Journal of Business and Economics, ISSN 2155-7950, USA
May 2024, Volume 15, No. 5, pp. 259-272
DOI: 10.15341/jbe(2155-7950)/05.15.2024/001

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Examining Hotel Managers' Perceptions of Metaverse as a Tool for Competitive Advantage

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Abstract: This study explores hotel managers' perceptions of the metaverse as a strategic tool for achieving competitive advantage in the hospitality industry. Amidst the rapid expansion of the metaverse and its increasing consumer base, the research aims to fill the gap in the literature concerning the managerial perspective on leveraging this technology. Through an online survey of hotel managers across the United States, employing factor analysis and multiple regression, this paper examines the relationship between metaverse technology implementation and perceived competitive advantage. Results indicate that hotel managers view the metaverse as a significant innovation, with its usage, engagement, and optimization being key factors that contribute to competitive advantage. These findings offer theoretical contributions by highlighting the importance of managerial perceptions in technology adoption and practical insights for leveraging metaverse technologies in enhancing business operations, customer engagement, and brand differentiation. The paper concludes with limitations and directions for future research, emphasizing the need for a broader understanding of metaverse applications across different geographical contexts and market segments.

Key words: metaverse, competitive advantage, hospitality industry, technology adoption, virtual reality, innovation

JEL codes: O32

1. Introduction

Industry professionals are increasingly interested in the metaverse, and there is a rapid growth in the number of consumers using it (Buhalis et al., 2022). As a result, it's crucial for hospitality managers to acknowledge this development and devise strategies to participate in the metaverse actively. This can be a chance to establish a sustainable competitive edge (Bertan et al., 2016). Although some research has been conducted on how the metaverse can benefit the hospitality industry, some gaps remain to be filled. While most studies have concentrated on customers' viewpoints of the metaverse (Gursoy et al., 2022), no research has yet examined how managers perceive this technology and the opportunities it provides for gaining a competitive advantage.

Metaverse technology can potentially transform how people travel and experience different cultures (Buhalis et al., 2023). It can provide an alternative to physical travel, allowing people to explore new places and interact with others without leaving their homes. This has become particularly relevant during the COVID-19 pandemic,

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as many people have been unable to travel due to restrictions and safety concerns (Buhalis et al., 2022). The metaverse also presents opportunities for businesses in the hospitality industry to create virtual experiences and reach new customers (Gursoy et al., 2022). For example, hotels and restaurants can create virtual versions of their physical locations and offer virtual reality experiences. This can help increase brand awareness, generate new revenue streams, and engage with customers innovatively (Koo et al., 2022).

Additionally, the metaverse can help to overcome some of the limitations of physical spaces, such as capacity constraints and geographical limitations. Virtual events and meetings can be held in the metaverse, allowing people from around the world to participate and connect in a way that would not be possible in a physical setting. The metaverse has the potential to revolutionize the hospitality industry and provide new opportunities for businesses and customers alike (Gursoy et al., 2022). As such, it is an important topic for hospitality literature and research. For this reason, this research aims to investigate hotel managers' perceptions toward implementing metaverse technology in the hotel industry to increase competitive advantage. The study will collect data from hotel managers across the United States and use factor analysis and multiple regression to analyze the results.

2. Literature Review

2.1 Defining Metaverse

Metaverse technology refers to virtual environments that enable users to interact with each other and digital objects in a shared online space. Metaverse combines the words "meta" and "universe", the 1992 science fiction book Snow Crash first introduced this term, describing a 3D virtual world that prioritizes interpersonal interactions. In this environment, people can interact as avatars or genuine participants (Gursoy et al., 2022). Metaverse is a set of interconnected, ever-changing 3D virtual worlds where people can control avatars to have social, economic, and other kinds of interactions with each other, digital agents, and inanimate things (for example, a combination of immersive VR, massively multiplayer online games, and a 3D internet) (Koo et al., 2022). In other words, the metaverse is a digital area that enables users to generate value and co-create experiences through social interaction utilizing digital avatars (Gursoy et al., 2022).

Metaverse is a blend of technology and ambient intelligence that merges the digital and physical worlds, allowing users to merge resources and have holistic experiences (Buhalis, 2020). It offers immersive three-dimensional (3D) experiences and a substantial social interaction aspect, which has resulted in blended living, as per the research by Buhalis and Karatay (2022), and it is distinguished from existing immersive technologies by interactions, immersion, and NFTs/cryptocurrencies (Dwivedi et al., 2022).

