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ORIGINAL

Faculty perception on digital transformation in education sector during pandemic

Percepción del profesorado sobre la transformación digital en el sector educativo durante pandemia

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ABSTRACT

The Corona learnt a lot of lessons to humans and also introduced sophisticated digital world to complete all the duties digitally. Employees are integral to the process of digital transformation, which is a great asset for established organizations. This research advances our knowledge of how workers in the education industry interpret the digital transition. The complexity of organizational change the primary focus of this research is digital transformation. Despite their broad support for digital transformation, teachers' perspectives vary over time about a variety of particular problems encountered along the employee change journey, according to the research. Adopting a social exchange lens in digital transformation knowledge is crucial because it represents a significant structural shift that might lead to the failure of well-designed transformation processes. This is where the stress, human values, and technological values come in. Sharing and departmental cooperation are implications for the education and service sectors. Common emotional responses to change are fear, uncertainty, and worry. Teachers might not be able to articulate how they are feelings or they may not want to say it to leadership. Over the last 200 years, the workplace has changed constantly due to new technology and more globalisation. Additionally, since analytical and creative tasks are becoming more and more important, flexibility is required. Productivity in these professions is supported by the availability of quiet places and adaptable spatial designs given that workers in these positions often need quiet and concentration.

Keywords: Remote Class; Technical Issues; Values; Responsiveness.

RESUMEN

El Corona aprendió muchas lecciones a los humanos y también introdujo el sofisticado mundo digital para completar todas las tareas digitalmente. Los empleados son parte integral del proceso de transformación digital, lo que supone un gran activo para las organizaciones establecidas. Esta investigación avanza en nuestro conocimiento de cómo los trabajadores del sector educativo interpretan la transición digital. La complejidad del cambio organizativo el foco principal de esta investigación es la transformación digital. A pesar de su amplio apoyo a la transformación digital, las perspectivas de los profesores varían a lo largo del tiempo sobre una serie de problemas concretos que se encuentran a lo largo del viaje de cambio de los empleados, según la investigación. Adoptar una lente de intercambio social en el conocimiento de la transformación digital es crucial porque representa un cambio estructural significativo que podría conducir al fracaso de procesos de transformación bien diseñados. Aquí es donde entran en juego el estrés, los valores humanos y los valores tecnológicos. Compartir y cooperar entre departamentos son implicaciones para los sectores

educativo y de servicios. Las respuestas emocionales comunes al cambio son el miedo, la incertidumbre y la preocupación. Puede que los profesores no sean capaces de expresar cómo se sienten o que no quieran decírselo a la dirección. En los últimos 200 años, el lugar de trabajo ha cambiado constantemente debido a las nuevas tecnologías y a una mayor globalización. Además, como las tareas analíticas y creativas son cada vez más importantes, se requiere flexibilidad. La productividad en estas profesiones se ve favorecida por la disponibilidad de lugares tranquilos y diseños espaciales adaptables, dado que los trabajadores de estos puestos suelen necesitar tranquilidad y concentración.

Palabras clave: Clase a Distancia; Cuestiones Técnicas; Valores; Capacidad de Respuesta.

INTRODUCTION

Since the pandemic spread so quickly, there were very few preparations in place for switching from offline to online instruction, and none could have predicted the potential and threats that such a drastic shift in the industry may provide.

The result has been drastic, since teachers now anticipate that technology will enable distance learning and teaching. But post-Covid-19 online learning and education are not the only areas of the education system undergoing digital revolution.

Within the realm of education, digital transformation encompasses a reevaluation of the teaching and learning processes, while also taking technological skills into account as the practical elements of the shift and incorporating skills and attitudes.[1] Both the infrastructure required to support such provision and the use of digital technology for teaching and learning in both official and non-formal educational settings within a community are referred to as "digital education." As a result, the educational process always incorporates digital tools including computers, software, phones, and cameras. In response to contemporary demands and patterns, digital education employs digital teaching resources and techniques to develop interdisciplinary talent with creative awareness and inventive ability. It is tailored to instructional activities in accordance with contemporary educational theories.[2,3]

With the exception of instructors and students, who are the players in digital education, the institutional setting in which learning occurs may pose serious obstacles to the uptake and use of digital technology.[4] The process of successfully using digital technology in education is fraught with financial, cultural, and logistical difficulties, as is stressed. Strong leadership, process emphasis, collaboration with outside partners, school-wide acceptance of digital technologies, and the link between pedagogical goals and digital technology are all essential for its mastery.[5] All participants in online teaching must be involved and participate for online education to be effective.[6,7] Nevertheless, it is true that instructors must operate flexibly in any scenario, regardless of the educational technique used, the degree of student engagement, or the technological constraints we often face in online teaching.[8]

From the standpoint of knowledge management, it's true that we live in a time where technology is developing at a quick pace and is becoming increasingly digitalized. This means that occupations are becoming more and more sophisticated and tied to the global economy.[9,10] The idea behind knowledge management is not so much about how much each person learns in an organisation as it is about how much of that information is applied to the organisation as a whole and whether or not other employees have the opportunity to acquire the knowledge required for accomplishing goals effectively and efficiently. Knowledge flow is significantly improved by the organisational learning process, and knowledge input is also aided by improving the process. As per the source, knowledge management can be comprehended as a framework that unifies individuals, procedures, and technology to attain enduring outcomes by enhancing efficiency via education.[11,12]

