

---

## **Proposed Model for the Dimensions of Digital Organizations Entering the Metaverse World**

**Dr/ Abeer Elsayed Fayed**

<sup>1</sup> Associate Professor Marketing Department, University of Tabuk, Kingdom  
of Saudi Arabia

<sup>2</sup> Academy of Specialized Studies, Egypt

### **Abstract:**

This study aims to identify the dimensions that enable digital marketing organizations to enter the metaverse world by proposing a model for this purpose. The study population targeted Saudi Arabia, having weak or no access to the metaverse, despite their interest in digital transformation. This study uses structural equation Modeling through the partial least squares method using AMOS version. 25. The findings indicate that the proposed model consists of four dimensions: customer discovery, including engagement, interaction, and customer targeting; spatial computing, including augmented reality and virtual stores and places; digital presence, including advertising, social media, and search engines; and virtual integration, including customers' immersive experiences, product conversion into non-fungible tokens, and virtual incentives and content, providing marketers with the mechanism needed to enter the mysterious metaverse that is ultimately expected to replace the Internet and be the future of marketing.

**Keywords:** Metaverse, Digital transformation, customer discovery, spatial computing, digital presence, virtual stores and places

## نموذج مقترح لأبعاد المنظمات الرقمية للدخول لعالم الميتافيرس

د/ عبير السيد فايد

قسم التسويق، جامعة تبوك، المملكة العربية السعودية

### الملخص :

تهدف هذه الدراسة إلى التعرف على الأبعاد التي تمكن منظمات التسويق الرقمي من الدخول إلى عالم الميتافيرس من خلال اقتراح نموذج لهذا الغرض. استهدف مجتمع الدراسة المملكة العربية السعودية، التي لديها وصول ضعيف أو معدوم إلى الميتافيرس، على الرغم من اهتمامهم بالتحول الرقمي. تستخدم هذه الدراسة نمذجة المعادلات الهيكلية من خلال طريقة المربعات الصغرى الجزئية باستخدام نسخة AMOS. 25. تشير النتائج إلى أن النموذج المقترح يتكون من أربعة أبعاد: البعد الأول هو اكتشاف العملاء، بما في ذلك المشاركة والتفاعل واستهداف العملاء؛ والبعد الثاني هو الحوسبة المكانية، بما في ذلك الواقع المعزز والمتاجر والأماكن الافتراضية؛ والبعد الثالث هو الحضور الرقمي، بما في ذلك الإعلانات ووسائل التواصل الاجتماعي ومحركات البحث؛ والبعد الرابع هو التكامل الافتراضي، بما في ذلك تجارب العملاء الغامرة، وتحويل المنتج إلى رموز غير قابلة للاستبدال، والحوافز والمحتوى الافتراضي، مما يوفر للمسوقين الآلية اللازمة للدخول في التحول الغامض الذي من المتوقع في نهاية المطاف أن يحل محل الإنترنت ويكون مستقبل التسويق.

**الكلمات المفتاحية:** ميتافيرس، التحول الرقمي، اكتشاف العملاء، الحوسبة المكانية، الحضور الرقمي، المتاجر والأماكن الافتراضية

## Introduction

Although many companies have been accelerating the implementation of digital marketing for their products, especially after the spread of the COVID-19 pandemic, some have realized that digital marketing is no longer enough. Looking for other means, they have turned to the metaverse.

Some think that the metaverse is just for the advertisement of products, whereas others question whether it can be relied upon for marketing, considering it as just a bubble or mere speculation and fantasy. However, some researchers believe that the metaverse is the future of marketing because despite being treated with the same kind of initial disbelief and skepticism, the Internet has now become a necessity of life. Many felt that the concept of digital marketing needed development and, therefore, searched for a more modern and effective way, until they came across the metaverse (Radoff, 2021).

The idea of the metaverse was introduced in the old science fiction novel "Snow Crash," but after Mark Zuckerberg announced that Facebook would be changing its company name to "Meta," the world once again turned its attention to the metaverse and its applications (Barry, 2021). The metaverse is a combination of virtual and augmented realities (VR and AR, respectively), whereby users can work, communicate, play, and interact with each other in a three-dimensional (3D) interactive virtual space (Caulfield, 2021) through a human-like character (avatar).

Many major companies have started dealing with the metaverse and marketing their products through it. The most important among these are land, clothing, and shoes, which are products widely used in the tourism and entertainment sectors. Companies have also started the mass production of AR tools needed for using the metaverse.

Companies have realized the importance of foraying into the world of metaverse due to conditions experienced globally, during the spread of COVID-19, making it necessary to find solutions to market products during periods of complete lockdown that almost all countries worldwide encountered (Herrman & Browning, 2021). This led them think about creating ways to overcome people's inability to go to stores or even to work, and so on. The best thought-out alternative in such a case turned out to be the metaverse (Radoff, 2021). The metaverse provides exciting experiences through which organizations can easily market their products and attract and persuade consumers to buy them. Soon, the metaverse is expected to be an alternative to the Internet (Kelly, 2021) because in addition to organizations seeking to localize it, consumers also seem to prefer this exciting mode, as it provides them with many advantages such as ease, comfort, availability of interaction, ability to preview products closely, and perhaps even touch and feel them (Caulfield, 2021).

The study is limited to the Kingdom of Saudi Arabia, as it is a promising country and shows keen interest in digital and virtual transformation.

In the past, academicians have paid attention to the topic of the metaverse, its effect on the world, and the possibility of it replacing the Internet. This study contributes to this knowledge by developing a mechanism showing how organizations are prepared to move into the world of metaverse through a model This study main dimensions, and branching out into several sub-dimensions.

### **1. Problem**

The metaverse is still in its infancy and is only being used by a limited number of organizations and consumers. However, using the metaverse has now become inevitable, with imagination turning into reality and organizations and governments increasing financial allocations to expand its use. Regardless, many organizations are still unaware of how to gain access or use it, forcing them to lose out on many opportunities and advantages, especially in the field of marketing, which will ultimately result in their exit from the industry if they fail to be fully prepared to move into it. Accordingly, this study focuses on finding a mechanism of preparation for using the metaverse in a way whereby all organizations, whether large or small, can have a strong presence in this new world.