2.2 Metaverse in the Hospitality Industry

Since the COVID-19 pandemic, the hospitality industry has noticed the metaverse due to its ability to inspire travel activities and services in far-flung areas without the usual physical constraints (Gössling & Schweiggart, 2022). Not only have hospitality operators begun to ponder how they may put the metaverse to use, but they are also actively testing new strategies with the technology to take the lead in this area. For instance, hospitality businesses can use metaverse to enhance customers' hospitality experiences. They can also improve business operations like marketing, the development of new products, and human resources (Koo et al., 2022). There are endless opportunities for hotels to explore and take advantage of this technology. For example, hotels can use metaverse to offer virtual tours of their properties, allowing guests to explore rooms, amenities, and other features before making a reservation. Virtual tours can provide an immersive and engaging experience for guests and help

hotels stand out from their competitors. Using metaverse technology, hotels can also host virtual events, such as conferences, meetings, and weddings. Virtual events can offer a more flexible and accessible option for guests who cannot attend in person while providing an engaging and interactive experience. This innovative technology can enhance guest services, such as virtual concierge services, personalized recommendations, and interactive room service menus. It can provide a more efficient and convenient way for guests to access information and services while enhancing their overall experience. Moreover, hotels can create virtual reality games using this technology to offer guests a unique and entertaining experience. Virtual reality games can be used to promote the hotel's brand and attract younger guests who are interested in technology and gaming.

Leven's hospitality company is building a virtual hotel in the metaverse where guests worldwide can engage in an exciting and realistic setting (Koo et al., 2022). Starwood Hotels utilized the creative input of users on the Second Life metaverse platform to design and monetize a virtual hotel. They employed avatars to observe and analyze users' online behavior, test and enhance the virtual hotel, boost brand awareness and positioning, and even named the online hotel "Aloft" based on the choice of avatars. This engagement and co-creation experience with users in the virtual world was then leveraged to design, test, and ultimately launch the first physical Aloft hotels in the real world (Dwivedi et al., 2022). Hilton Hotels & Resorts launched a virtual reality (VR) experience called "Hilton@PLAY" that allows guests to explore destinations and hotel properties around the world using VR headsets. The experience includes 360-degree video tours of hotel rooms, amenities, and local attractions. Accor Hotels partnered with a VR production company to create a virtual reality experience for its Novotel brand. The experience allows guests to explore a virtual version of a Novotel hotel, including a virtual check-in desk, restaurant, and guest room. Shangri-La Hotels and Resorts launched a virtual reality experience called "#MyShangriLa" that allows guests to explore properties and destinations around the world using VR headsets. The experience includes 360-degree video tours of hotel rooms, amenities, and local attractions. Marriott International partnered with Samsung to launch "VRoom Service" which allows guests to order virtual reality experiences, such as 360-degree video tours of city landmarks and guided meditation sessions, delivered to their rooms.

According to Sigala et al. (2021), the necessity of adaptation, resiliency, restarting, and transformation in the hospitality industry because of the COVID-19 pandemic has prompted operators to consider metaverse applications to accommodate visitors' evolving expectations while also improving the industry's productivity, safety, and sustainability. Several factors have made this possible, including shifting social and economic dynamics, technological advances, and, most recently, the need to deal with the COVID-19 outbreak (Sigala et al., 2021). Over the last decade, the hotel industry has embraced various technologies like Second Life, virtual reality (VR), and augmented reality (AR), which are anticipated to bring the industry closer to the creative and efficient usage of the metaverse. Both demand and supply are driving the rapid adoption of metaverses in the hospitality and tourism industry (Dwivedi et al., 2022).

Dwivedi et al. (2022) examined several aspects of the metaverse and its transformative impact by incorporating an informed narrative and a multi-perspective approach from experts with diverse backgrounds from other fields. According to the authors, the metaverse includes four different aspects (e.g., environment, interface, interaction, and security and privacy) and can be used as a tool by complementing the real world in various ways with tasks that are difficult to do in real life (e.g., office, social life, education, and healthcare), or as a target (e.g., game, business, role-playing, and real estate) (Dwivedi et al., 2022).

