



# Navigating the Transformative Landscape of Virtual Education Trends across India

Asha SHARMA<sup>1</sup>, Aditya MISHRA<sup>2</sup>

Received: February 07, 2024. Revised: March 05, 2024. Accepted: March 27, 2024.

## Abstract

**Purpose:** Education is the part of a fundamental human right across the world. In recent years, the trend of virtual education has increased tremendously. The paper aims to find the impact of adoption, accessibility, interactions, knowledge, and satisfaction on the success of transformation towards virtual education. **Research design, data and methodology:** Primary data has been gathered through the use of responses from students taking admission in virtual higher education to standardized questionnaires. Of the 250, only 122 were considered complete and have been used in further studies. Convinced random sampling method has been used. The results were evaluated using the Likert Five-Point Scale. For applying these statistical tools software SmartPLS and SPSS 19 have been used. The fitness of the model has been re-checked through an Artificial Neural Network (ANN). **Result:** Results derived that adoption, accessibility, and interactions have a significant impact on knowledge, knowledge influences satisfaction level and satisfaction have a meaningful impact on the success of transformation towards virtual education. **Conclusion:** It can be concluded that virtual education has the potential to change the future of the education system and its potential in India. The highest importance is due to satisfaction (100%), adoption (98.7%), knowledge (91.4%), accessibility (62%), and interaction (29.2%).

**Keywords:** Virtual Classroom, Education, MOOCs Platform, Transformation of Traditional Learning, Knowledge, Accessibility

**JEL Code:** I, I 12, I 125, I 1250

## 1. Introduction

Education enables freedom and empowerment for an individual. It is necessary for sustainable social and economic development. It creates significant societal development and makes society enabling economic wealth, social prosperity, and political stability.

All individuals are entitled to an education. India is one of the countries carrying the largest higher education systems in the world. Looking at the increasing trend in the

number of enrolments from the country and satisfying their need for education, India has started various MOOC courses in the field of education. Virtual education has the potential to strengthen accounting education in India but the courses are still at an initial stage in the country. It is expected that despite hurdles, Virtual education will strengthen the quality of accounting education reshape the structure, enhance knowledge, and broaden technical skills. The rapid acceptance of, and changes in, information technology are revolutionizing the way educators teach and students will

1 First Author. Assistant Professor, Department of Accountancy and Statistics, University College of Commerce & Management Studies, Mohanlal Sukhadia University, Udaipur. Email: drashasharma.sharma07@gmail.com

2 Second Author. Student, B Tech. III Year, Department of Electronics and Communications Engineering (ECE), College of

Technology and Engineering, Maharana Pratap University of Agriculture and Technology. Email: adityamishrag@gmail.com

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

learn virtual education in the same way as traditional learning. India like the US and other European countries is rapidly going in the direction of growth in enrolments in the online mode of the classroom.

The Indian education system needs to be upgraded and aligned to meet the challenges of globalization. Simply changing the curriculum at the graduate and undergraduate level in universities might not be sufficient. To survive the changing accounting regulation scenario in the world, easy access to accounting information and training, which has far-reaching effects even in the interiors of India might be needed. Imparting accounting education in universities and colleges requires well-equipped lab infrastructure, ICT-enabled classrooms, and experienced qualified staff. This is where Indian universities and institutes might lack, especially in the interior and remote places of India. Here Virtual education might come into the picture and may play a pivotal role in changing the face of accounting education in India. According to Long, C. (2013), "Today, even the daughter of a farm labour in rural Thailand can access the classrooms of an Ivy League school". The same can be experienced in the context of accounting education in India through Virtual education.

Currently, the usefulness of ICT (Information and Communication Technologies) in the teaching-learning process has not been discussed; unlike distance learning, these new tools are used via technology. The current approach to social development, supported by the exercise of innovation, learning, and research, is undeniable (Wells et al., 2008).

This virtual environment allows students to build and develop their learning path. In this way, education is considered, in the current approach, as involving the use of widespread technology, such as a Smartphone, tablet, or computer, applied to education in informal learning (Zarco et al., 2019) and lifelong learning (Kumar et al., 2019), especially with mature students. It is thought that mature students use information and communication technology (ICT) more frequently for academic purposes than for other objectives (Mireku et al., 2014).

