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THE IMPACT OF METAVERSE PERCEPTION ON THE PERCEPTION OF DECENT WORK IN THE FUTURE: A STUDY ON STUDENTS OF A FOUNDATION UNIVERSITY

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Abstract

The aim of this study is to examine the effect of individuals' perception of the metaverse on their perception of decent work in the future. In the study, 422 students studying at a foundation university in Istanbul were reached by using a survey method and a convenience sampling technique. SPSS 21.0 and AMOS 22.0 statistical software were used in the analysis of the collected data. Confirmatory factor analysis, item-total correlation, and Cronbach's Alpha types of analysis were used within the scope of the validity and reliability studies of the scales. Cronbach's Alpha coefficient of the Metaverse Scale was calculated as 0.90, and the Decent Work Scale was calculated as 0.81, and it was understood that the scales were reliable and valid. According to the results of the analysis, it was determined that the participants' knowledge, attitude, and awareness level towards the metaverse had a significant effect on their decent work expectations. A high correlation level was determined between the dimensions in the Metaverse scale. It was seen that the four dimensions in the Metaverse scale explained approximately 18% of the variance in decent work expectations. The research makes an important contribution in terms of understanding how the concept of decent work in the future is shaped by the perception of the metaverse and providing guiding information to employers and human resources professionals. The study can be said that the positive perception of the young generation, who will be entering business life, towards metaverse technologies may encourage employers to invest in these technologies in the future.

Keywords

Metaverse
Technology
Decent Work
Work Perception
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METAVERSE ALGISININ GELECEKTE İNSANA YAKIŞIR İŞ ALGISI ÜZERİNDEKİ ETKİSİ: BİR VAKIF ÜNİVERSİTESİ ÖĞRENCİLERİ ÜZERİNE BİR ARAŞTIRMA

Öz

Bu çalışmanın amacı, bireylerin metaverse algısının, gelecekteki insana yakışır iş algısı üzerindeki etkisini incelemektir. Araştırmada, anket yöntemi kullanılarak kolayda örnekleme tekniği ile İstanbul'da bir vakıf üniversitesinde öğrenim gören 422 öğrenciye ulaşılmıştır. Toplanan verilerin analizinde, SPSS 21.0 ve AMOS 22.0 istatistik yazılımlarından yararlanılmıştır. Ölçeklerin geçerlik ve güvenirlik çalışmaları kapsamında doğrulayıcı faktör analizi, madde toplam korelasyonu, Cronbach Alpha analiz türleri kullanılmıştır. Metaverse Ölçeğinin Cronbach's Alpha katsayısı 0,90; İnsana Yakışır İş Ölçeğinin 0,81 hesaplanmış, ölçeklerin güvenilir ve geçerli olduğu anlaşılmıştır. Analiz sonuçlarına göre, katılımcıların metaverse'e yönelik bilgi, tutum ve farkındalık düzeyinin, insana yakışır iş beklentisi üzerinde anlamlı etkisinin olduğu tespit edilmiştir. Metaverse ölçeğindeki boyutlar arasında yüksek korelasyon düzeyi tespit edilmiştir. Metaverse ölçeğindeki 4 boyutun insana yakışır iş beklentisindeki varyansın yaklaşık %18'ini açıkladığı görülmüştür. Araştırma, gelecekteki insana yakışır iş kavramının metaverse algısı ile nasıl şekillendiğini anlamak, işverenlere ve insan kaynakları profesyonellerine yol gösterici bilgiler sunmak açısından önemli bir katkı sunmaktadır. Çalışma, iş hayatına yeni girecek olan genç neslin, metaverse teknolojilerine olumlu algısının, gelecekte işverenlerin bu teknolojilere yatırım yapmasını teşvik edebileceği söylenebilir.

Anahtar Kelimeler

Metaverse
Teknoloji
İnsana Yakışır İş
İş Algısı
Yenilik

Makale Hakkında

Araştırma Makalesi

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INTRODUCTION

In today's world where technological developments continue unabated, the boundaries between virtual and physical reality are becoming increasingly unclear. In this context, the concept of metaverse, as an evolved form of the internet, offers significant transformation potential in many areas of our lives as well as in the business world. The metaverse can be defined as an immersive and interactive universe that allows individuals to interact, work, learn and participate in social activities in a virtual environment (Mystakidis, 2022, p. 488-492). This new reality questions traditional ways of doing business and creates different expectations and perceptions about the future of work life. Therefore, understanding the impact of the metaverse perception on the future work expectations and perceptions of young generations and the workforce is of great theoretical and practical importance (Saeed et al., 2024, p. 1-15).

University students will find themselves in business life after their education ends. The development of work life in parallel with technological developments and the rapid use of new techniques, methods and technologies in businesses have made it necessary for employees to improve themselves. The knowledge of metaverse technologies by employees and learning their areas of use in businesses can increase efficiency and effectiveness. In addition, it can cause employees to develop their perspectives in the context of a decent job perception and to improve themselves.

This research aims to examine the relationship between the integration of metaverse technologies into business life and employees' perception of future work. In today's job market, employees' career expectations, employers' recruitment strategies, and business processes are changing rapidly. The role of technology in this change is an undeniable fact. In particular, the virtual offices, remote collaboration tools, and virtual training opportunities offered by the metaverse have the potential to reshape employees' work experiences and expectations.

When the literature is examined, it is seen that theoretical studies have generally been conducted on the metaverse (Wang et al., 2023; Gadekallu et al., 2023; Wang et al., 2022; Gadekallu et al., 2023; Narin, 2021). It has been understood that the studies conducted on the variable of decent work perception in the future are generally not related to technology (Keser and Büyükgöze, 2022; Kara and Sarsıkoğlu, 2024; Yücel and İzdeş, 2017). It has been determined that no study has been conducted in literature where the variables of metaverse perception and future decent work perception were used together. It is thought that the study will fill the gap in the literature, clarify the relationship between metaverse perception and future decent work perception, provide guiding information to employers and human resources professionals, and thus contribute to the preparation of the business world for this new technological transformation.