In the hospitality industry, metaverse has the potential to improve the convenience, speed, and effectiveness of the travel planning and booking process. According to Gursoy et al. (2022), guests can get a feel for a hotel by experiencing it virtually as an alternative to reading reviews online. This includes sleeping in the bed, using the spa facilities, looking out at the scenery, talking to other guests and hotel staff, and gauging the quality of service based on the expressions and body language of those around them. They can employ digital avatars to tour a hotel in the metaverse created to seem precisely like the real one. Guests may see just how much space each room has, learn precisely what amenities they will get with an upgrade, and talk to previous hotel customers about their own experiences, all from the comfort of home (Gursoy et al., 2022). Thus, the metaverse has the potential to virtualize all aspects of a hotel's services and experiences, including the restaurant, bar, hotel room, function and meeting space, events, and guests' social interactions. It can also serve as a digital venue for hybrid events, such as a birthday celebration, where the hotel can place guests in the metaverse with their friends and family, enabling them to celebrate together. The metaverse can blur the boundaries between the real and virtual worlds, allowing users to transition between them effortlessly (Dwivedi et al., 2022).

2.3 Competitive Advantage

According to studies in information technology, utilizing IT applications could potentially lead to the establishment of a sustainable competitive advantage (Jessup & Valacich, 2002). As Porter (1985) explained, a company can achieve a competitive advantage by providing value to its customers, which is in demand in the market. This value can be achieved by offering similar products at lower prices than competitors or by providing unique benefits. Porter (1985) categorized competitive advantage into cost leadership and differentiation. Cost leadership involves achieving a competitive advantage by becoming a cost leader in the market, while differentiation requires a company to provide a unique and exceptional product or service to gain a competitive advantage (Bilgihan et al., 2011). To further understand how IT applications can create a competitive advantage in the hotel industry, certain factors must be considered, which are summarized in Figure 1 (Bilgihan et al., 2011).

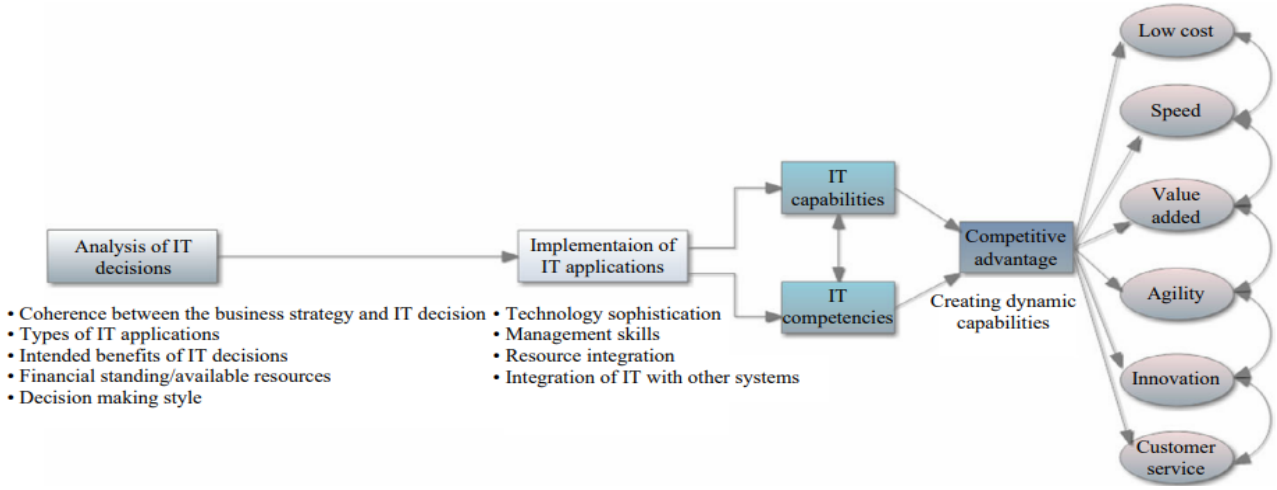

Figure 1 IT and Competitive Advantage

Source: Bilgihan et al. (2011)

Bilgihan et al. (2011) suggest that information technology can help businesses achieve a competitive advantage by reducing errors and increasing productivity. Buhalis (2003) highlights that information technology

plays a fundamental role in supporting strategic functions in the tourism industry and can lead to time and cost advantages. Similarly, Lee et al. (2003) found that hotel managers consider technology as an effective tool for gaining a competitive edge.