Education has now evolved from the traditional classroom blackboard approach into a more technologically advanced platform. This platform is commonly referred to as Virtual learning and is widely used by many universities across the world. The article indicates that there are difficulties that face this form of education in developing countries (Smith, 2022).

To support this change, in recent years, both nationally and internationally, the use of virtual educational platforms has expanded through e-learning programs, in mixed learning systems and integrated into classroom teaching as a tool to support students' learning (Contreras & Mayorga, 2019).

In a recent report, the Pathways Commission expressed its concern by stating that accounting students often lack the preparations and skills that are necessary for a thorough comprehension of the multifaceted and complex environment of the accounting profession (Ahadiat & Martin, 2016).

The purpose of the study is to find determinants that lead to the transformation of the education industry from offline to virtual (online). The paper aims to find the impact of selected variables on the success of transformation towards virtual education.

## 2. Review of Literature

Several kinds of literature have been reviewed to understand the previous study, findings, conclusion, and suggestions to find the research gap and frame research hypotheses.

The metrics for learning and content yield the highest results, whereas operability scores worse, emphasizing the latter's poor performance in the indicators for accessibility and availability. A proposal for enhancements is made in light of the results to increase the level of usability in the specified environment. Ultimately, these enhancements are applied in the case study, resulting in a fresh assessment of users to confirm the modifications achieved (Rodriguez Morales et al., 2019).

The widespread use of Smartphone among people and other recent technology advancements have made virtual reality and augmented reality more accessible to all. Furthermore, several major corporations, like Magic Leap, Samsung, Facebook, Apple, and others, have boosted their investments in these technologies to make them more accessible in the next years (Martín-Gutiérrez et al., 2017)

This study looks at how much Ugandan policy supports accessible e-learning, evaluates how accessible a sample of public and private universities' VLEs are, and makes recommendations for closing the accessibility gaps in current VLE implementation and policy (Baguma & Wolters, 2021).

Broader implementation, though, would change how future professionals receive their medical education. To construct and apply a VR-based medical simulation environment in their curriculum, educators can use the BUILD REALITY (begin, use, identify, leverage, define, reproduce, educate, adapt, look, identify, test, amplify) framework, which is introduced in this lesson (Gupta et al., 2023).

The lockdown has increased adherence to online learning environments for efficient accessibility of the curriculum without sacrificing educational standards (Maity et al., 2021).

This study suggests an approach to consider accessibility across the various stages of a virtual learning project's life

cycle (Amado-Salvatierra et al., 2018).

For many higher education institutions, the COVID-19 pandemic led to a change in teaching practices towards blended learning. As a result, to satisfy students' access needs, some digital technologies were quickly included in the current educational frameworks (Colreavy-Donnelly et al., 2022).

The use of cloud-based applications for experimental practices in engineering courses and the incorporation of virtual courses into the curriculum are two examples of how the acceptance of new technologies for education is changing. Massive Open Online Courses, or MOOCs, are another method that educational institutions are developing to provide instruction to students worldwide. However, while designing cloud-based apps, virtual platforms, and MOOCs, accessibility has not always been considered, particularly when it comes to jobs involving the creation of instructional materials (Bustamante et al., 2018).

The mean examination marks showed statistically significant improvements as compared to the prior cohort. In summary, there was a high level of satisfaction with the TEL resources, and there might be a beneficial impact on knowledge acquisition (Alexander et al., 2019).

The study evaluates the variables that influence higher and tertiary education's use of augmented and virtual reality (AVR) technologies (Matsika & Zhou, 2021).

Based on a review of the literature certain hypotheses have been framed:

**H1:** There is a significant impact of adoption on knowledge

**H2:** There is a significant impact of accessibility on knowledge

**H3:** There is a significant impact of interaction on knowledge

**H4:** There is a significant impact of knowledge on satisfaction

**H5:** There is a significant impact of satisfaction on the success of the transformation of Education

### 3. Evolution of Virtual Education: Current Trends in Transformation

Virtual classes should be convenient and accessible, scheduling flexibility, and related to accelerated courses. These allow students to move more quickly through their studies than they could in the more common brick-and-mortar institutions. Distance education gives students the

chance to continue in their careers and personal duties while earning their degrees.