The study, therefore, attempts to answer the following question: Do the dimensions proposed in the study model cause

digital marketing organizations to enter the metaverse? This question has branched-out into several sub-questions as follows:

1. Does customer discovery enable digital marketing organizations to enter the metaverse?
2. Does spatial computing play a role in digital marketing organizations entering the metaverse?
3. Does the digital presence of digital marketing organizations enable them to enter the metaverse?
4. Does virtual integration play a role in digital marketing organizations entering the metaverse?

The rest of the study has been structured as follows: In Section 2, we briefly summarize the literature review and hypotheses development. Section 3 explains the materials and methods used. Section 4 presents the analysis and results, followed by the discussion in Section 5. Finally, the conclusions are provided in Section 6.

## **2. Objectives of the study:**

This study aims to:

Identify how organizations are ready to enter the metaverse through a proposed four-dimensional model, this model provides details about learning, how to discover customers in the metaverse, spatial computing, and how stores that use the metaverse benefit from it.

Focuses on how organizations use digital presence and its various elements in their use of the metaverse.

How virtual integration suiting metaverse customers must be carried out especially for Generation Z customers. who are the metaverse's targets audience, as they are fond of the Internet, experimentation, and new technologies?

### **3. Importance**

The importance of the metaverse and the fact that everyone expects it to replace the Internet soon makes this study relevant. Ultimately, digital marketing will no longer be sufficient, making it necessary for digital marketing organizations to enter and move into the metaverse to catch up with the changing world and benefit from it, failing which they would have to exit the global market. The metaverse will not be limited only to large organizations but will also be accessible to small ones, so that everyone can reap its advantages. Accordingly, this study develops a simplified model to guide these organizations to enter and navigate the metaverse effectively and distinctively.

## **4. Literature review and hypotheses development**

### **4.1 Previous literature**

Few studies are available on the topic of the metaverse as it is relatively new. However, the present study attempts to identify some studies that may have dealt with the abovementioned topic, even if it may not have been directly addressed by them.

#### **4.1.1 Customer discovery**

The metaverse relies mainly on interactions through Web 3.0 (Austin, 2021; Cook et al., 2020), where participants interact with

each other in VR as they do in real life, through AR (Nesbo, 2021). Participants also interact with the environment around them, where they can try on some of the clothes displayed in the games and parks in which they virtually wander (Kelly, 2021; Sparkes, 2021).

In addition, the metaverse is based on sharing, in which participants share hobbies and possible commonalities (Sweeney, 2019). Organizations also share a presence in the metaverse wherein a brand can share a game or party held via the metaverse, creating virtual properties, displaying their products to the participants in the game or party, and so on (Squires, 2021). The metaverse also relies heavily on partnering with influencers, who have a very strong effect on consumers who imitate their behavior, thereby enabling such influencers to persuade them, especially in terms of marketing (Xue et al, 2020; William. 2021).

It is also based on targeting audiences who can accept the idea of the metaverse (Austin, 2021). In this regard, there is no one better suited than Generation Z, which almost entirely depends on the Internet, mainly in their personal, social, and even work lives (Clegg, 2021; Dalvin, 2021). The organization should classify their target audience, as this would greatly help in targeting them. They should be aware of whether the audience is highly adventurous or cautious and should know their audience in any demographic segment (Lee, 2021; Chayka, 2021). The organization must also know what the metaverse audience wants from the brand that they are being introduced to (Newzoo, 2021).



### 4.1.2 Spatial computing

The metaverse relies mainly on spatial computing, which uses sensors and cameras to create interactions between the environment and the user (Eben, 2021). Its main components are VR and AR technologies that transform the real world into a virtual experience (Mariano et al, 2019). With spatial computing, devices are likely to disappear digitally; only the device's output from programs and applications will remain and continue to expand in the third dimension, as the device, such as a mobile phone, is just a base for displaying third-dimensional objects that extend into space (Siyayev & Jo, 2021). The virtual product can also be converted into a non-fungible token (NFT), allowing the user to obtain virtual property rights. NFTs allow participants to own virtual assets that are created through cooperation during online games and are appropriate for participating in them (Bloomberg, 2022). It is also possible for a brand to create a virtual place in the metaverse, making it the best way for it to create its own 3D virtual store and advertise in the roads and parks located in the virtual place (Gayle & Richards, 2020), which ultimately helps in building strong associative relations with clients (Clegg, 2021).

### 4.1.3 Digital presence

In the metaverse, it is necessary to create digital presence by spreading these stores through games or any other suitable virtual avenues (Dalvin, 2021; Gaubert, 2021). Digital presence can also be created through billboards inside games, parks, or other virtual

places in the metaverse (Gaubert, 2021). Organizations go even beyond, establishing virtual kiosks to serve customers within these virtual places, through which gifts of the advertised brand or products are given during events and occasions to promote them. The marketer can also track the movement of advertisements through the metaverse (William, 2021). Digital presence is also possible through advertisements that tell a 3D story about the brand (Gayle & Richards, 2021). They can be shared with peer sites (Hardawar, 2021). Products can also be advertised in the metaverse through virtual influencers (Nesbo, 2021). Virtual content plays an important role in advertising products (Gaubert, 2021; Sparkes, 2021). For organizations to make their presence felt in the metaverse, they must create a search engine that can help spread their virtual place throughout the metaverse (Yonhap News Agency, 2021) as well as enhance their presence through social media (Caulfield, 2021).

#### **4.1.4 Virtual integration**

In the metaverse, customer must be allowed to have their own immersive experiences, as brands that focus on building customer experiences gain 25% more brand loyalty than those that do not (Alang, 2021). It is also an effective way to attract customers to the metaverse (Alang, 2021; Clegg, 2021). Creating these immersive virtual experiences requires three-dimensional models (Xue et al., 2020).