3. Methodology

3.1 Research Instrument

After reviewing the relevant literature, an online survey was developed. It consisted of 200 items that assessed metaverse and competitive advantage. Respondents used a seven-point Likert scale that ranged from strongly disagree (1) to strongly agree (7) to indicate their level of agreement with the statements. The survey also included four questions that gathered information about the respondents' demographic characteristics, such as gender, age, education, and years of experience in the hotel industry.

3.2 Data Collection and Data Analysis

The study targeted hotel managers who were knowledgeable about the technology used in their hotels. Two screening questions were used to ensure that only relevant participants took part in the survey. An online survey was conducted using Qualtrics; email and social media platforms, such as LinkedIn, Facebook, and Instagram, were utilized to invite participants to take part in the study. Out of the initial 95 surveys returned, 85 responses were included in the analysis after the screening. The collected data were analyzed using SPSS 16.0. Exploratory factor analysis was conducted to determine construct validity, group questionnaire items into correlated factors, and multiple regression was used to verify the relationship between those factors and the perceived competitive advantage.

4. Results

Table 1 presents the demographic information of the survey respondents. The male respondents constituted the majority (58.8%), while the remaining respondents were female. A significant proportion of the respondents (35%) were between the ages of 31 and 35, and half of the participants held a master's degree. About 30% of the respondents had less than five years of experience in the hotel industry, while 20% had over ten years of experience.

For the exploratory factor analysis (EFA), principal component analysis and VARIMAX rotation were used to perform a factor analysis, and only components with eigenvalues of 1 or above were taken into consideration based on the scree plot and theoretical significance. Significant values for Bartlett's test of sphericity (69.288) and the Kaiser-Meyer-Olkin overall measure of sample adequacy (0.519) supported the use of factor analysis on the data. Only items with factor loadings of 0.5 or higher were included in the analysis, which led to the identification of four factors with 20 attributes that explained 55.22% of the variance: Factor 1 (innovation) accounted for 17.93% of the variance; Factor 2 (usage) explained 13.29% of the variance; Factor 3 (engagement) explained 12.44% of the variance; and Factor 4 (optimization) explained 11.56% of the variance. Table 2 summarizes the results of the factor analysis.

Table 1 Characteristics of Respondents

Hotel manager characteristics	N	%
Gender		
Male	50	58.8
Female	35	41.2
Total	85	100
Age		
26-30	10	11.8
31-35	33	38.8
36-40	2	2.4
41-45	20	23.5
46 and more	20	23.5
Total	85	100
Education		
Associate's degree	4	4.8
Bachelor's degree	26	30.5
Master's degree	50	58.8
Doctorate degree	5	5.9
Total	85	100
Overall job experience in the hotel industry		
1-5 years	30	35.5
6-10 years	15	17.6
11-15 years	20	23.5
16-20 years	15	17.6
21-25 years	4	4.7
25 and more	1	1.1
Total	85	100

Table 2 Summary of Factor Analysis Results

Factors	Factor loadings	Eigenvalue	Variance explained	Alpha
Factor 1 (Innovation)		1.793	17.93	.945
1. Investment tool	.700			
2. Make our lives easier	.686			
3. Reliable infrastructure	.632			
4. Important for technology development	.629			
5. Product of marketing strategy	.621			
Factor 2 (Usage)		1.648	21.6	.908
1. Enhance work performance	.770			
2. Reduce paperwork	.711			
3. Improves data control	.697			
4. Accelerate transactions	.692			
5. Ensure control of things more easily	.681			
6. Cause decision-making to be easier	.640			
7. Increase the connection between departments	.623			
Factor 3 (Engagement)		1.549	16.1	.941
1. Affect the level of virtual communication and interaction between people	.780			
2. Ensure new customer acquisition	.772			
3. Reinforce customer service	.693			
4. Increase online bookings	.659			
Factor 4 (Optimization)		1.220	15.8	.848
1. Expedite operational transactions	.623			
2. Provide operational coordination	.558			
3. Provide required operation reports	.513			

After conducting the factor analysis, new factor variables were created to conduct the multiple regression analysis. From the four factors found, four factor variables were created based on their means (innovation, usage, engagement, and optimization), and a fifth variable was created based on the mean of these four factors (perceived competitive advantage). Then, multiple regression was conducted to investigate the potential connections between the factors, namely innovation, usage, engagement, and optimization, and the perceived competitive advantage. The results of the regression analysis are presented in Table 3.