In the study, students studying at a foundation university in Istanbul were reached with the convenience sampling technique using the survey method. SPSS 21.0 and AMOS 22.0 statistical software were used in the analysis of the collected data. Confirmatory factor analysis, item total correlation, and Cronbach Alpha analysis types were used within the scope of the validity and reliability studies of the scales. According to the analysis results, it was

aimed to determine whether the participants' knowledge, attitude, and awareness level towards the metaverse had a significant effect on the expectation of decent work. The correlation level between the sub-dimensions of the metaverse scale was investigated. An attempt was made to determine how much of the variance in the perception of decent work in the future is explained by the four dimensions in the Metaverse scale.

1. Interconceptual Relations

1.1. Metaverse Concept and New Working Dynamics

The term *metaverse* first entered the literature with Neal Stephenson's *Snow Crash* and then gained a concrete dimension with Philip Rosedale's *Second Life* project (Morsi, 2024. p. 78-82). This concept, popularized by the movie *Ready Player One* and Mark Zuckerberg's change of Facebook's name to Meta, now represents an online lifestyle that has become a part of real life for Generation Z (Thakur et al., 2023, p. 46). This digital universe creates an economic bridge that connects the real and virtual worlds. The metaverse is a digital universe that allows individuals to create their desired identity online, with components such as augmented reality and virtual worlds (Taylor et al., 2024, p. 2850-2855).

Metaverse offers services equivalent to the real world with features such as multiple technologies, social systems close to reality, and hyper-spacetime equivalence that transcends the boundaries of time and space. Globalization, diversity, equality, and cultural values occupy an important place in this new digital world (Zalli, 2024, p. 55). The boundaries of the metaverse have expanded with technologies such as cryptocurrencies, NFTs, and the increasing importance of virtual life during the pandemic period. This gives users a variety of opportunities in various fields such as entertainment, education, business, tourism, and art (Lin et al., 2022, p. 2860-2866).

The wave of digitalization experienced with the development of computers and the internet has made the concept of metaverse even more important. Technological developments have also changed the way of doing business, and flexible and hybrid working models have started to be adopted in a wide range from education to health services. The decrease in traditional working hours and physical boundaries has brought a breath of fresh air to the culture of collaboration and meeting in the digital environment for organizations (Al Horr et al., 2016, p. 370). The metaverse has a critical role in this transformation. By bringing the importance of verbal and bodily language into the digital space through avatars, it allows employees to reflect their personal characteristics and identities (Eltanbouly et al., 2024, p. 5-11). This is an element that facilitates the interaction and collaboration of employees from different cultures, beyond geographical boundaries, in the globalized business world.

In addition, with the proliferation of video conferencing, the barriers faced by employees who feel uncomfortable in front of the camera have also disappeared. This is an important turning point in the evolution of organizational culture and digitalized business life (Butt et al., 2024, p. 1493-1498). The metaverse is a critical part of this transformation, allowing employees to express their personal characteristics and identities through their avatars (Lim et al., 2024, p. 2-5). This facilitates the interaction and collaboration of employees from different cultures across geographical boundaries in the global business world (Esan et al., 2024, p. 15-22). In line with these developments, Metaverse is redrawing the existing boundaries in the

business world. These virtual environments offer new spaces for collaboration and creativity, transcending the constraints of physical space (Mahindru et al., 2024, p. 209). Thanks to virtual reality glasses and augmented reality applications, companies present their products and services in more immersive and interactive ways. For example, virtual stores and product experiences fundamentally change customer interactions and purchasing processes, enriching consumers' experiences (Erensoy et al., 2024, p. 2783-2795).

1.2. The Concept of Decent Work

The concept of *decent work* is considered one of the cornerstones of modern working life, and the origins of this concept have passed through many important turns historically. In 1999, the International Labour Organization (ILO) adopted the 87th Annual Labor Organization. This concept, which was officially introduced at the International Labour Conference, has come to be used to refer to fair, respectable and productive working conditions in accordance with human dignity (Standing, 2010, p. 308-313). The origins of the concept are based on the basic steps taken in previous years. In particular, the 1944 Philadelphia Declaration and the 1948 United Nations Declaration of Human Rights are among the documents that form the basis of the concept of *decent work*. These documents emphasized that having a job is a fundamental right for every individual and that the job should have, especially respect for human dignity and fair working conditions (Laaser and Bolton, 2022, p. 375-385).

In the 1960s, the Social Indicators movement, which considered the quality of life not only in terms of economic indicators but also from a broader social perspective, shed light on the origins of this concept. This movement reshaped the definition of quality of life and emphasized the improvement of working conditions (Sheikh and Van Ameijde, 2022, p. 2-10). In this period, the foundations of the concept of *decent work* were based on a human-centered approach beyond economic indicators.

The ILO's Declaration on Social Justice for a Just Globalization, adopted in 2008, further expanded the concept of *decent work*. This declaration defined the concept in a broad framework such as the development of employment in a sustainable economic and public context, social protection and security, labor protection, social dialogue and respect for fundamental labor rights (Mațcu -Zaharia et al., 2024, p. 2625). This expanded definition emphasizes that *decent work* is important not only on an individual level, but also on a societal and global level.

ILO's work on the concept of *decent work* is closely linked to economic, social and cultural characteristics. Various instruments, such as international declarations, conventions, and recommendations, have formed a fundamental infrastructure for this concept. In particular, documents such as the Universal Declaration of Human Rights (1948), the European Social Charter (1965) and the ILO's Declaration on Fundamental Rights and Principles (1998) contain the principles and standards that form the basis of *decent work* (Rowland, 2024, p. 125-132).

The concept of *decent work* aims to provide every individual, regardless of gender, with appropriate employment opportunities on the basis of freedom, equality, security and dignity. In this context, the ILO aims not only to provide jobs, but also to ensure that jobs are *acceptable*.

Decent work qualifications, as defined in accordance with generally accepted standards of society, aim to eliminate the deficiencies defined by the concept of *decent work deficit* – lack of suitable employment opportunities, inadequate social protection, non-recognition of workers' fundamental rights and neglect of social dialogue (Kolot and Herasymenko, 2016, p. 23-33). The concept of *decent work* is of critical importance for individual and social well-being and development. This concept emphasizes not only the existence of work but also the nature of work, emphasizing social justice, human dignity and equality as well as economic growth.

2. Method

2.1. Purpose of the Research

The main purpose of this study is to reveal the effect of individuals' perceptions of the concept of metaverse on the perception of *decent work* in the future. Within the scope of the research, university students' awareness levels about the metaverse, their expectations for the integration of this technology into business life, and their thoughts on future decent work perceptions will be examined. The findings of the research will provide important information about how the future business life will be shaped and what should be considered in order to adapt to this new order.

