and Salo (2011), Shen and Eder (2009); all have shown that enjoyment and intention are related, especially when considering hedonic information systems. According to Davis et al., users who find satisfaction in utilizing an information system are more likely to develop behavioral intentions than other users who do not. The intention to use virtual worlds is also demonstrated to be significantly predicted by perceived enjoyment.

Previous studies by Agarwal and Lam et al., (2000), Davis et al., (1992), Lee et al., (2009), Moon and Kim (2001), Shin (2009), Sun and Zhang (2008), Venkatesh et al., (2002), Yi and Hwang (2003); have looked at the relationships between perceived enjoyment (PE) and perceived ease of use (PEOU). With regard to causal links, the literature hasn't been entirely consistent, as several studies have suggested that perceived enjoyment is either a cause or a consequence of ease of use. According to Sun and Zhang, the PE→PEOU causal direction is stronger than and outweighs

PEOU→PE, in utilitarian setting where information systems or services strive to give users instrumental value, such as the knowledge required to complete a task. Given the distinctions between hedonic systems and utilitarian systems, they claim that the direction of this causal channel may be reversed in hedonic systems or services. In addition, it has been discovered that enjoyment is a more important predictor of intentions than perceived usefulness in hedonic information systems that offer users self-fulfilling values (Atkinson and Kydd, 1997; Van der Heijden, 2004).

According to other studies by Rodrigues et al. (2016) which supports this study indicates that Consumers' perceptions of ease of use and perceived enjoyment were positively correlated. So that technological solutions that focus less on user friendliness in their use have an impact on the reduced impression of comfort from the Metaverse. Perceived Ease of Use and Perceived Enjoyment have a positive correlation in this study. In accordance with Haudi et al. (2022) and Huang et al. (2022), the ease of use of a system has a greater impact on consumer satisfaction and enjoyment. This is able to demonstrate how strongly the Perceived Ease of Use shapes the Perceived Enjoyment of Metaverse users. Regarding the contribution of the ease of use variable to perceived enjoyment, it is claimed in a second study by Humida et al., (2022) and Jasin et al., (2022) that consumers' perceptions of ease of use are positively correlated with perceived enjoyment. Perceived ease of use has a substantial impact on reported usefulness and perceived enjoyment of attitudes in adopting particular information systems, according to Mailizar et al., (2021), and Nelwan et al., (2021). In a way, a system's relationship to user convenience is inversely correlated with how simple it is to use. And regarding perceived usefulness, users will feel more comfortable and enjoyable using a technological system that offers many benefits and efficiency. As a result, perceived utility usefulness only positively and significantly affects perceived enjoyment in this direction and not the other way around. (Palumian et al., 2021).

Intentions to adopt virtual learning were influenced by perceived ease of use in 135 respondents (Ratten, 2014). The desire to purchase these services and the desire to access and store data in virtualization are directly influenced by the intention to use digital learning by the students at large universities. This intention is dependent on how simple it is to use, how simple it is to learn the system, and how to use virtual computing quickly. Korean consumers' intentions to use fitness and sport digital devices are influenced by perceived ease of use. The willingness to use

digital tools/service frequently and repeatedly in the future is influenced by how simple and clear the interface and interaction of digital gadgets are (Kim and Ciu, 2019). The perceived ease of use variable, according to Kurniasih et al., (2022), Khiong (2022), and Gawron et al., (2021), has a favorable interaction and can predict a person's behavioral intentions while adopting technology. The perceived ease of use itself has a favorable impact on behavioral intention. This can demonstrate how perceived ease of use strongly influences users of digital applications to encourage positive behavior.

According to Puriwati et al., (2022), Purwanto et al., (2021), and Unal et al., (2021) who describe that behavior intention towards a technology might happen because of the perceived ease of use elements. According to studies by Rouibah et al. (2021) and Sharma et al. (2022), the consumer's behavior intention and attitude toward using the Metaverse are positively and significantly correlated with perceived ease of use. The perceived ease of use variable has a substantial impact on a consumer's attitude and intentions in using Metaverse, according to Rouibah et al., (2021) and Sharma et al., (2022) studies on behavioral intentions and attitude toward use in Asia.