Table 3 Regression Analysis for Factors Affecting Competitive Advantage

Variable	B	Standardized Beta	t	Sig
(Constant)	.702		3.893	.005
Innovation	.128	.113	1.370	.001**
Usage	.241	.240	2.911	.004**
Engagement	1.003	.992	10.835	.001**
Optimization	.172	.147	1.369	.174

Note: Multiple R^2= .794
Significance F= .000 ** sig ≤ .0, * sig ≤ .05

The findings from the regression analysis indicated that the model explained 79% of the variability in the dependent variable (perceived competitive advantage). Additionally, the results indicated that the factors of innovation, usage, and engagement had a significant and meaningful impact on perceived competitive advantage.

4. Implications

4.1 Theoretical Implications

This study is the first to investigate the perceived views of hotel managers regarding the use of metaverse technology for obtaining a competitive advantage. As such, it contributes to the existing knowledge of metaverse research by identifying the key factors that are crucial for gaining a competitive edge through this innovative technology. Furthermore, this paper helps address the gap in the literature, as most previous studies have mainly focused on consumers' perceptions of the metaverse. Finally, the study findings provide useful guidance to hospitality managers on how they can utilize the metaverse to enhance their business operations and improve their competitiveness.

4.2 Managerial Implications

The study's findings have significant implications for hospitality managers. This paper can help hospitality managers better understand the metaverse's potential applications in the hospitality industry and how they can use this technology to enhance their business operations. The findings can also help hospitality managers make informed decisions regarding investment in the metaverse and develop new strategies to compete in the marketplace. The results may also be useful for managers to identify new revenue streams, increase brand awareness, and engage customers in innovative ways. Ultimately, the findings of this study can assist hospitality managers in gaining a competitive advantage in an increasingly crowded marketplace.

The findings of this study can also serve as a valuable resource for technology vendors and software companies that develop technologies for the hospitality industry. The results highlight the significance of innovation, usage, and engagement as key characteristics of metaverse technology in gaining a competitive advantage for hotel managers. Based on these findings, technology vendors can create interactive tools, such as

virtual property software, that facilitate hotel managers in effectively reaching their existing and potential customers and improving their operational tasks.

5. Limitations and Future Research

This study also has several potential limitations that need to be taken into account. First, the sample size is small and limited to data collected from hotel managers in the United States, which may not be representative of other regions or countries, which could limit the generalizability of the study's findings to other contexts. Future studies could consider expanding the scope of the research to include data from hotel managers in other regions or countries to increase the generalizability of the study's findings and provide a more comprehensive understanding of the potential use of metaverse technology in the hospitality industry on a global scale. This study also relies on self-reported data, which may be subject to biases and inaccuracies. Future studies could consider using mixed methods for data collection, including observations and interviews, to gather data. Using mixed methods, researchers can triangulate data and obtain a more complete picture of the studied topic.

6. Conclusion

Since the 1980s, the tourism industry has been experiencing changes resulting from the adoption of information communication technologies (ICTs) (Buhalis & Law, 2008). The purpose of this study was to analyze hotel managers' perceptions of the use of metaverse technology in the hotel industry and examine its influence on a hotel's perceived competitive advantage through factor and multiple regression analyses. The findings reveal that hotel managers consider metaverse technology as an essential tool for achieving competitive advantage. The study identifies innovation, usage, and engagement as the key factors that contribute to hotel managers' perception of competitive advantage. The adoption of metaverse technology allows hotel managers to attract new customers while retaining existing ones, leading to increased brand awareness, customer engagement, and more bookings. Additionally, the data collected provides valuable insights into guest preferences, behavior, and satisfaction levels, which hotel managers can use to customize their services and marketing strategies

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Appendices

A) Descriptives

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
gender	85	1	2	1.41	.495
age	85	2	6	4.06	1.442
education	85	3	5	3.71	.574
experience	85	1	5	2.41	1.294
Valid N (listwise)	85				