2.2. Universe and Sample of the Research

All studies within the scope of the research comply with ethical standards comparable to the 1964 Declaration of Helsinki and its subsequent amendments. For this study, Ethics Committee Approval dated 03.08.2023 and numbered 2023/07 was obtained with the decision of Istanbul Aydın University Social Sciences and Humanities Ethics Commission.

The population of the study consists of 48,000 students studying at a foundation university in Istanbul. The questionnaire form prepared for the research was applied to 435 students between 01.09.2024 and 30.11.2024 using the convenience sampling method, and 422 of these forms were found suitable for analysis. Therefore, the sample of the study is 422 students.

2.3. Data Collection Tools Used in Research

The questionnaire form prepared for the study consists of 3 parts. In the first part, demographic characteristics, in the second part, *metaverse perception scale*, and in the third part, *decent work scale* were used. In the questionnaire, a 5-point Likert scale (1= Strongly Disagree, 2= Disagree, 3= Undecided, 4= Agree, 5= Strongly Agree) was used. In the first part, 7 items were created in order to obtain demographic information (gender, age, education level, GPA, time spent on the internet in a day, number of people in the household and average income of the household).

In the second part of the questionnaire, the *metaverse perception scale* developed by Süleymanoğulları et al. (2022, p. 48-50) was used, which consists of 15 items and 4 dimensions: technology, digitalization, social and lifestyle. The *technology* dimension, which is one of the scale dimensions, is one of the items 1-2-3-4-5-10-13 in the scale; The *digitalization* dimension is from articles 9-11-12; The *social* dimension consists of items 14-15 and the *lifestyle* dimension consists of items 6-7-8. The Cronbach Alpha value of the scale was determined as 0.813. This

value indicates that the scale is valid and reliable. As an example on the scale, there are items such as *Metaverse is an investment tool*.

In the third part of the questionnaire, the *decent work scale* consisting of 15 items and 5 dimensions developed by Keser and Büyükgöze-Kavas (2022, p. 20-25) was used. *Physical and relational safe working conditions,* which is one of the scale dimensions, is from items 1-2-3; *Access to Health Services* 4-5-6. From the substances; the *Adequate Fee* dimension consists of items 7-8-.9; *Leisure and Rest* dimension 10-11-12. Articles and *Harmony of Institutional Values with Family and Social Values* dimension 13-14-15. It consists of substances. Items 7-8-10-11 (r) on the scale are the items that are scored in reverse. Cronbach's Alpha value was 0.86 for the whole scale, 0.82 for the physical and relational safe working conditions sub-dimension, 0.86 for the access to health services, 0.87 for the adequate wage sub-dimension, 0.84 for the leisure and rest sub-dimension, and 0.85 for the harmony of institutional values with family and social values sub-dimension. The calculated values for this scale and its sub-dimensions show that the scale is valid and reliable. As an example on the scale, *In my future workplace, I will feel emotionally safe in my interactions with people.* There are items such as.

2.4. Model and Hypotheses of the Research

Two separate pathway models have been established for the impact of the scale and sub-dimensions of the metaverse on the prospect of decent work (Figure 1, Figure 2).

Figure 1. Research Model-1

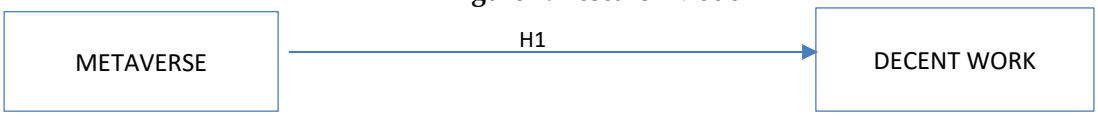
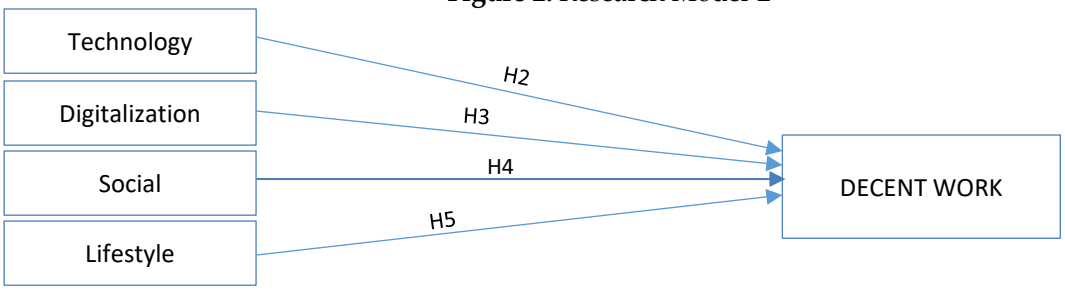


Figure 2. Research Model-2



The hypotheses to be tested in the research were determined as follows:

H1: The level of knowledge, attitude, and awareness towards the metaverse has a significant impact on the expectation of decent work.

H2: The level of knowledge, attitude, and awareness of Metaverse technology has a significant impact on the expectation of decent work.

H3: The level of knowledge, attitudes and awareness towards digitalization with Metaverse has a significant impact on the expectation of decent work.

H4: The level of knowledge, attitude, and awareness of socializing with the metaverse has a significant impact on the expectation of decent work.

H5: With the Metaverse, the level of knowledge, attitudes and awareness towards the way of life has a significant impact on the expectation of decent work.

2.5. Analysis Methods Used in Research

In this study, SPSS 21.0 and AMOS 22.0 statistical software were used in the analysis of the data. Confirmatory factor analysis (CFA), item-total correlation, and Cronbach's Alpha methods were used to study the validity and reliability of the scales.

Confirmatory factor analysis is a highly advanced technique that is based on testing theories about latent variables and is used in advanced research. It is an analysis in which a previously defined and delimited structure is tested to see if it can be verified as a model. Confirmatory factor analysis is one of the structural equation models, and in structural equation models, model compatibility must be ensured first. In the evaluation of model fit, fit indices classified as *Chi-square statistic ratio to degrees of freedom* (X2/sd), *statistical significance of individual parameter estimates* (t-value), *fit indices based on residues* (SRMR, GFI), *fit indices based on independent model* (NNFI, CFI) and *mean square root of approximate errors* (RMSEA) are commonly used (Çokluk et al., 2010, p. 272).