### 3.1. Current Landscape of Education System in India: An Overview

#### 3.1.1. Status of Regular Mode of Education

**Table 1:** Enrolment in Important Programs at Post Graduate Level in Regular Mode of Education

Year	M.A.- Master of Arts	M.B. A.- Mast er of Busi ness Admi nistr ation	M.Com.- Master of Commer ce	M.Sc.- Master of Science	(M. Tech.) Master of Technol ogy	Total
2013-14	674447	392937	193373	431723	260370	1327754
2014-15	767027	409432	222709	481330	289311	1465770
2015-16	878677	416325	271266	519159	257361	1552363
2016-17	865410	416490	275695	562896	160888	1442788
2017-18	901448	421509	282061	605682	142081	1465038

Source: Annual Report 2017-18; University Grants Commission

The Government made efforts to maintain the ratio of enrolment in higher education. After completion of their undergraduate course's students are expected to enroll for any postgraduate course, degree, diploma, M Phil, Ph.D. It tried to find out the factors that influence the demand or enrolment in higher education. The progress of an economy is accelerated by the education system thereof. In other words, economic growth is driven by the education system.

34,400 students were awarded Ph. D. level degrees during 2017 with 20,179 males and 14,221 females. Only 19.25% of students are involved in commerce education, rest of the 80.75% of students belong to another stream.

Only 12% of students are involved in commerce education, rest of the 88% of students belongs to another stream.

There are approximately 78 MOOC courses are running by SWAYAM. A large number of students have been enrolled for it.

### 3.2. Issues and Challenges in Virtual Education in India

Challenges before Virtual education though the

educational worlds in general and online education, in particular, have been taken storm by MOOC a phenomenon, Virtual education has been in existence for only a decade and a few challenges need to be addressed.

Navigating the transformative landscape of MOOC (Massive Open Online Course) courses in the realm of education across India is not without its set of challenges and issues. One prominent concern revolves around equitable access, as disparities in internet connectivity and technological infrastructure persist among various regions and socio-economic strata. Bridging this digital divide becomes crucial to ensure that all learners, regardless of their geographic location or economic background, can benefit from MOOC offerings. Additionally, the need for effective pedagogical strategies in online learning environments poses a challenge, as MOOC courses often require learners to be self-motivated and disciplined. The assessment and validation of learning outcomes also present hurdles, as traditional methods may not seamlessly translate into the digital realm. Moreover, ensuring the quality and credibility of MOOC content, along with the recognition of certificates in the job market, remains an ongoing concern. Addressing these issues is pivotal in harnessing the true potential of MOOC courses and fostering a more inclusive and effective educational landscape in India (Tayag & Tayag, 2020).

The limitations associated with MOOC are that it is available to only those people who have access to the Internet and can navigate their way on the same. In some places, the Internet may not be available and also the cost associated with the same may become a deterrent for people who are living on subsistence wages.

**Table 2:** World Internet Usage and Population Statistics (2019 Year-End Estimates)

World Regions	Population (2020 Est.)	Population% of World	Penetration Rate (% Pop.)	Growth 2000 - 2020	Internet users (World %)
Africa	1,34,05,98,447	17.20%	39.30%		11.50%
Asia	4,29,45,16,659	55.10%	53.60%	1913 %	50.30%
Europe	83,49,95,197	10.70%	87.20%	592 %	15.90%
Latin America	65,83,45,826	8.50%	68.90%	2411 %	10.00%
Middle East	26,09,91,690	3.90%	69.20%	5395 %	3.90%
North America	36,88,69,647	4.70%	94.60%	222 %	7.60%

Oceania / Australia	4,26,90,838	0.50%	67.40%	277 %	0.60%
WORLD	7,79,66,15,710	100.00%	58.70%	1167 %	100.00 %
India	1,38,00,04,385		40.60%		12%

Source: *World Internet Usage and Population statistics 2023 Year Estimate (2023)*.

As the following table suggests, 58.70% of the world's population is not using the internet at all, restricting the accessibility of any kind of online communication with them, leaving aside education.