Bootstrap Specifications

Sampling Method	Simple
Number of Samples	500
Confidence Interval Level	95.0%
Confidence Interval Type	Percentile

gender

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent[a] Bias	Std. Error	95% Confidence Interval Lower	Upper
Valid	Male	50	58.8	58.8	58.8	-.4	5.0	48.2	68.2
	Female	35	41.2	41.2	100.0	.4	5.0	31.8	51.8
	Total	85	100.0	100.0		.0	.0	100.0	100.0

a. Unless otherwise noted, bootstrap results are based on 500 bootstrap samples

age

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent[a] Bias	Std. Error	95% Confidence Interval Lower	Upper
Valid	26-30	10	11.8	11.8	11.8	.1	3.5	4.7	18.8
	31-35	33	38.8	38.8	50.6	.0	5.6	30.6	52.3
	36-40	2	2.4	2.4	53	.1	3.1	36	39
	41-45	20	23.5	23.5	76.5	.1	4.8	15.3	32.9
	46 and more	20	23.5	23.5	100.0	-.2	4.5	15.3	31.8
	Total	85	100.0	100.0		.0	.0	100.0	100.0

a. Unless otherwise noted, bootstrap results are based on 500 bootstrap samples

education

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent[a] Bias	Std. Error	95% Confidence Interval Lower	Upper
Valid	Bachelor's Degree	30	35.3	35.3	35.3	-.2	5.1	24.7	44.7
	Master's Degree	50	58.8	58.8	94.1	.2	5.1	49.4	69.4
	Doctorate Degree	5	5.9	5.9	100.0	.0	2.5	1.2	11.8
	Total	85	100.0	100.0		.0	.0	100.0	100.0

a. Unless otherwise noted, bootstrap results are based on 500 bootstrap samples

experience

		Frequency	Percent	Valid Percent	Cumulative Percent	Bootstrap for Percent[a]			
						Bias	Std. Error	95% Confidence Interval	
								Lower	Upper
Valid	1-5 years	30	35.3	35.3	35.3	-.2	5.1	24.7	44.7
	6-10 years	15	17.6	17.6	52.9	.3	4.1	9.4	25.9
	11-15 years	20	23.5	23.5	76.5	.1	4.8	15.3	32.9
	16-20 years	15	17.6	17.6	94.1	-.1	4.2	9.4	25.9
	21-25 years	5	5.9	5.9	100.0	.0	2.5	1.2	11.8
	Total	85	100.0	100.0		.0	.0	100.0	100.0

a. Unless otherwise noted, bootstrap results are based on 500 bootstrap samples

B) Exploratory Factor Analysis (SPSS)

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.519
Bartlett's Test of Sphericity	Approx. Chi-Square	69.288
	df	45
	Sig.	<.012

Communalities

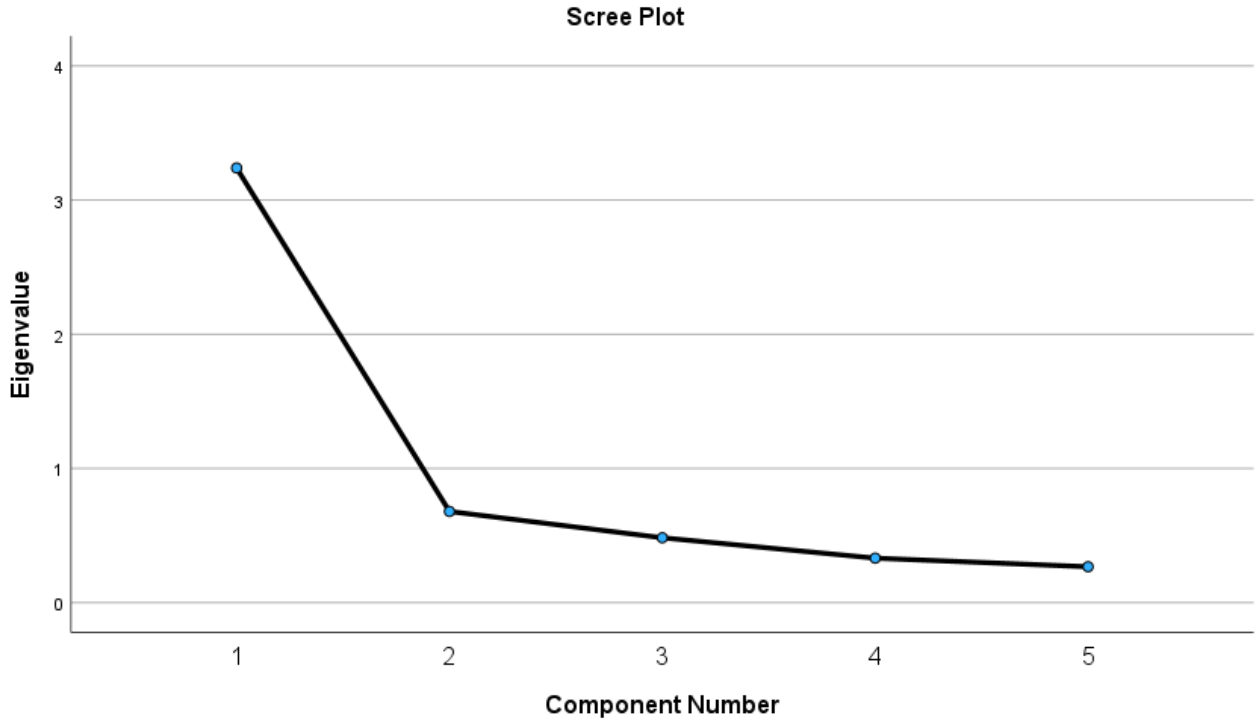
	Initial	Extraction
investment tool	1.000	.658
reliable infrastructure	1.000	.845
most important tech product	1.000	.809
enhances work performance	1.000	.979
improves data control	1.000	.969
accelerates transactions	1.000	.981
control of things more easily	1.000	.921
easier decision making	1.000	.988
increases departments connection	1.000	.860
increases online bookings	1.000	.918
expedites operational transactions	1.000	.795
provides operational coordination	1.000	.951
provides required operational reports	1.000	1.000