The Cronbach Alpha technique, which is used within the scope of reliability analysis, is used to examine the consistency between test scores. Cronbach's Alpha is internally consistent and is generally expected to be above 0.70. Item-total correlation, which is another reliability analysis method, is used to explain the relationship between the scores obtained from the test items and the total score of the test. In general, it can be said that items with an item-total correlation of 0.30 and higher distinguish individuals well, and an item-total correlation of 0.20 and higher is acceptable (Büyüköztürk, 2011, p. 171).

The distribution of the participants according to their demographic variables is shown in the frequency and percentage table. After the validity and reliability studies, the scale and sub-dimension scores were shown in the descriptive statistics table consisting of mean, standard deviation, skewness and kurtosis values. In the normality test of the scale scores, skewness coefficient and kurtosis coefficients were taken into account. The fact that the skewness and kurtosis coefficients used in the normal distribution feature of the scores obtained from a continuous variable remain within the limits of ±1 can be interpreted as the scores not showing a significant deviation from the normal distribution. Parametric tests can be used by performing appropriate transformations (square root, logarithmic, inverse transformation) of scores that do not show normal distribution (Büyüköztürk, 2011, p. 40). Since the total and sub-dimension scores of the scales show normal distribution, Pearson correlation analysis is used in the relationship analysis between the variables; Path analysis was used to determine the effect of decent work expectation on the level of knowledge, attitudes and awareness towards the metaverse. The level of statistical significance was accepted as 0.05 ($p<0.05$).

3. Findings

3.1. Demographic Findings

Table 1 shows the distribution of the participants according to their demographic characteristics.

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Of the 422 participants participating in the study, 67.8% were female and 32.2% were male. The mean age of the participants was (21.70±5.78) and 16.4% were 18 years old, 15.2% were 19 years old, 27% were 20 years old, 16.8% were 21 years old, 8.1% were 22 years old, 16.6% were 23 and over age group. 17.3% of the participants were university students, 43.6% were associate degree graduates, and 39.1% were undergraduate graduates. 5% of the participants had 2 people living in their house, 14.5% had 3 people living in their house, 37.9% had 4 people living in their house, 27.3% had 5 people living in their house, 15.4% had 6 or more people living in their house. The average monthly income of 11.8% of the participants is at the minimum wage level, 13.7% is 18-25 thousand TL, 18% is 26-35 thousand TL, 10.7% is 36-45 thousand TL, 45.7% has an average monthly income of 46 thousand TL and above. 11.6% of the participants had a GPA between 1-2, 52.4% had a GPA between 2-3, and 36% had a GPA of 3 and above. 9.2% of the participants had a daily internet usage time of 1-3 hours, 13.7% 3-4 hours, 14.5% 4-5 hours, 17.8% 5-6 hours, 14.9% 6-7 hours, 10% 7-8 hours, 19.9% 8 hours or more.

Table 1. Demographic Characteristics of The Participants

Demographic variable	**Groups**	**N**	**%**
Gender	Female	286	67,8
	Male	136	32,2
Age (21,70±5,78)	18 years	69	16,4
	19 years	64	15,2
	20 years	114	27,0
	21 years	71	16,8
	22 years	34	8,1
	23 years and above	70	16,6
Education	Undergraduate	73	17,3
	Associate degree	184	43,6
	Bachelor's degree	165	39,1
Average monthly income	Minimum wage	50	11,8
	18-25 thousand TL	58	13,7
	26-35 thousand TL	76	18,0
	36-45 thousand TL	45	10,7
	46 bin thousand and over	193	45,7
Number of people living in the house	2 persons	21	5,0
	3 persons	61	14,5
	4 persons	160	37,9
	5 persons	115	27,3
	6 persons and above	65	15,4
GPA	1-2	49	11,6
	2-3	221	52,4
	3 and above	152	36,0

Table 1 (Continued). Demographic Characteristics of The Participants

Demographic variable	Groups	N	%
Time spent on the internet (daily)	1-3 hours	39	9,2
	3-4 hours	58	13,7
	4-5 hours	61	14,5
	5-6 hours	75	17,8
	6-7 hours	63	14,9
	7-8 hours	42	10,0
	8 hours and over	84	19,9

3.2. Validity and Reliability Findings

The confirmatory fit indices realized with the 15-item and 4-dimensional structure of the Metaverse Scale and the 15-item and 5-dimensional structure of the Decent Work Scale are given in Table 2.

According to the first results of the Metaverse Scale confirmatory factor analysis, it was determined that the item factor loads were at the appropriate level but the model fit indices were generally not at a good level, so when covariance connections (m2-m3, m10-m13) were established in accordance with the modification suggestions, the model fit indices generally reached appropriate levels and the item factor loads were higher than 0.40.

Table 2. Model Fit Indices Obtained in Confirmatory Factor Analysis (CFA)

		Metaverse Scale		**Decent Work Scale**
		CFA-1	**CFA-2**	**CFA-1**
		15 Items 4 sub-	**15 Items 4 sub-**	**15 Items**
Model Fit Indices	**Ref.**	**dimensions**	**dimensions**	**5 sub-dimensions**
X^2/df	< 5	4,036	3,564	3,002
SRMR	≤0,08	0,066	0,061	0,076
GFI	≥0,90	0,899	0,915	0,925
NNFI	≥0,90	0,882	0,900	0,900
CFI	≥0,90	0,905	0,922	0,924
RMSEA	≤0,10	0,085	0,078	0,069
Factor load	>0,40	0,49 / 0,81	0,49 / 0,78	0,56 / 0,85
Interdimensional correlation	<1,00	0,42 / 0,86	0,44 / 0,88	0,12 / 0,64
Covariance link		-	m2-m3, m10-m13	-

Reference: Çokluk et al., 2010, p. 272.

According to the first results of the Decent Work Scale confirmatory factor analysis, it was determined that item factor loads, and model fit indices were at appropriate levels without the need for any covariance link.

The roadmap created in the DFA analysis for the Metaverse scale is given in Figure 3 below.