It is only 40.6% of the population are internet users while it is 94%, 87%, and 69% in North America, Europe, and Latin America respectively. It means the majority of people i.e. 59.4% of the population are not internet users.

India is far away in this regard from other People are still less aware. India covers a good amount of internet users in the world. In India, there are only 12% of the world's internet users which is more than many continents like Africa (11.5%), Middle East, Latin America (10%), Middle East (3.9%), North America (7.6%), and Oceania (.6%). It is so close to the most developed continent Europe (15.9%).

While e-learning is positioned as the future with enhanced mobility and access to education, it is essential to acknowledge that it won't entirely replace traditional classrooms. Instead, it will reshape the way we perceive them. By improving resources and alleviating teacher workloads, classrooms can evolve into co-learning spaces where students can engage at their own pace, fostering a collaborative environment—a true evolution in education.

Adopting a learner-centered model for teaching accounting is challenging due to the intricacies of the subject. However, it is crucial to explore ways to tailor online accounting courses to meet the diverse learning needs of students, ensuring that the virtual educational experience remains effective and engaging.

### 3.3. Virtual Education Techniques (Massive Open Online Course (MOOC) Platform)

In recent years, concerted steps and efforts have been made to promote virtual Massive Open Online Course (MOOC) education, ushering in a new era of accessible and flexible learning. Educational institutions, both governmental and private, have collaborated with online platforms to offer a diverse array of MOOC courses across various disciplines. Initiatives like the National Programme on Technology Enhanced Learning (NPTEL) in India have played a pivotal role, in providing quality educational content in engineering and sciences through online platforms. Furthermore, regulatory bodies and policymakers

have acknowledged the importance of integrating Virtual education into mainstream education, endorsing credit transfer mechanisms, and recognizing MOOC certificates. The promotion of digital literacy and the establishment of robust internet infrastructure have been key focal points in addressing accessibility challenges. Additionally, industry partnerships, skill development collaborations, and financial incentives for educators to create and participate in Virtual education have bolstered the overall momentum. As a result, these concerted efforts are contributing to the democratization of education, breaking down geographical barriers, and providing individuals across India with opportunities for continuous learning and skill enhancement through virtual MOOC education

Efforts should be directed towards increasing awareness among students regarding the adaptability of the internet, particularly in comparison to other countries and continents where the ratio of internet users is significantly higher than in India. Currently standing at 53% of the world's population average, this ratio surpasses that of many regions globally.

#### 4. Research Methodology

Research methodology comprises the research design, sample design, sources of data, selection of data, and various designs and techniques used for analyzing the data. The methodology used for the study at hand is as followed.

##### 4.1. Sampling Design

Based on a review of the literature determinants like adoption, accessibility, interactions, knowledge, and satisfaction have been applied as independent variables. Primary data has been gathered through the use of responses from students taking admission in virtual higher education to standardized questionnaires. Of the 250, only 122 were considered complete and have been used in further studies. Convinced random sampling method has been used. The results were evaluated using the Likert Five-Point Scale. For applying these statistical tools software SmartPLS and SPSS 19 have been used. The fitness of the model has been re-checked through an Artificial Neural Network (ANN). An Artificial Neural Network has been used to meet with above-mentioned objectives and measure the fitness of the model.

**Table 3:** Variable Used for Success in Transformation towards Virtual Education

Variable	Name of the variables	Sym bols
<b>Dependent Variables</b>		

Success in the transformation towards virtual education	Innovative Pedagogical Approaches	STE 1
	Collaborative Ecosystems for Lifelong Learning	STE 2
<b>Experimental Variables</b>		
Satisfaction	Engagement and Interaction in Virtual Learning	SF1
	Adaptable and Supportive Virtual Learning Environment	SF2
Interaction	Facilitating Collaborative Learning Environments	IT1
	Effective Communication Channels	IT2
Adoption	Digital Literacy and Technology Proficiency	AD1
	Cultivating a Positive Online Learning Culture	AD2
Accessibility	Addressing Socioeconomic Barriers	AS1
	Ensuring Inclusive Digital Accessibility	AS2
Knowledge	Adaptive and Personalized Learning Paths	KD1
	Interactive and Multimodal Content Delivery	KD2

##### 4.1. Objectives

The main focus of this paper is to understand the recent phase of the education system. How education has been transformed towards virtual. What important factors influence the education system in India? The paper aims to find the impact of adoption, accessibility, interactions, knowledge, and satisfaction on the success of transformation towards virtual education.