Virtual integration can occur through live interactive events such as live virtual party performances or events (Wall Street Journal, 2022), which represent an effective way of promoting customers' brand engagement and interaction (Krajnović et al., 2021). The brand need not have its own virtual place but can rent buildings and galleries from others in the metaverse (The Associated Press, 2021). It is possible to choose an appropriately sized place for the brand to hold its virtual event (Seok, 2021).

Organizations in the metaverse must come up with incentives for customers to attract them to this new world, such as giving them rewards when they attend virtual events (Ball, 2021). An NFT can also be used to reward customers by giving them cards stating that they have attended their own event or giving them special items to show off, such as free badges (Wilson et al., 2022). The metaverse allows us to enter a new era of content creation, where the content is almost completely interactive, allowing participants to create specialized content, depending on the most advanced and convincing content-making techniques for customers using sounds, images, and different senses (Bloomberg Intelligence Podcast, 2021). However, the content must be interesting and attractive to be able to engage customers to experience the metaverse, especially Generation Z (Grayscale, 2021; CNBC.com, 2022).

#### **4.1.4 Summary of literature**

The abovementioned literature clarifies that each study has dealt with either the whole or at least a part of the metaverse in

general, without specifying its determinants. It is also clear that no study has addressed the tools of digital marketing organizations through which they can enter the world of the metaverse, which is a very important topic at this stage in the metaverse world. Therefore, the present study attempts to address the abovementioned gaps in literature.

## 5. Hypotheses

For digital marketing organizations to enter the metaverse, it is imperative that they start preparing for it by first targeting the right customers for their products, which in the metaverse, would be Generation Z (CNBC.com, 2022; William, 2021). Accordingly, it is necessary to have a broad idea of their characteristics, tendencies, and desired brands, the ways to attract them, and what will it take to move them into the metaverse (Brian, 2021; Cha, 2020) Organizations should enable virtual customer interaction by making AR available and allowing it to be used in their virtual location (DataDrivenInvestor, 2021). They should also work on sharing their brand through the metaverse (Coindesk, 2022).

Thus, the first hypothesis can be formulated as follows: “There is a significant relationship between entering the metaverse and customer discovery.”

Entering the metaverse also depends on spatial computing that relies on AR technologies, which is the basis for moving into the metaverse (Barry, 2021). Digital marketing organizations also have

to develop their own virtual places through which they can create 3D virtual stores or stores on other virtual places (Bogost, 2021), enabling the customer to take tours inside this place (Dalvin, 2021).

Therefore, the second hypothesis can then be formulated as follows: “There is a significant relationship between entering the metaverse and spatial computing.”

The metaverse requires organization to have an effective digital presence, as it is necessary to spread their virtual stores through various means such as social media and search engines (Masters et al., 2020). Organizations also rely on advertisements for these stores in other virtual places across the metaverse, forming partnerships with virtual influencers, who can play a major role in persuading customers to access these virtual stores (Kim, 2021).

Thus, the third hypothesis can be formulated as follows: “There is a significant relationship between entering the metaverse and digital presence.”

For digital marketing organizations to enter the metaverse, they must provide innovative immersive experiences to their customers through which they can attract and convince them about the brand (Cook et al., 2020). For this, they need to organize live virtual parties and shows in addition to product testing (Herrman & Browning, 2021). Entering the metaverse also requires creating interesting, fun, and attractive virtual content that suits target customers, thereby attracting them (Yonhap News Agency, 2021). The form of content in the

metaverse ranges from its inclusion in advertisements or social media to telling stories about the product to customers and enabling their interaction with it (Seok, 2021).

Thus, the fourth hypothesis can be formulated as follows: “There is a significant relationship between entering the metaverse and virtual integration.”

## **6. Materials and Methods**

### **6.1 Method**

This study used the descriptive analytical approach. First, the literature on the metaverse was identified, and a list of the existing gaps was made. Second, based on the above, the hypotheses were determined, and raw data were collected to test them. Third, the findings were obtained and recommendations were made.

### **6.2 Population**

The study population comprises all digital marketing clients from Arab countries in the Middle East. The questionnaire was distributed in Arabic.

### **6.3 Sample**

Owing to the large size of the population, i.e., more than 1,00,000 elements, the present study used Morgan’s Table (1970), to fix the appropriate sample size, which in this case turned out to be 384 elements. To determine the appropriate sample size for an unknown population, as in this case, we used the following equation:

$$n = \frac{z^2}{e^2} \times p (1 - p).$$

Thus, the sample size is

$$n = \left( \frac{(1.96)^2}{(0.05)^2} \right) \times 0.5 (1-0.5) = 384.$$

#### 6.4 Tools

In the present study, questionnaires were electronically distributed to the sample elements. The options given in the questions were rated according to a five-point Likert scale. A high number of responses were received, 1,634, indicating the importance of the topic and the sample's interest in it. Therefore, the sample size was increased to 500 elements to improve reliability. The questionnaire was distributed only in the Middle East region, as it is one of the most promising regions in terms of digital transformation, followed by virtual transformation in the metaverse. Therefore, we felt that we would be able to generalize the results. The diversity in these countries was considered while choosing the answered questionnaires.

#### 6.5 Data Analysis Methods

This study relied on the analyses of descriptive statistics as well as structural equation modeling through the partial least squares method using AMOS version 25 programming, which helps identify latent variables that are believed to exist but cannot be directly observed; all measurements and tests occur simultaneously in one statistical estimation procedure as shown in Figure 1.