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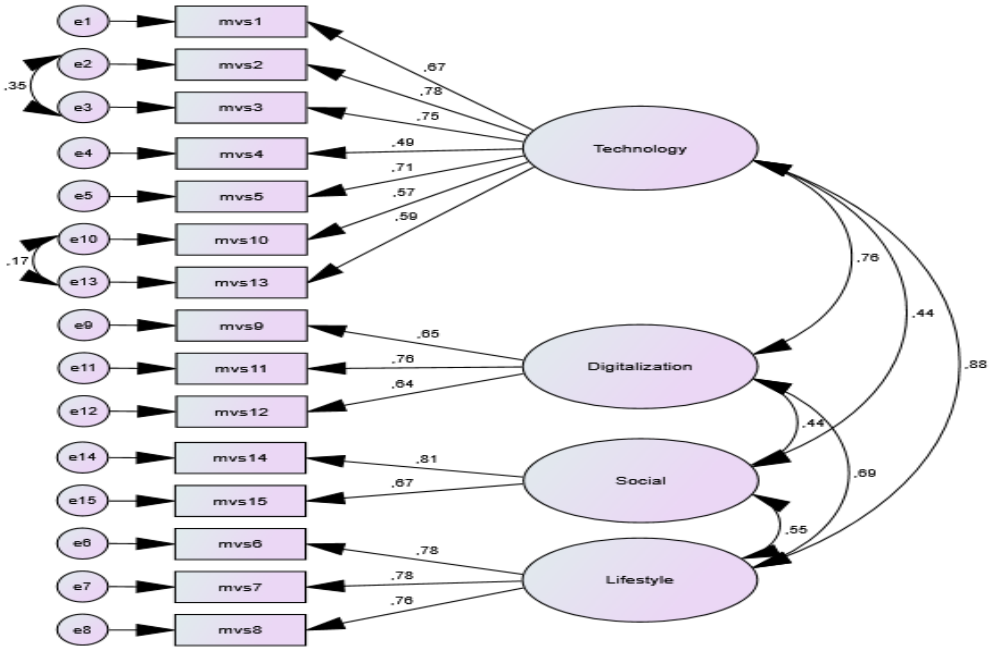
Figure 3. Roadmap Created in DFA Analysis for Metaverse scale



The roadmap created in the CFA analysis for the Decent Work Scale is given in Figure 4 below.

Figure 4. Roadmap Created in CFA Analysis for Decent Work Scale

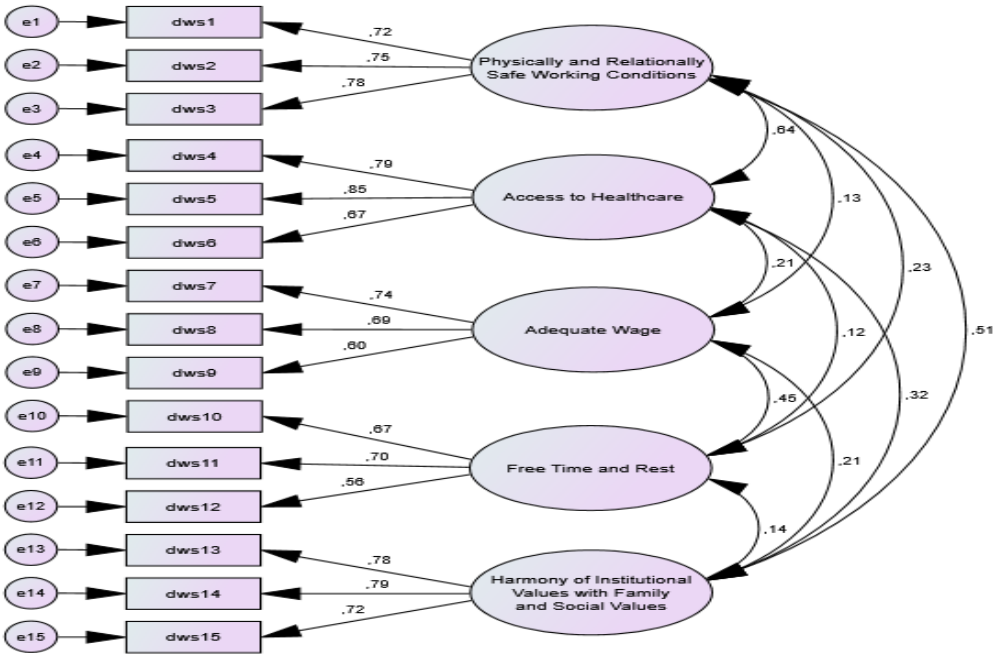


Figure 5. Roadmap Created in DFA Analysis for the Dimensions of Metaverse and Decent Work Perception Scales