##### 4.2. Research Technique Applied

The research methodology includes the sample design, data sources, data selection, study design, and various designs and methods for data analysis. The sample size was established using the Cochran formula. The sample size was sufficient because, to employ structural equation modeling (SEM), the sample size should be five to ten times larger than the total number of questionnaire items (Ishtiaq, 2019). The impact of particular variables on the achievement of the education transition was ascertained by utilising Principle Component Analysis and variables previously identified by researchers. SMART-PLS was used to examine the acquired data using measurement and structural equation modelling.

#### 5. Result and Discussions

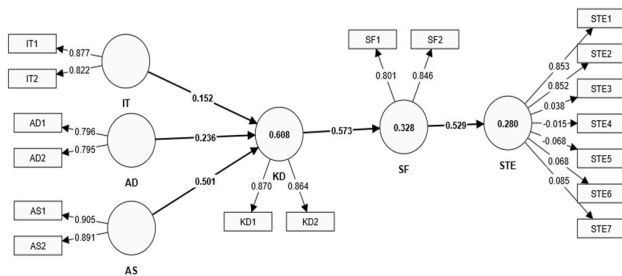
##### 5.1. Measurement Model

A structural regression equation is employed by the structural model at the first level, by the measurement model

at the second level, by the structural model at the third level, and by each individual. The discriminate and convergent validity of construction measures are used to track scale reliability and measurement of the various sub-factors that are studied in the measurement module.

Because of this, the route coefficient remains significant even in the case that the bootstrap confidence interval contains no zero values. That would be regarded as the second requirement. The route diagram is shown in Figure 4.1.

Because of this, the route coefficient remains significant even in the case that the bootstrap confidence interval contains no zero values. That would be regarded as the second requirement. The route diagram is shown in Figure 4.1.



Source: Smart PLS output

Figure 2: Outer Loading Test Results

Partial least squares structural equation modeling (PLS-SEM) is becoming a typical technique for investigating complex relationships between latent and observable variables (Sarstedt et al., 2020). Hypotheses (H1) were formulated to test the relationship between sustainable development and involving AI in start-ups.

**5.2. Coefficient of Determination (R2)**

The R2 coefficients of the model's latent endogenous variables serve as the criterion for assessing a structural model's fit. This criterion is used to investigate how strongly constructs relate to one another. It does not apply to independent constructs; it only applies to dependent ones. Weak, moderate, and strong R2 are indicated by the values of 0.19, 0.33, and 0.67, respectively. Based on the study's R2 values of 0.608, 0.328, and 0.280 impacts on adoption, accessibility, and interactions on knowledge were found high level (0.608), knowledge on satisfaction was found moderate level (0.328), and satisfaction on transformation to virtual accounting of weak level (0.28), the structural model suited the data well.

**Table 4:** Construct Reliability and validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
AD	0.421	0.421	0.775	0.633
AS	0.759	0.761	0.892	0.806
IT	0.619	0.63	0.839	0.723
KD	0.669	0.669	0.858	0.751
SF	0.527	0.532	0.808	0.678
STE	0.777	0.616	0.373	0.21

Source: Smart PLS output

**5.3. Reliability**

Cronbach's alpha and composite reliability were employed to evaluate the measurement model's internal consistency. It is considered good if it is more than 0.5 to 0.7. It ranges here in the study 0.421 to 0.777. Moderate consistency in found in the data.

**Table 5:** Path Coefficients along with their bootstrap values and 'T' Value

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P-values	Hypotheses
AD -> KD	0.236	0.238	0.059	3.975	0	H1 Supported
AS -> KD	0.501	0.496	0.068	7.413	0	H2 Supported
IT -> KD	0.152	0.154	0.068	2.256	0.024	H3 Supported
KD -> SF	0.573	0.571	0.055	10.46	0	H4 Supported
SF -> STE	0.529	0.517	0.094	5.621	0	H5 Supported