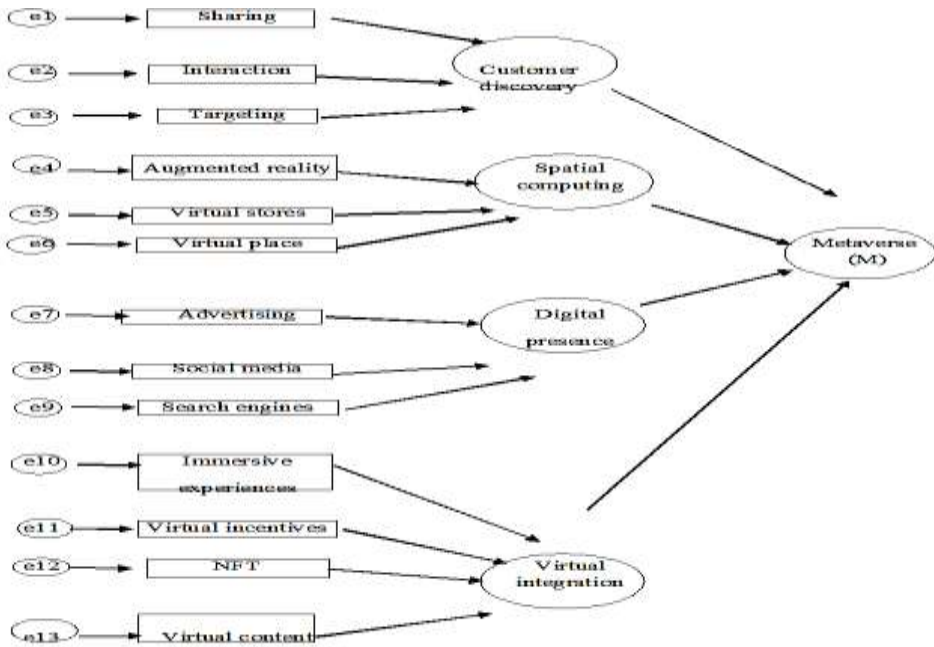


Figure 1. Structural model estimation

## 7. Analysis and results

### 7.1 Validity and Reliability of the Measuring Instrument

The validity of the measuring instrument was verified by submitting the questionnaire to several arbitrators. To verify the reliability, Cronbach's alpha analysis was used, where question statements exceeding 70% were considered acceptable. The results were between 81% and 95%, which are sufficiently high, indicating their acceptability.



## 7.2 Description of Study Variables

Table 1 shows that the AR variable is the most important dimension, with a mean of 5.135, indicating that it is the main variable that digital marketing organizations must consider when moving into the metaverse. It is followed by the virtual place variable, with a mean of 4.965, which shows how important it is for the brand to have a virtual place so that it can move into the metaverse. The next is the virtual stores variable, with a mean of 4.794, indicating how important it is for the brand to have one or more virtual stores. This is followed by the virtual content variable, with a mean of 4.429, which includes virtual images, sounds, and different senses to attract consumers. Next, the immersive experiences variable has a mean of 4.608, showing that the metaverse depends on the consumer having immersive experiences, followed by the NFT variable, with a mean of 4.061, transforming real products into virtual products, which is one of the most important variables when moving into the metaverse. Then comes the targeting variable, with a mean of 3.985, showing that moving into the metaverse requires customer targeting according to the characteristics and nature of the current stage of movement. It is followed by the interaction variable, with a mean of 3.832, as the metaverse depends on the need for interaction with customers. The next is the engagement variable with a mean of 3.539, followed by the virtual incentives variable, with a mean of 3.309, which contributes significantly to attracting consumers to the metaverse. It

is followed by advertising, with a mean of 3.272. Then comes social media, with a mean of 3.069, indicating the importance of the brand having digital presence; finally, the search engine variable has a mean of 1.941.

**Table 1 Description of the study variables**

Variable	M	SD
Sharing	3.539	0.892
Interaction	3.832	0.913
Targeting	3.985	0.809
Augmented reality	5.135	0.936
Virtual place	4.965	0.903
Virtual stores	4.794	0.894
Advertising	3.272	0.861
Social media	3.069	0.822
Search engines	1.941	0.928
Immersive experiences	4.608	8.469
Virtual incentives	3.309	0.810
NFT	4.061	0.918
Virtual content	4.429	0.945

### 7.3 Testing Hypotheses

Table 2 indicates the acceptance of the model with a significance of  $X^2$  reaching 2.824, which is insignificant, indicating that the model is acceptable, and the p-value is 0.461. The goodness-of-fit index value is 0.929, which is acceptable, as it is  $>0.90$ . The root mean square error of approximation value is 0.073, which is acceptable, as it is  $<0.08$ . The normative fit index

value is 0.936, which is acceptable, as it is  $>0.90$ . The comparative fit index is 0.982, which is acceptable, as it is  $>0.95$ .

**Table 2 Indicators for accepting the model**

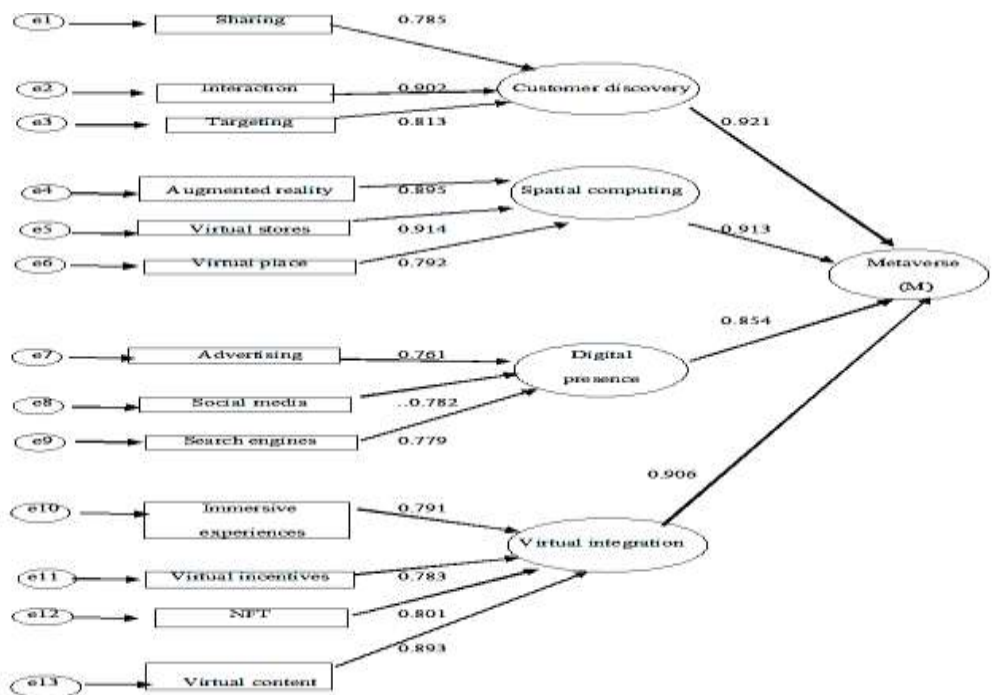
Indicator	Value
Chi-Square ( $X^2$ )	2.824
Degrees of freedom	2
P	0.461
Absolute Fit Index (AFI)	
Goodness of Fit Index (GFI)	0.929
Root Mean Square Error of Approximation (RMSEA)	0.073
Incremental Fit Index (IFI)	
Normative Fit Index (NFI)	0.936
Comparative Fit Index (CFI)	0.982