In conclusion and general understanding of the study's concept, TAM always focuses precisely on explaining purposive behavior in the context of technology use. Study's extended TAM also posits these three beliefs in this context, perceived usefulness, perceived ease of use and perceived enjoyment, influence Metaverse acceptance through attitude in the following sequence: first, the design features of a Metaverse affect a person's perceptions of its usefulness, ease of use and enjoyment. Consequently, the person forms a certain attitude toward using the Metaverse.

Finally, attitude produces behavioral response, that is, actual system use. Based on this, perceived usefulness, perceived ease of use and Perceived Enjoyment have a significant effect on the attitude towards use and behavior intention variables, on the use of Metaverse. As a daily application, it is important for companies and marketers to continue to innovate in improving the user friendliness and comfortability aspect in using Metaverse. To be able to support daily activities, as much as possible only bring up the features that are needed, so as not to confuse consumers when accessing the system. And responding to consumer complaints can be done with the live chat feature, making innovations. Improve the ease of using each feature, simple page display, clear information conveyed, easy to find consumer history and status to improve customer relationship management.

The objective of this study was to explore the effect of Metaverse on consumer perception through attitude and behavioral intention to use it as well as to examine TAM of Metaverse so the study implemented an extended TAM variables as discussed above in detail. The findings of the study indicate that such relationships between the variables exist either directly or indirectly, and in a positive direction with strong correlations between them as shown in above mentioned tables. A second objective was to examine how consumer perception towards Metaverse is affected, so the study indicated the degree to which perceived usefulness, ease of use of Metaverse and Enjoyment of the system affects consumer's attitude and perception towards Metaverse and takes big role of the consumer's intention. These objectives with the supported existing studies were being mentioned in detail in the discussion part of the chapter.

6.2. Implications of the study

The requirement for VR/AR tools and wearables, as well as the restricted chances accessible, are two crucial variables that play a crucial part in the acceptance of the metaverse, which is still in its early stages. The truth is that we are still a decade away from the broad acceptance of metaverse, even though it is now here and will experience some early adoption in a few sectors, as the experts point out. Every day, the metaverse changes, and brands and businesses find it difficult to stay up with it. Business strategists are still trying to make decisions about investments in the metaverse given the limited information that is currently available. The majority of online trends and reports highlight a considerable rise in the number of users and time spent on metaverse, but they are unable to provide a conclusive answer as to the business potential that the metaverse offers to the larger consumer market enterprises. This study clearly indicated that Metaverse in marketing and consumer relationship management should be established and has positive potential in the marketing sector when applied positively in the minds of the consumers, as well as high usefulness, ease and enjoyment features with the system in order firms to be able to improve their customer relationship management and engagement of their customers.

Given such conclusions, as well as the importance of Metaverse in consumer marketing practices, there are several managerial implications regarding firm managers, marketers and researchers, as mentioned below in detail.

Implications for Marketers and Managers:

The findings of the study contribute to the Metaverse positioning strategy in the consumer marketing sector in terms of putting Metaverse in the minds of the consumers by offering useful, easy and enjoyable system to interact with the brand and marketers so that positive consumer attitude will lead to positive intention to use and future reputation of the consumer. The Metaverse is a cutting-edge platform that could be essential for understanding consumer culture and user behavior using new metrics and levels of intrusiveness. Brands' marketing plans will be crucial to their success when they venture into the Metaverse. Marketers will have new ways to connect with their current and potential clients and provide them an immersive experience because to the Metaverse. However, marketing in the Metaverse is still quite experimental and presents its own set of difficulties for marketers as study by Hazan et al., (2022) proofed. These include sociocultural concerns, strategic difficulties for marketers, and technical and infrastructure obstacles relating to the availability and price of hardware and software.