Source: Smart PLS output

The original sample ( $\beta$ ) = 0.236, statistics ( $t$ ) = 3.975, and significant value ( $p$ ) < 0.00 support the established and significant association between adoption and knowledge, suggesting that adoption has a positive impact on knowledge, also it has a significant impact on success to the

transformation of education. The evidence also strongly supports the relationship between accessibility and knowledge, with statistics ( $\beta$ ) = 0.501, statistics (t) = 7.413, and significant value (p) < 0.000 that the variable accessibility has a major impact on knowledge, ( $\beta$ ) = 0.152, statistics (t) = 2.256, and significant value (p) < 0.024 that the accessibility has a major impact on knowledge. The findings were different from the results of the previous study. As the main obstacle to learners of site-specific information during the pandemic has been a lack of on-site accessibility (Colreavy-Donnelly et al., 2022). The positive effect of accessibility on knowledge is considered the main contribution of this study. It is observed that there is a significant impact of interaction on knowledge, with statistics ( $\beta$ ) = 0.152, statistics (t) = 2.256, and significant value (p) < 0.024 and supports H14. The outcome was observed for knowledge of satisfaction, with statistics (t) = 10.463, a significant value (p) < 0.000, and ( $\beta$ ) = 0.573. Ultimately, the result derived that adoption, accessibility, and interaction have a significant impact on knowledge, knowledge influences satisfaction level and satisfaction have a meaningful impact on the success of the transformation towards virtual education, with statistics (t) = 5.621, a significant value (p) < 0.000, and ( $\beta$ ) = 0.529.

**5.4. Goodness of Fit (GOF)**

The measurement and structural models are included in the general model; by verifying the model's fit, its fit is completely validated. The goodness-of-fit (GOF) index can be used to assess the model's overall fit. The score of 0.698 for this criterion indicates a strong fit, given the three values

of 0.01 for weak, 0.25 for moderate, and 0.36 for strong GOF, respectively.

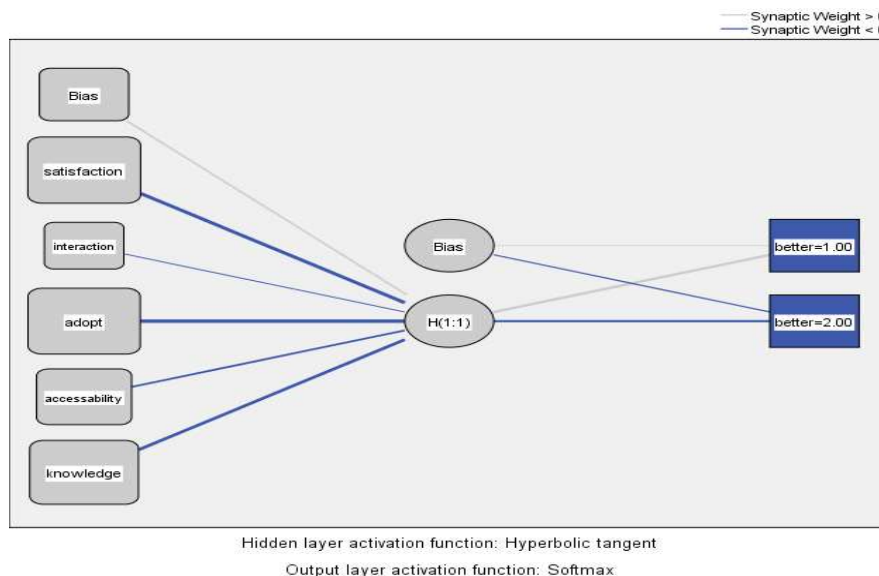
**Table 6:** Model Fit

	Saturated model	Estimated model
SRMR	0.191	0.218
d_ULS	5.606	7.244
d_G	1.231	1.421
Chi-square	1390.687	1531.832
NFI	0.309	0.239

Source: Smart PLS output

The SRMR is the difference between the model-implied correlation matrix and the observed correlation. As an absolute criterion for model fit, it allows the average magnitude of the discrepancies between the observed and expected correlations to be evaluated. A value of 0.08 or less than 0.10 (Ilyas et al., 2020) is considered a good fit.