Results of Table 3 from the value of  $R^2$  show that the variables of customer discovery, spatial computing, digital presence, and virtual integration account for 0.932 of moving into the metaverse world, which is a high percentage, indicating that moving into the metaverse is mainly due to these variables. In addition, the dimensions of customer discovery, spatial computing, digital presence, and virtual integration change due to its dimensions by 0.807, 0.894, 0.764, and 0.906, respectively. All of them are high percentages that indicate the importance of the sub-dimensions for each of the main dimensions, and that the four main dimensions are largely due to their sub-dimensions specified in the model.

**Table 3 Coefficient of determination  $R^2$  for the study variables**

Variable	$R^2$
Metaverse	0.932
Customer discovery	0.807
Spatial computing	0.894
Digital presence	0.764
Virtual integration	0.906

Moreover, Figure 2 clarifies the result of structural model estimation.



**Figure 2. Result of structural model estimation**

### 7.3.1 Testing the combined hypothesis

Table 4 and Figure 2 indicate that customer discovery, spatial computing, digital presence, and virtual integration significantly affect entering the world of the metaverse with an influence value of 0.921, 0.913, 0.854, and 0.906, respectively, which is statistically significant with a significance of critical path values 25.631, 24.062, 18.095, and 17.209, respectively, at significance levels  $<0.001$  for all values.

**Table 4 Results of hypotheses testing using the structural equation modeling**

Track	S. R. W	Effect Value Estimate	S.E	C.R	<i>p</i>
M → CD	0.921	1.528	0.045	25.631	0.000
M → SC	0.913	1.412	0.058	24.062	0.000
M → DP	0.854	0.809	0.053	18.095	0.002
M → VG	0.906	0.956	0.061	17.209	0.000
CD → SH	0.785	0.747	0.046	14.153	0.004
CD → I	0.902	1.042	0.051	21.212	0.001
CD → T	0.813	0.792	0.049	19.196	0.005
SC → AR	0.895	0.853	0.041	23.847	0.003
SC → VS	0.914	1.006	0.039	22.032	0.000
SC → VP	0.792	0.764	0.048	14.593	0.000
DP → A	0.761	0.723	0.052	17.925	0.009
DP → SM	0.782	0.745	0.038	14.852	0.006
DP → SE	0.779	0.736	0.047	19.385	0.000
VM → IE	0.791	0.762	0.049	17.691	0.000
VM → VI	0.783	0.744	0.037	16.987	0.007
VM → NFT	0.801	0.786	0.055	14.753	0.000
VM → VC	0.893	0.987	0.042	20.378	0.000

Whereas:

- (M) Refers to: Metaverse
- (CD) Refers to: Customer Discovery
- (SC) Refers to: Spatial Computing
- (DP) Refers to: Digital Presence
- (VG) Refers to: Virtual integration
- (SH) Refers to: Sharing
- (I) Refers to: Interaction
- (T) Refers to: Targeting
- (AR) Refers to: Augmented Reality
- (VL) Refers to: Virtual place
- (VS) Refers to: Virtual stores
- (A) Refers to: Advertising
- (SM) Refers to: Social Media
- (SE) Refers to: Search Engines
- (IE) Refers to: Immersive Experiences
- (VI) Refers to: Virtual incentives
- (NFT) Refers to: NFT
- (VC) Refers to: Virtual Content

### **7.3.2 Testing the first hypothesis**

Table 4 shows that sharing, interacting, and targeting affect customer discovery significantly, as their influence value reaches 0.785, 0.902, and 0.813, respectively, and the critical path value is 14,153, 21.212, and 19.196, respectively, at significance levels <0.000 for all values This means that for digital marketing organizations to discover customers, they must share, interact,

and target them appropriately, which is consistent with previous studies (Alcañiz et al., 2019; Seok, 2021; Squires, 2021; Sweeney, 2019). Thus, the first hypothesis is accepted as there is a significant relationship between entering the metaverse world and customer discovery.

### 7.3.3 Testing the second hypothesis

Table 4 indicates that spatial computing depends on AR as well as virtual stores and places, according to Standardized Regression Weight (S. R. W.), 0.895, 0.914, and 0.792, respectively, and it is statistically significant with critical path values 23.847, 22.032, and 14.593, respectively, at significance levels  $<0.000$  for all values. That means that spatial computing depends on the presence of the abovementioned sub-dimensions, which agrees with previous studies by Krajnović et al. (2021) and Grayscale (2021), indicating that the second hypothesis is accepted that there is a significant relationship between entering the metaverse world and spatial computing.

### 7.3.4 Testing the third hypothesis

Table 4 shows that digital marketing organizations should be present digitally through advertising, social media, and search engines, which is shown by Standardized Regression Weight (S. R. W), 0.761, 0.914, and 0.779, respectively, and it is statistically significant with critical path values, 17.925, 14,852, 19.385, respectively, at significance levels  $<0.000$  for all values. This

means that digital marketing organizations should turn to advertising, social media, and search engines to be able to have a digital presence, which is consistent with previous studies (CNBC.com, 2022; Masters et al., 2020), indicating acceptance of the third hypothesis that there is a significant relationship between entering the world of the metaverse and digital presence.