Additionally, this study also indicated in the light of marketers' consideration that in the Metaverse, consumers can interact with brands in a way that is not feasible in the real world, changing their opinions of the brand and their intents to use it in the future (Kozinets, 2022). For instance, companies can hold virtual events or build virtual storefronts in the Metaverse. Additionally, the Metaverse gives businesses the chance to gather information about their target markets. Using this information and the study's outcome, marketing messaging can be customized to better reflect consumer behavior.

Another crucial area for marketers is brand communities in the Metaverse. For brands to succeed in the long run, brand loyalty must be developed. Members of the brand community will be able to communicate effectively and more efficiently in the Metaverse than in online blogs or chat rooms. Additionally, the Metaverse allows for the organization of events and contests just like in the real world, giving marketers more ways to interact with their customers (Jin & Sung, 2022; Miao et al., 2022). With its tactical tools, the Metaverse may also assist in accurately assessing the success of brand-related efforts and offering suggestions for further development. The three main user groups in Asia and particularly in Turkey of the Metaverse are from generations Alpha, Z, and Y. Due to their love of gaming, they are computer adept and the first Metaverse participants. Marketers can take use of the Metaverse by offering a fun and enjoyable Metaverse system that is

simple to use and beneficial to improve customer relationship management. The Metaverse will be particularly effective for businesses targeting this user group.

There is a chance that a firm could miss out on increased reach, engagement, conversions, and new customers if management don't leverage the Metaverse for marketing, branding, and advertising (Umar, 2019). Additionally, managers that don't use the Metaverse for marketing, branding, and advertising run the risk of falling behind their competitors who are probably using it to connect and engage with potential customers (Seok, 2021). If a company has a presence in the Metaverse, it can reach a global audience of potential customers who are spending an increasing amount of time in virtual worlds. This study recommends managers to include Metaverse interaction with the customer into their managerial strategies and company budget. The most crucial things managers can do when considering using the Metaverse for marketing, branding, and advertising purposes are to develop a strong presence, engage with users, and offer customers a system of value that they can enjoy while using it and impact their attitude and intention towards it (Kevins, J. 2022).

Implications for Researchers:

The study has also several implications for the researchers: firstly, the scales used in the study are reliable and generalizable and thus can be used for further studies. The study also emphasizes the role of perceived usefulness, perceived ease of use, perceived enjoyment and attitude towards use on consumer's behavioral intention to use Metaverse from the perception of the population living in Turkey. As these dimensions could only explain 35-40% of consumer's perception and intention to use, the study indicates the possible existence of other dimensions such as perceived risk, time consumption and system speed, etc. which might affect consumer's behavioral intention to use of Metaverse. Thus, the study can further be improved by adding new dimensions to the model which would affect intention of consumers in Turkey. In order to extract new dimensions, besides reviewing literature, a qualitative study may be conducted to understand consumer perception towards Metaverse as well as interviews can be conducted with marketers, consumer and brand managers in B2C market sector.

A final implication to researchers is that, the original TAM of four variables and 17 items from Davis's (1986), and additional variable with 4 items from Heijden's (2004) study, five factors are constructed using 21 items only. These findings indicate that Davis's (1986) and Heijden's (2004) TAM scales are generalizable and open to cultural factors and social norms as well as industrial

differences as justified in this study. For further quality studies, researchers can also increase the sampling population as well as the sample size since this study's scope was only in Turkey with a sample size of 300.

6.3. Limitations

The study has established important findings but also has several limitations. Firstly, due to lack of budget limitations the study used convenience sampling, non-probabilistic sampling method, in order to reach the target profile. A non-probabilistic sampling negatively affects the generalizability of the study.

In addition to the sampling method, the study's fieldwork was realized mainly in Istanbul. Due to the online data collection method and lack of travel possibilities of the author, the sample represents mostly population living in Istanbul who are familiar to using technology and internet of things. Although many respondents from several different countries living in Turkey were included the study's data collection, therefore a sample mainly focusing and representing Turkey's citizens can be conducted with the presence of all other cities in Turkey and as well as participants from other countries preferably in Asia.

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