In this case, the SRMR value is 0.078, or nearly a good fit. For PLS-SEM, SRMR is regarded as a goodness-of-fit metric that can be utilized to prevent model misspecification (Méndez-Picazo et al., 2021; Sehgal et al., 2014). The independence of two variables from one another is indicated by the chi-square test. The NFI is one metric for incremental fit. The NFI generates values between 0 and 1. When the NFI is closer to 1, the fit is better (Lohmöller 1988). The NFI value of 0.645 is deemed to be a satisfactory fit and offers comprehensive details regarding the PLS route model NFI computation.



**Figure 3:** Input Output relationship (Fitness of Model)

Figure 3 gives the network information. It describes the process of working. It works into three layers: input layer, hidden layer, and output layer. It is a complete connected graph of the input, the hidden layer, and the output respectively.

Results show the importance of how the network classifies the prospective applicants. So, statistical models will help in this situation. The highest importance is due to satisfaction (100%), adoption (98.7%), knowledge (91.4%), accessibility (62%), and interaction (29.2%).

## 6. Conclusion

Virtual education can satisfy the need for mass training of higher education teachers economically and in a short period due to its inherent design benefits. MOOCs supported by a robust instructional design, internet connectivity is one such pedagogical approach that is being explored by academicians, educationists, instructional designers, and technologists the world over. Facilities like MOOC platforms, educational material for school and higher education, etc. can be used for teacher training as well in India”.

In conclusion, exploring India's revolutionary virtual education sector reveals a vibrant, quickly changing ecosystem. A new era of opportunities for educators, learners, and institutions has been brought about by the convergence of technology and education. Traditional hurdles have been eliminated and doors to a variety of learning experiences have been opened by the increasing use of virtual education, which has been fueled by reasons including enhanced accessibility, flexibility, and the incorporation of novel teaching approaches. To guarantee that virtual education in India is inclusive, interesting, and in line with the changing demands of the students, stakeholders must continue to be flexible and accept new technology as the educational landscape changes. The continuous voyage across this revolutionary terrain promises to reshape the future of education, fostering a knowledge-driven society that thrives on the possibilities of virtual learning.

India has great potential for Virtual education, as demand is increasing day by day. The government is making efforts for it. Resources are being provided. Many courses are available on the Swayam platform MOOC. Students are convenient and satisfied with the new mode of teaching. Several challenges are found to adopting virtual education in India, with a high population and fewer resources and facilities. It is found that the highest importance of virtual education to traditional education is due to satisfaction (100%), adoption (98.7%), knowledge (91.4%),

accessibility (62%), and interaction (29.2%) respectively.

## 6.1. Theoretical Contribution and Managerial Implications

The theoretical contribution of investigating virtual education trends across India lies in advancing our understanding of the transformative landscape in education. This study seeks to contribute to educational theory by exploring the nuances and implications of virtual education trends within the Indian context. Depending on the investigation, the findings are different from the result of the previous study. The main obstacle to learners of site-specific information during the pandemic has been the lack of on-site accessibility (Colreavy-Donnelly et al., 2022), which is against the research result. The study's most important finding was shown in the evidence of the positive effect of accessibility on knowledge is considered the main contribution of this study.

## 6.2. Research Limitations and Future Scope

The study's source of data, which came from students of higher education in Southern Rajasthan, is the only geographic limitation. Secondly, the sample size is only 122 which could be increased. The research model has Adjusted  $R^2 = 0.28$ . That means selected factors of adoption, accessibility, interactions, knowledge, and satisfaction can explain 28 % of the variation in transferring students to virtual education, so the following study should find out more potential factors affecting virtual education.

## Conflict of Interest Statement

The authors declare no conflict of interest.

## Acknowledgment

No funds have been raised regarding writing this paper.

## References

- Ahadiat, N., & Martin, R. M. (2016). Necessary attributes, preparations, and skills for the selection and promotion of accounting professionals. *Journal of Accounting & Finance*, 16(1), 2158-3625.
- Alexander, J., Barcellona, M., McLachlan, S., & Sackley, C. (2019). Technology-enhanced learning in physiotherapy education: Student satisfaction and knowledge acquisition of entry-level students in the United Kingdom. *Research in Learning Technology*, 27, 1-14. <https://doi.org/10.25304/rlt.v27.2073>
- Amado-Salvatierra, H. R., Hilerá González, J. R., & Otón Tortosa, S. (2018). Formalization of a methodological framework towards the implementation of an accessible virtual educational project. *Educacion XXI*, 21(2), 349-371.