### 7.3.5 Testing the fourth hypothesis

Table 4 indicates that virtual integration requires customers to be a part of immersive experiences, virtual incentives, products transformed into NFT, and the creation of appropriate virtual content. This is shown by the values of S. R. W., 0.791, 0.783, 0.801, and 0.893, respectively, and it is statistically significant with critical path values 17.691, 16.987, 14.753, and 20.378, respectively, at significance levels  $<0.000$  for all values, which means that digital marketing organizations must integrate digitally with immersive experiences, virtual incentives, products transformed into NFT, and the creation of appropriate virtual content sub-dimensions to be able to enter the world of the metaverse, which is consistent with studies of Falchuk et al. (2018), Krajnović et al. (2021), and Siyaev and Jo (2021). Thus, the fourth hypothesis is accepted, as there is a significant relationship between entering the metaverse world and virtual integration.



## 8. Discussion

This study shows that entering the metaverse has become a necessity and is inevitable, especially if organizations do not want to lag in terms of progress and global competition. The Internet and e-commerce, once considered unattainable fantasies, are now things of the past. Organizations and the technological world are considering the application of new and effective technology. As seen during the COVID-19 pandemic, organizations that were technologically ready to move completely into e-commerce took advantage of the opportunity and made more profits. In future, those organizations that have entered the metaverse and have fully prepared for it will be truly winning organizations. This is consistent with Harapan et al. (2020)'s study that states that the metaverse will be the dominant form of marketing soon and will be the nearest alternative to the Internet.

The study also finds, through the proposed model, that for digital marketing organizations to enter the world of the metaverse, they must target customers correctly, such as those targeted by the metaverse, i.e., Generation Z, the generation most connected to the Internet and fond of experimenting with the experimenting with new technology and uses it for most of their purchases.

This finding is consistent with that of Nesbo (2021), who states that the brand needs to provide what this generation desires by recognizing their attributes, characteristics, and what suits them. Customer discovery also includes the need to interact with

them because the metaverse depends on Web 3.0. It will therefore allow them to interact more with their virtual environment, besides interacting with the participants and certainly with the brands marketed through the virtual metaverse, which is the first and the most important advantage of marketing products via the metaverse. Customer discovery also includes the necessity of sharing between different virtual places and advertisements for different brands, which are exchanged through these places, and partnering with powerful and well-known influencers to promote the brand's virtual place.

The model also consists of spatial computing, which includes AR, which depends on the virtual world in the metaverse, transferring customers from the real to the virtual world. This is consistent with the study of Nesbo (2021) that is an important component of this movement. Organizations must have their virtual stores, which may be one or more stores. The present study is consistent with the study of Sparkes (2021) that states that it is preferable to have more than one store for the brand for promulgation of brand. Although stores can be hosted via one of the other virtual places, a brand should completely own a virtual place on which it displays its store and advertisements, allowing customers to try products through it, and host some games in which it integrates its advertisements and stores, giving customers the opportunity to try the product during these games as well.

The findings also show that that one of the components of the proposed model is that the organization needs to have an effective digital presence, which is possible through advertisements, whether through its virtual place or any other places available to it, and this is consistent with the study of Krajnović et al. (2021). Virtual games can be used to advertise products, and advertisements may also take the narrative form of the product, allowing customers to interact with its story. Advertisements can also be done through virtual parties, shows, and events, and in coordination with virtual influencers, who can convince customers of the organization's virtual store and place. Digital presence is also possible through search engines configured for this purpose or by advertising through them. It is also possible through social media sites, which disappear or turn into another form that is compatible with the metaverse.

The study also finds that one of the most important components of the proposed model is virtual integration, which must take place to move into the metaverse. Organizations must transform digital products into NFTs, which will be one of the most important specifications of the metaverse, which is consistent with the study of Kong and Lin (2021). NFTs can be presented through the organization's virtual store and place or through the games in which the product is displayed, which will increase consumer confidence, and may also be used as incentives and rewards for customers to attract them to the

metaverse, such as giving the customer a virtual party ticket as a gift. Organizations should give the customers their own immersive experiences, which can involve trying the product in the organization's virtual store or through games or attending a show or a live virtual concert and experiences via advergaming; this is consistent with the studies of William (2021) and Kong and Lin (2021). Virtual integration also includes developing appropriate and effective content consisting of virtual sounds and images and stimulating the various senses through simulation techniques and supportive and interactive animation. This can compensate for the gap between sellers and buyers and give buyers an immersive product experience through the metaverse, thereby ensuring that the content fits the target customers; product advertisements, virtual product experiences, and incentives and rewards can be integrated in this regard. The content must be interesting, attracting target customers according to their characteristics and needs.

## 9. Conclusions

The metaverse has received considerable attention from digital marketers, especially after the spread of the COVID-19 pandemic, which saw curfews imposed and consumers unable to shop physically. This called for alternative ways and mechanisms to enable customer shopping, which turned out to be the metaverse (Harapan et al., 2020; Krajnović et al., 2021). The metaverse is still largely mysterious, making it difficult for

organizations, especially digital marketing ones, which are most interested in entering it effectively. Although everyone believes that the metaverse is an inevitable alternative to the Internet, entering the metaverse requires the presence of some important variables and tools. This study designed a model to facilitate organizations trying to enter the metaverse. This model consists of four dimensions; each main dimension has its sub-dimensions. The first dimension is customer discovery, which can be attained through its sub-dimensions, such as sharing, interaction, and customer targeting. The second is spatial computing, which includes AR and virtual stores and places. The third is digital presence, which can be achieved through advertisements, social media, and search engines. Finally, the fourth dimension is virtual integration, which can occur through customers' immersive experiences and transformation of digital products into NFTs as well as through virtual incentives and content that fit the characteristics of customers, the surrounding environment, and movement into the metaverse.

Therefore, by giving digital marketing organizations a model consisting of the four dimensions of customer discovery, spatial computing, digital presence, and virtual integration, this study provides them with the mechanism needed to enter the mysterious metaverse that is ultimately expected to replace the Internet and be the future of marketing.