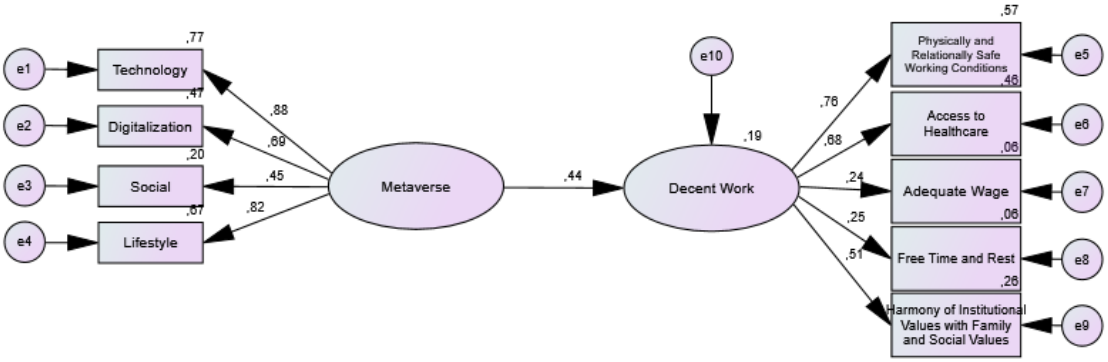


Figure 6. Path Diagram with Dimensions of the Metaverse Scale

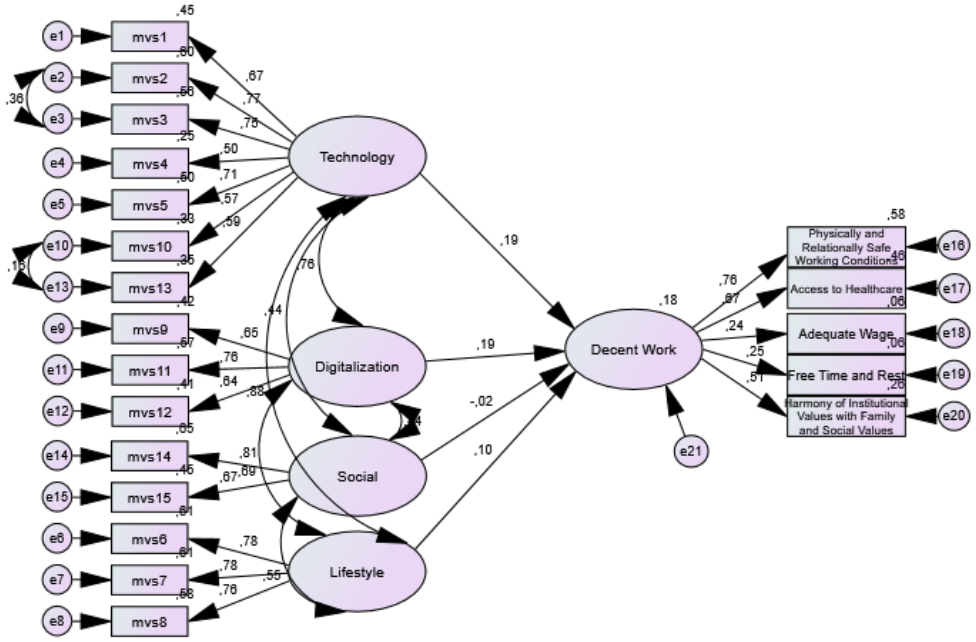


Table 3. CFA and Reliability Analysis Findings

Metaverse Scale (α=0,898)						**Decent Work Scale (α=0,808)**					
Sub-Dimension and Item	**B**	**SE**	**Std. β**	**t**	**r**	**Sub-Dimension and Item**	**B**	**SE**	**Std. β**	**T**	**R**
Technology (α=0,840)						**PRSWC (α=0,793)**					
i1	1,000		0,67		0,589	i1	1		0,72		0,498
i2	1,045	0,076	0,78	13,72**	0,695	i2	1,153	0,088	0,75	13,12**	0,506
i3	1,027	0,077	0,75	13,29**	0,665	i3	1,155	0,085	0,78	13,52**	0,539
i4					0,419	**ACH (α=0,811)**					
	0,682	0,074	0,49	9,19**							
i5	0,958	0,075	0,71	12,82**	0,625	i4	1		0,79		0,488
i10	0,738	0,071	0,57	10,43**	0,563	i5	1,121	0,071	0,85	15,77**	0,479
i13	0,834	0,077	0,59	10,78**	0,634	i6	0,881	0,066	0,67	13,34**	0,563

Table 3 (Continued). CFA and Reliability Analysis Findings

Metaverse Scale (α=0,898)						**Decent Work Scale (α=0,808)**					
Sub-Dimension and Item	**B**	**SE**	**Std. β**	**t**	**r**	**Sub-Dimension and Item**	**B**	**SE**	**Std. β**	**T**	**R**
Digitalization (α=0,724)						**AW (α=0,714)**					
i9	1,000		0,65		0,555	i7	1			0,74	0,272
i11	1,220	0,107	0,76	11,35**	0,608	i8	0,866	0,087		0,69	9,97** 0,262
i12	1,026	0,099	0,64	10,32**	0,481	i9	0,721	0,076		0,60	9,44** 0,518
Social (α=0,705)						**FTR (α=0,675)**					
i4	1,000		0,81		0,436	i10	1			0,67	0,274
i15	0,825	0,103	0,67	8,02**	0,379	i11	1,146	0,133		0,70	8,62** 0,245
Lifestyle	**α=0,818**					i12	0,909	0,112		0,56	8,15** 0,429
i6					0,685	**HIVFSV (α=0,806)**					
	1,000		0,78			i13	1			0,78	0,449
i7	1,026	0,063	0,78	16,19**	0,656	i14	0,948	0,068		0,78	14,04** 0,469
i8	1,088	0,069	0,76	15,82**	0,674	i15	0,858	0,064		0,72	13,33** 0,428

**p<0,01 r: Inter-item correlation PRSWC: Physically and Relationally Safe Working Conditions; ACH: Access to Healthcare; AW: Adequate Wage; FTR: Free Time and Rest; HIVFSV: Harmony of Institutional Values with Family and Social Values

The factor loads obtained as a result of the confirmatory factor analysis of the scales, the t values of the factor loads, the item-total correlation obtained within the scope of the reliability analysis, and the Cronbach's Alpha coefficients are shown in Table 3.

According to the Metaverse Scale CFA findings, it is seen that the factor loads of the 15 items in the scale in the dimensions they belong to are in the range of 0.49 and 0.81 and the t values are significant (p<0.01) (Table 3, Figure 3). In the Metaverse Scale, Cronbach's Alpha coefficient is 0.90; Cronbach's Alpha coefficients of the sub-dimensions were found to be 0.84 / 0.72 / 0.70 / 0.82 and the item-total correlations were higher than 0.20 (in the range of 0.42 to 0.69). According to the validity and reliability analysis findings, it has been determined that the Metaverse Scale is a reliable and valid scale with 15 items and a 4-dimensional structure.

According to the Decent Work Scale CFA findings, it is seen that the factor loads of the 15 items in the scale are in the range of 0.56 to 0.85 and the t values are significant (p<0.01) (Table 3, Figure 4). On the Decent Work Scale, Cronbach's Alpha coefficient was 0.81; Cronbach's Alpha coefficients of the sub-dimensions were 0.79 / 0.81 / 0.70 / 0.67 / 0.81 and the item-total correlations were higher than 0.20 (in the range of 0.24 to 0.56). According to the validity and reliability analysis findings, it was determined that the Decent Work Scale was a reliable and valid scale with 15 items and a 5-dimensional structure (Figure 5, Figure 6).

3.3. Descriptive Findings

In Table 4, descriptive statistics of scale scores are given.