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.793	17.933	17.933	1.793	17.933	17.933	1.496	14.963	14.963
2	1.329	13.289	31.221	1.329	13.289	31.221	1.386	13.865	28.828
3	1.244	12.442	43.664	1.244	12.442	43.664	1.301	13.008	41.836
4	1.156	11.558	55.221	1.156	11.558	55.221	1.261	12.605	54.441
5	.874	8.741	75.008						

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Component			
	1	2	3	4
improves data control	.970	-.175	.000	-.006
enhances work performance	.935	.310	-.004	.007
investment tool	.820	.190	.180	-.267
expedites operational transactions	.819	-.164	-.275	-.427
easier decision making	.814	-.556	.098	.124
control of things more easily	.778	.500	.144	.129
reliable infrastructure	.765	-.242	-.541	-.123
provides required operational reports	.746	-.607	.211	.145
accelerates transactions	.631	-.578	.413	.232
most important tech product	.610	-.180	-.578	-.008
future of the internet	.538	.382	.530	-.409
marketing strategy	-.194	.788	-.162	.502
virtual communication and interaction	.153	.765	.296	-.141
provides operational coordination	.652	-.722	.079	.045
reduces paperwork	.457	.721	.279	-.253
increases online bookings	.644	.720	.026	.092
increases departments connection	.632	-.654	.041	.320
reinforces customer service	.558	.653	-.309	.298
make our lives easier	.548	.614	-.453	-.197
ensures new customer acquisition	.498	.512	.153	.637

Extraction Method: Principal Component Analysis.

a. 4 components extracted.

C) Multiple Regression Analysis

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	optimization, innovation, engagement, usage[b]	.	Enter

a. Dependent Variable: competitive advantage

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.834[a]	.794	.715	1.534	1.893

a. Predictors: (Constant), engagement, usage, innovation, and optimisation

b. Dependent Variable: competitive advantage

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.702	.418		3.893	.005
	innovation	.128	.193	.113	1.370	.001
	usage	.241	.118	.240	2.911	.004
	engagement	1.003	.182	.992	10.835	.001
	optimization	.172	.159	.147	1.369	.174

a. Dependent Variable: competitive advantage

D) Survey

Q1 Do you currently work in a hotel?

○ Yes (1)

○ No (2)

Q2 Are you a hotel manager?

○ Yes (1)

○ No (2)

Skip To: End of Survey If Are you a hotel manager? = No

Q3 Are you familiar with the metaverse technology?

- Definitely not (1)
- Probably not (2)
- Probably yes (3)
- Definitely yes (4)

Q4 Does your hotel have any metaverse features (e.g., virtual reality experience, virtual showroom, digital real estate, NFTs, etc.)?

- Definitely not (1)
- Probably not (2)
- Probably yes (3)

Definitely yes (4)