## 10. Study limitations and scope for future research

This study focuses on entering the metaverse through a model that includes a set of elements that the study considers to be the most important. Therefore, it is suggested that future research should be expanded by including other elements that may play an influential role in entering the metaverse.

Moreover, this study is limited to the Arab countries in the Middle East. Therefore, it is suggested that other studies should be conducted in different regions of the world so that the influential elements in each region or society can be discovered, aiding digital marketing organizations in these regions and societies in entering the metaverse. Each region and society may have its own characteristics and convictions on this subject that merit future research attention.

## 11. References

Alang, N. (2021). *Facebook wants to move to 'the metaverse' - here's what that is, and why you should be worried*. <https://www.thestar.com/business/opinion/2021/10/23/facebook-wants-to-move-to-the-metaverse-heres-what-that-is-and-why-you-should-be-worried.html>.

Alcañiz, M., Bigne, E., & Guixeres, J. (2019). Virtual reality in marketing: A framework, review, and research agenda. *Frontiers in Psychology, 10*, Article 1530. <https://doi.org/10.3389/fpsyg.2019.01530>.

Austin, S. (2021). *The new wave of Web 3.0 Metaverse innovations*. Entrepreneur. <https://www.entrepreneur.com/article/380250>.

Ball, M. (June 2021). *Payments, payment rails, and blockchains, and the metaverse*. <https://www.matthewball.vc/all/metaversepayments>.

Barry, C. (2021). *The metaverse: How to build a massive virtual world*. Forbes Magazine. <https://www.forbes.com/sites/barrycollins/2021/09/25/the-metaverse-how-to-build-a-massive-virtual-world/?sh=60735bad6d1c>.

Bloomberg. (2022). *NFT market surpassed \$40 Billion in 2021, New estimate shows*. <https://www.bloomberg.com/news/articles/2022-01-06/nft-market-surpassed-40-billion-in-2021-new-estimate-shows>.

Bloomberg Intelligence Podcast. (November 2021). *Developments, investments & experiences in the metaverse. Into the metaverse*. <https://podcasts.apple.com/us/podcast/developments-investments-experiences-in-the-metaverse/id1593908027?i=1000540906629>.

Bogost, I. (2021). *The metaverse is bad*. The Atlantic. <https://www.theatlantic.com/technology/archive/2021/10/facebook-metaverse-name-change/620449/>.

Caulfield, B. (2021). *What is the metaverse?* The Official NVIDIA Blog. <https://blogs.nvidia.com/blog/2021/08/10/what-is-the-metaverse/>.

Cha, S. S. (2020). Customers' intention to use robot-serviced restaurants in Korea: Relationship of coolness and MCI factors. *International Journal of Contemporary Hospitality Management*, 32(9), 2947–2968.

Chayka, K. (2021). *Facebook wants us to live in the metaverse. What does that even mean?* <https://www.newyorker.com/culture/infinite-scroll/facebook-wants-us-to-live-in-the-metaverse>.

Clegg, N. (2021). *Investing in European talent to help build the metaverse*. <https://about.fb.com/news/2021/10/creating-jobs-europe-metaverse/>.

CNBC.com. (January 2022). *Walmart is quietly preparing to enter the metaverse*. <https://www.cnbc.com/2022/01/16/walmart-is-quietly-preparing-to-enter-the-metaverse.html>.

Coindesk. (January 2022). *Hulu targets 'Streamers of Tomorrow' as it seeks candidates with metaverse, NFT backgrounds*.

<https://www.coindesk.com/business/2022/01/15/hulu-targets-streamers-of-tomorrow-as-it-seeks-candidates-with-metaverse-nft-backgrounds/>.

Cook, A.V., Bechtel, M., Anderson, S., Novak, D., Nodi, N., & Parekh, J. (2020). *The spatial Web and Web 3.0: What business leaders should know about the next era of computing*. Deloitte Insights. [https://www2.deloitte.com/content/dam/insights/us/articles/6645\\_Spatial-web-strategy/DI\\_Spatial-webstrategy.pdf](https://www2.deloitte.com/content/dam/insights/us/articles/6645_Spatial-web-strategy/DI_Spatial-webstrategy.pdf).

Dalvin, B. (2021). *Big tech wants to build the 'metaverse.' What on earth does that mean?* The Washington Post. <https://www.washingtonpost.com/technology/2021/08/30/what-is-the-metaverse/>.

DataDrivenInvestor, (December 2021). *Atari token: Going metaverse with the Atari Casino*. <https://medium.datadriveninvestor.com/atari-token-going-metaverse-with-the-atari-casino-1deb037959ab>.

Eben, S. (2021). *The metaverse is coming. Nvidia CEO Jensen Huang on the fusion of virtual and physical worlds*. Time. <https://time.com/5955412/artificial-intelligence-nvidia-jensen-huang/>.

Falchuk, B. Loeb, L., & Neff, R. (2018). The social metaverse: Battle for privacy. *IEEE Technology and Society Magazine*, 37(2), 52–61. <https://doi.org/10.1109/MTS.2018.2826060>.

Gaubert, J. (2021). *Seoul to become the first city to enter the metaverse. What will it look like?* <https://www.euronews.com/next/2021/11/10/seoul-to-become-the-first-city-to-enter-the-metaverse-what-will-it-look-like>.

Gayle, K. & Richards, J. (2020). Redefining advertising in research and practice. *International Journal of Advertising*, 40(2), 175–198. <https://doi.org/10.1080/02650487.2020.1769407>.

Grayscale. (2021). *THE METAVVERSE Web 3.0 Virtual Cloud Economies*. [https://grayscale.com/wp-content/uploads/2021/11/Grayscale\\_Metaverse\\_Report\\_Nov2021.pdf](https://grayscale.com/wp-content/uploads/2021/11/Grayscale_Metaverse_Report_Nov2021.pdf).