Table 4. Descriptive Statistics of Scale Scores

Scale and Sub-Dimension	N	Min.	Max.	$\overline{X}$	SD	Skewness	Kurtosis
METAVERSE SCALE	**422**	**1,00**	**5,00**	**3,47**	**0,76**	**-0,60**	**0,55**
Technology	422	1,00	5,00	3,54	0,82	-0,66	0,46
Digitalization	422	1,00	5,00	3,28	0,99	-0,24	-0,37
Social	422	1,00	5,00	3,37	1,09	-0,31	-0,51
Lifestyle	422	1,00	5,00	3,71	0,97	-0,67	0,11
DECENT WORK SCALE	**422**	**1,13**	**4,93**	**3,29**	**0,60**	**-0,15**	**0,76**
Physically and Relationally Safe Working Conditions	422	1,00	5,00	3,42	0,98	-0,29	-0,35
Access to Healthcare	422	1,00	5,00	3,76	0,91	-0,62	0,27
Adequate Wage	422	1,00	5,00	3,06	0,97	-0,04	-0,10
Free Time and Rest	422	1,00	5,00	2,89	0,91	0,14	-0,02
Harmony of Institutional Values with Family and Social Values	422	1,00	5,00	3,30	0,98	-0,25	-0,11

PRSWC: Physically and Relationally Safe Working Conditions; ACH: Access to Healthcare; AW: Adequate Wage; FTR: Free Time and Rest; HIVFSV: Harmony of Institutional Values with Family and Social Values

According to Table 4, the average score of the Metaverse scale was determined as 3.47±0.76. According to the lowest (1) and highest (5) scores that can be obtained from the scale, the level of knowledge, attitudes and awareness of the participants towards the metaverse is moderate/high positive (100*[3.47-1.00]/[5.00-1.00]= 61.7%). When the sub-dimensions were examined, it was found that lifestyle (3.71±0.97) and technology (3.54±0.82) knowledge/attitudes/awareness were moderate/high positive; social (3.37±1.09) and digitalization (3.28±0.99) knowledge/attitudes/awareness are moderately positive (Figure 6).

According to Table 4, the mean score of the Decent Work Scale was determined as 3.29±0.60. According to the lowest (1) and highest (5) scores that can be obtained from the scale, the decent work expectation of the participants is moderately positive (100*[3.29-1.00]/ [5.00-1.00] = 57.2%). When the sub-dimensions were examined, it was found that the expectation of access to health services (3.76±0.91), physical and relational safe working conditions (3.42±0.98) was moderate/high positive; adequate wages (3.06±0.97) and compatibility of corporate values with family and social values (3.30±0.98) were moderately positive; It is seen that the expectation of leisure and rest (2.89±0.91) is low positive.

3.4. Findings on the Relationship Between the Level of Knowledge, Attitudes and Awareness of the Metaverse and the Expectation of Decent Work

Table 5 presents the results of the Pearson correlation analysis of the relationship between the level of knowledge, attitudes and awareness of the metaverse and the expectation of decent work.

Table 5. The Relationship Between the Level of Knowledge, Attitudes and Awareness Towards the Metaverse and the Expectation of Decent Work

Variable	1	2	3	4	5	6	7	8	9	10	11
1-METAVERSE SCALE	1	0,83**	0,78**	0,69**	0,84**	0,27**	0,24**	0,33**	0,02	-0,01	0,27**
2-Technology		1	0,62**	0,36**	0,72**	0,28**	0,27**	0,31**	0,01	0,03	0,24**
3-Digitalization			1	0,32**	0,54**	0,23**	0,21**	0,27**	-0,02	0,01	0,26**
4-Social				1	0,42**	0,12*	0,09	0,14**	-0,01	-0,04	0,18**
5-Lifestyle					1	0,24**	0,21**	0,32**	0,08	-0,02	0,17**

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Table 5 (Continued). The Relationship Between the Level of Knowledge, Attitudes and Awareness Towards the Metaverse and the Expectation of Decent Work

Variable	1	2	3	4	5	6	7	8	9	10	11
6-DECENT WORK SCALE						1	0,72**	0,66**	0,58**	0,55**	0,65**
7-Physically and Relationally Safe Working Conditions							1	0,52**	0,12*	0,20**	0,41**
8-Access to Healthcare								1	0,19**	0,12*	0,28**
9-Adequate Wage									1	0,32**	0,19**
10-Free Time and Rest										1	0,13**
11-Harmony of Institutional Values with Family and Social Values											1

*p<0,05 **p<0,01

According to Table 5, it was determined that there was no significant relationship between the metaverse scale score and the adequate wage and leisure and rest sub-dimension scores (p>0.05). A positive and significant correlation was found between the Metaverse scale score and Decent Work (r=0.27; p<0.05), physical and relational safe working conditions (r=0.24; p<0.05), access to health services (r=0.33; p<0.05), harmony of institutional values with family and social values (r=0.27; p<0.05).

According to Table 5, it was determined that there was no significant relationship between the technology sub-dimension score and the adequate wage and leisure and rest sub-dimension scores (p>0.05). A positive and significant correlation was found between the technology sub-dimension score and Decent Work (r=0.28; p<0.05), safe physical and relational working conditions (r=0.27; p<0.05), access to health services (r=0.31; p<0.05), harmony of institutional values with family and social values (r=0.24; p<0.05).

According to Table 5, it was determined that there was no significant relationship between the digitalization sub-dimension score and the adequate wage and leisure and rest sub-dimension scores (p>0.05). A positive and significant correlation was found between the digitalization sub-dimension score and Decent Work (r=0.23; p<0.05), physical and relational safe working conditions (r=0.21; p<0.05), access to health services (r=0.27; p<0.05), harmony of institutional values with family and social values (r=0.26; p<0.05).

According to Table 5, it was determined that there was no significant relationship between the social sub-dimension score and the physical and relational safe working conditions, adequate wage and leisure and rest sub-dimension scores (p>0.05). A positive and significant correlation was found between the social sub-dimension score and Decent Work (r=0.12; p<0.05), access to health services (r=0.14; p<0.05), and harmony of institutional values with family and social values (r=0.18; p<0.05).

According to Table 5, it was determined that there was no significant relationship between the lifestyle sub-dimension score and the adequate wage and leisure and rest sub-dimension scores (p>0.05). A positive and significant correlation was found between the lifestyle sub-dimension score and Decent Work (r=0.24; p<0.05), physical and relational safe working conditions (r=0.21; p<0.05), access to health services (r=0.32; p<0.05), harmony of institutional values with family and social values (r=0.17; p<0.05).