- <https://doi.org/10.5944/educXX1.15591>
- Baguma, R., & Wolters, M. K. (2021). Making virtual learning environments accessible to people with disabilities in universities in Uganda. *Frontiers in Computer Science*, 3, 1-14. <https://doi.org/10.3389/fcomp.2021.638275>
- Bustamante, F. A. R., Amado-Salvatierra, H. R., Tortosa, S. O., & Hilera, J. R. (2018). Training engineering educators on accessible and inclusive learning design. *International Journal of Engineering Education*, 34(5), 1538–1548.
- Colreavy-Donnelly, S., Ryan, A., O’connor, S., Caraffini, F., Kuhn, S., & Hasshu, S. (2022). A proposed VR platform for supporting blended learning post COVID-19. *Education Sciences*, 12(7), 435-452. <https://doi.org/10.3390/educsci12070435>
- Contreras, J. L. G., & Mayorga, D. A. C. (2019). Virtual learning environments in accounting education. *Journal of International Scientific Publications*, 13, 224-231.
- Gupta, S., Wilcocks, K., Matava, C., Wiegelmann, J., Kaustov, L., & Alam, F. (2023). Creating a successful virtual reality-based medical simulation environment: Tutorial. *JMIR Medical Education*, 9, 1-15. <https://doi.org/10.2196/41090>
- Ilyas, S., Hu, Z., & Wiwattanakornwong, K. (2020). Unleashing the role of top management and government support in green supply chain management and sustainable development goals. *Environmental Science and Pollution Research*, 27(8), 8210-8223. <https://doi.org/10.1007/s11356-019-07268-3>
- Maity, S., Sahu, T. N., & Sen, N. (2021). Panoramic view of digital education in COVID-19: A new explored avenue. *Review of Education*, 9(2), 1-19. <https://doi.org/10.1002/rev3.3250>
- Martín-Gutiérrez, J., Mora, C. E., Añorbe-Díaz, B., & González-Marrero, A. (2017). Virtual technologies trends in education. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(2), 469-486. <https://doi.org/10.12973/eurasia.2017.00626a>
- Matsika, C., & Zhou, M. (2021). Factors affecting the adoption and use of AVR technology in higher and tertiary education. *Technology in Society*, 67, 1-14. <https://doi.org/10.1016/j.techsoc.2021.101694>
- Méndez-Picazo, M. T., Galindo-Martín, M. A., & Castaño-Martínez, M. S. (2021). Effects of sociocultural and economic factors on social entrepreneurship and sustainable development. *Journal of Innovation & Knowledge*, 6(2), 69–77. <https://doi.org/10.1016/J.JIK.2020.06.001>
- Rodríguez Morales, G., Torres-Carrion, P., Pérez, J., & Peñafiel, L. (2019). Improving the design of virtual learning environments from a usability study. *Advances in Intelligent Systems and Computing*, 884, 1-6. [https://doi.org/10.1007/978-3-030-02828-2\\_8](https://doi.org/10.1007/978-3-030-02828-2_8)
- Sehgal, S., Tripathi, V., Tarus D.K., E.M, O., Enikolopov, R., Petrova, M., Stepanov, S., Necsoiu, M. & Yulianti, Y., Suzanawaty, L., Putri, Z. E., Haribowo, I., Fernando, N., Fachrurrozie, F., Lestari, N., Wardhani, R., Rashid, A. Z. A., Zandi, G., Hui, Y., Wang, J. (2014). Corporate governance practices: Transparency and disclosure - Evidence from the Egyptian Exchange. *Journal of Banking and Finance*, 5(2), 1-13.
- Tayag, J. R., & Tayag, M. R. M. (2020). Integrating MOOCs into a technology-enhanced course for undergraduate students. *Universal Journal of Educational Research*, 8(4), 1645-1651. <https://doi.org/10.13189/ujer.2020.080458>
- World Internet Usage and Population statistics 2023 Year Estimate* (2023). Internet World Stats. <https://www.internetworldstats.com/stats.htm>