Harapan, H., Itoh, N., Yufika, A., Winardi, W., Keam, S., Te, H., Megawati, D., Hayati, Z., Wagner, A.L., & Mudatsir, M. (2020). Coronavirus disease 2019 (COVID-19): A literature review. *Journal of Infection and Public Health*, 13(5), 667–673. <https://doi.org/10.1016/j.jiph.2020.03.019>.

Hardawar, D. (2021). *Facebook says it doesn't want to own the metaverse, just jumpstart it*. <https://www.engadget.com/facebook-connect-metaverse-zuckerberg-171507437.html>.

Herrman, J., & Browning, K. (2021). *Are we in the metaverse Yet?* The New York Times. [https://www.nytimes.com/2021/07/10/style/metaverse-virtual-worlds.html?%Fmc=aud\\_dev&ad-keywords=auddevgate&gclid=CjwKCAjwz aSLBhBJEiwAJSRoksQC2o3eU9nurJhxNMP1dNXKX6QyWHqa Fyot3sCemL1fkhEWekNDehoC0ZAQA vD\\_BwE&gclsrc=aw.ds](https://www.nytimes.com/2021/07/10/style/metaverse-virtual-worlds.html?%Fmc=aud_dev&ad-keywords=auddevgate&gclid=CjwKCAjwz aSLBhBJEiwAJSRoksQC2o3eU9nurJhxNMP1dNXKX6QyWHqa Fyot3sCemL1fkhEWekNDehoC0ZAQA vD_BwE&gclsrc=aw.ds).

Kelly, S. (2021). *Facebook changes its company name to meta*. CNN Business. <https://edition.cnn.com/2021/10/28/tech/facebook-mark-zuckerberg-keynote-announcements/index.html>.

[Kim, J. \(2021\). Advertising in the Metaverse: Research Agenda. \*Journal of Interactive Advertising\*, 21\(3\), 141-144. <https://doi.org/10.1080/15252019.2021.2001273>.](#)

Kong, D. R., & Lin, T. C. (2021). *Alternative investments in the Fintech era: The risk and return of Non-Fungible Token (NFT)*. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3914085](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3914085).

Krajnović, A., Vrdoljak Raguž, I., & Perkovic, A. (2021). Strategic and digital marketing in cultural institutions and the impact of the COVID-19 pandemic—A comparative analysis of two case studies. *Interdisciplinary Description of Complex Systems*, 19(2), 257–280. <https://doi.org/10.7906/indecs.19.2.6>.

LedgerInsights.com. (January 2022). *Warner Music partners with Sandbox blockchain game for music events*. <https://www.ledgerinsights.com/warner-music-partners-with-sandbox-blockchain-game-for-music-events/>.

Lee, A. (2021). *With the metaverse hype cycle at full blast, experts take the long view*. <https://digiday.com/marketing/with-the-metaverse-hype-cycle-at-full-blast-experts-take-the-long-view/>.

Masters, B. Shih, F., Bukoff, A., Akel, B., Kobayashi, C., Miller, L., & Wagner, L. (2020). Social distancing in response to the novel coronavirus (COVID-19) in the United States. *PloS One*, 15(9), Article e0239025. <https://doi.org/10.1371/journal.pone.0239025>.

Nesbo, E. (2021). *The metaverse vs. virtual reality: 6 key differences*. <https://www.makeuseof.com/metaverse-vs-virtual-reality/>.

Newzoo, (2021). *Metaverse ecosystem infographic*. <https://newzoo.com/insights/infographics/metaverse-ecosysteminfographic/>.

Radoff, J. (2021). *The metaverse value-chain [electronic resource]*. <https://medium.com/building-the-metaverse/the-metaverse-value-chain-afcf9e09e3a7>.

Seok, H. (2021). Analysis of metaverse business model and ecosystem. *Electronic and Telecommunication Trends*, 36(4), 8–91. <https://doi.org/10.22648/ETRI.2021.J.360408>.

Siyaevev, A., & Jo, G. S. (2021). Towards aircraft maintenance metaverse using speech interactions with virtual objects in mixed reality. *Sensors*, 21(6), 2066. <https://doi.org/10.3390/s21062066>.

Sparkes, M. (2021). *What is a metaverse and why is everyone talking about it?* New Scientist. <https://www.newscientist.com/article/2286778-what-is-a-metaverse-and-why-is-everyone-talking-about-it/>.

Squires, C. (2021). *Seoul will be the first city government to join the metaverse*. <https://qz.com/2086353/seoul-is-developing-a-metaverse-government-platform/>.

Sweeney, T. (2019). Foundational Principles & Technologies for the Metaverse. In Proceedings of SIGGRAPH '19 Talks.ACM, New York, NY, USA, 1, Article 38. <https://doi.org/10.1145/3306307.3339844>.

The Associated Press. (2021). *Facebook wants to lean into the metaverse. Here's what it is and how it will work.* <https://www.npr.org/2021/10/28/1050280500/what-metaverse-is-and-how-it-will-work>.

Wall Street Journal. (2022). *Accounting firms scoop up virtual land in the metaverse.* <https://www.wsj.com/articles/accounting-firms-scoop-up-virtual-land-in-the-metaverse-11641599590/>.

William. R. (2021). *Verizon showcases 5G with metaverse treasure hunt.* <https://www.marketingdive.com/news/verizon-showcases-5g-with-metaverse-treasure-hunt/607746/>.

Wilson, K. B., Karg, A., & Ghaderi, H. (2022). Prospecting non-fungible tokens in the digital economy: Stakeholders and ecosystem, risk, and opportunity. *Business Horizons*, 65(5), 657–670. <https://doi.org/10.1016/j.bushor.2021.10.007>.

Xue, L., Parker, C. J., & Hart, C. (2020). How to design fashion retail's virtual reality platforms. *International Journal of Retail & Distribution Management*, 48(10), 1057–1076. <http://dx.doi.org/10.1108/IJRDM-11-2019-0382>.

Yonhap News Agency. (2021). *Seoul to offer new concept administrative services via metaverse platform.* <http://www.koreaherald.com/view.php?ud=20211103000692>.