3.5. Findings of Hypotheses

Table 6 presents the findings of the path analysis performed for the research hypotheses.

Table 6. Path Analysis Findings

Model	Independent	Path	Dependent	H	B	t	P	R^2
1	Metaverse	→	Decent Work	H1	0,44	7,05	0,000	0,195
	X^2/df=4,091	SRMR=0,062	GFI=0,950	NNFI=0,886	CFI=0,917	RMSEA=0,086		
2	Technology	→	Decent Work	H2	0,19	0,85	0,394	0,182
	Digitalization	→	Decent Work	H3	0,19	1,51	0,130	
	Social	→	Decent Work	H4	-0,02	-0,26	0,791	
	Lifestyle	→	Decent Work	H5	0,10	0,46	0,646	
	X^2/ df =2,902	SRMR=0,062	GFI=0,902	NNFI=0,883	CFI=0,902	RMSEA=0,067		

*: p<0,05; **: p<0,01

When Table 6 is examined, it is seen that the level of knowledge, attitudes and awareness towards the metaverse has a positive and significant effect on the expectation of decent work (β=0.44; t=7.05; p<0.05) (Table 6, Figure 5). The level of knowledge, attitude, and awareness towards the metaverse explains approximately 19% of the variance in decent work expectation (R2=0.195). According to these results, *H1: The level of knowledge, attitudes and awareness towards the Metaverse has a significant effect on the expectation of decent work.'* His hypothesis has been accepted.

It is seen that the H2-H5 hypotheses realized with the sub-dimensions of the metaverse scale are rejected, but the 4 dimensions in the metaverse scale explain approximately 18% of the variance in decent work expectations. This can be explained by the high correlation between metaverse-scale dimensions (Table 5; Figure 6).

CONCLUSIONS AND RECOMMENDATIONS

Today, globalizing economic and social structures emphasize the fundamental importance of the concept of 'decent work'. This concept is closely related to various factors that affect the quality of work life and is a critical issue that needs to be addressed due to its effects on individuals' living standards.

Metaverse technology, as a critical element of the digital transformation process, has a central role in triggering paradigm shifts in the business world and building new working dynamics. A literature review by De Giovanni (2023, p. 1-29) revealed that the metaverse represents a complex virtual environment where the virtual and physical worlds are integrated, with users interacting interactively through digital avatars. In this context, the analytical study carried out by Agarwal and Alathur (2023, p. 689-700) states that the metaverse accelerates the digital transformation process in line with the human-centered,

resilient, and sustainable vision of Industry 5.0 and makes significant contributions to shaping new business dynamics.

The sustainable and responsible use of metaverse technology is vital for its effective integration in the business world. In this context, the research by Sabatucci et al. (2023, p. 1-19) has shown that the use of digital twins strengthens the connection between the physical and virtual worlds, allowing real-world interactions to be modeled in the metaverse environment. Thus, while metaverse technology supports innovative applications in business processes, it also brings about a transformation that requires social and environmental responsibilities to be observed.

The study conducted by Rejeb et al. (2023, p. 2-20) documented that metaverse research has seen a noticeable increase in recent years and its effects on various industries. In this context, it has been emphasized that the metaverse has the potential to be applied in various fields from education to health, from retail to tourism.

Decent work should be recognized as a global issue, affecting not only the economic well-being of individuals, but also their social and cultural development. Therefore, the international community and local governments need a multifaceted approach that should be taken into account by business and non-governmental organizations. For policymakers and business leaders, it is of paramount importance to develop effective strategies to promote and support decent work. In addition to promoting economic growth, these strategies should also include social and cultural dimensions and focus on improving working conditions for a fairer world.

As a result of the research, it was determined that the level of knowledge, attitudes and awareness towards the metaverse significantly affected the decent work expectations of the participants. The findings reveal that the features offered by the metaverse, such as virtual working environments, collaboration opportunities, and flexible working arrangements, positively affect the job prospects of the younger generation. This shows that metaverse technologies can play an important role in the business world and transform the working life of the future.

Although the study supports the effect of metaverse perception on decent work expectation, it has concluded that the sub-dimensions of the metaverse scale alone cannot significantly explain the decent work expectation. However, when all sub-dimensions of the metaverse scale are evaluated together, it is seen that they explain approximately 18% of the variance in decent work expectation. This shows that the perception of the metaverse affects business expectations through multifaceted and interrelated sub-dimensions. The high correlation between the dimensions of the Metaverse scale reveals the importance of evaluating these dimensions as a whole.

The results of the research highlight the need for employers and human resources professionals to evaluate the potential to integrate metaverse technologies into their business processes. Considering the familiarity and positive perception of metaverse technologies, especially of the young generation who will enter business life, employers should be encouraged to invest in these technologies in the future. In this way, the future of work can be made more inclusive, innovative and humane.

The limitations of this study should be considered. The sample of the study was limited to students studying at a foundation university in Istanbul. In future research, the generalizability of the findings can be increased by working with a larger sample and professionals working in different sectors. In addition, the long-term effects of the perception of the metaverse on business prospects can also be examined. The psychological and sociological effects of the integration of metaverse technologies into business processes on employees may also be an important focus for future research. This research is an important step in understanding the potential effects of the metaverse in the business world and shaping the future of work. The findings provide a guiding framework for society, employers and academics.

Ethical Principles and Publication Policy

We declare that we have obtained the data, information and documents we have presented in this study within the framework of academic and ethical rules, that we have presented all information, documents, evaluations and results in accordance with scientific ethics and ethical rules, that we have referred to and cited all studies we have used in the study, and that the study is original. Otherwise, we declare that we accept any loss of rights that may arise against me.

Limitations of the Research

This study has some limitations. These include the fact that the study was conducted with students from a foundation university, the data was collected in 3 months, and it was limited to the variables used. These limitations may limit the generalizability of the research results. However, they may pave the way for further studies on this subject in terms of different variables.

Ethics Committee Approval

Ethics committee permission for this research was obtained with the decision of Istanbul Aydın University Social and Human Sciences Scientific Research and Publication Ethics Committee dated 03.08.2023 and numbered 2023/07.

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