It is possible to argue that the current educational system is experiencing a skills crisis in this way. More than only information transmission and investments in students' critical thinking, creativity, and invention must be provided by the educational process of the future. The university faces new problems as a result of the digital revolution, including the need to speed the renewal of teaching techniques and provide training in digital skills. In this sense, the advent of digital technology has aided in the revolution of teaching techniques, and its potential has improved the educational experience for students.[13,14]

Literature

Albert[1] addressed with some restrictions on the approach and conclusions. First, even though the goal was not to produce findings that could be extrapolated, but rather to better understand the dynamics of the transition from a non-digitally conceived HEI to a more digital HEI and explore BMI, particularly the tensions and solutions involved in the process, the use of a qualitative approach based on a single case can raise questions about the generalizability of the results. More empirical data, nevertheless, would be beneficial to validate

the conclusions drawn from this one instance. Second, it is important to recognise that the topic of digital transformation is still in its infancy and that it is a developing one in both business practice and research, particularly in the context of HEIs. It is recommended that more research be done in the future to provide a longitudinal view of how DT practically changes HEI business models.[15,16]

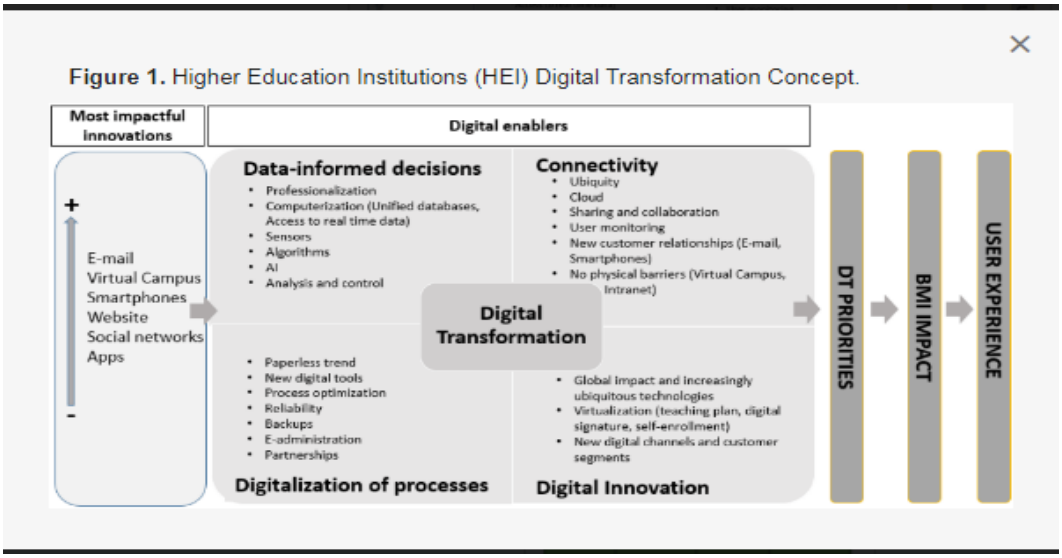
The research's participants are generally very driven to learn and believe they would benefit much from online instruction. They struggle to adjust to virtual instruction, get discouraged because they dislike it, and decide not to use this method of learning in the future.[17] Additionally, students place a high priority on physically being in the classroom and engaging with their instructor and classmates, which is consistent with the findings of previous research conducted worldwide.[18]

Pulkit[19] describe the existing educational framework in his work. According to what he said, India is a major player in the global education sector. There are around 800 universities, 65,000 institutions, and more than 1,5 million schools in the country, serving over 260 million students. Nonetheless, there is a lot of room for ongoing development in the educational system. India has the largest population of tertiary age and the second-highest graduation ability in the world therefore the country's education system is poised for major growth in the years to come.

Korableva[20] emphasized the advantages of online learning over conventional classroom instruction. As part of the study's expansion,[16] more information was gathered on the two most recent online platforms, MOOC and Course Era, in order to determine which offers users the most convenience and the most comprehensive solution.[2]

Raja[21] conducted a study on the role of technology in the educational system with a focus on Chennai schools and discovered that the introduction of new technologies, such as ICT and other digital tools, has made teaching and learning more enjoyable while also being very helpful in imparting knowledge to our students.[10]

In this sense, the education sector is especially fascinating since it faces several challenges: Schools must cope with "digital native" newcomers from beginning teacher education as well as entering pupils whose social environments are impacted by digital technology. On the other hand, schools are under ongoing socioeconomic pressure from the job market to educate students for success in a digital world, which requires not just vocation-related or specialty talents but also new, transversal, general skills. These demands are evident in courses for ongoing professional development and basic teacher education, and schools anticipate that their teachers will be able to handle these difficulties. Numerous new players in the education sector have emerged to meet these needs as these changes are happening quickly. Examples of these include summer schools where students learn programming skills, Massive Open Online Courses (MOOCs) that teachers frequent, alternative pedagogical approaches that emphasise the development of entrepreneurial competencies, and online professional learning communities for teachers that focus on particular subjects. Given this complexity, it is evident that in addition to initial teacher education and ongoing professional development, our investigation must address non-formal and informal learning, particularly workplace learning, in order to have a comprehensive understanding of the teaching profession's skill ecosystem and its socioeconomic context. Higher education digital transform concept shown in figure 1.



Source: Albert[1]

Figure 1. Higher education digital transform concept

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Radhika[18] researchs concentrated on issues facing the Indian educational system, such as the value of a high-quality education, difficulties with the old educational model, low student participation, etc. According to the study's findings, the curriculum, instructional techniques, qualified instructors, and the quality of education all contribute significantly to the problems facing the Indian educational system.

In addition to strategic implications, digital technologies are changing the way higher education is provided. According to Jensen et al.[9] the majority of universities are exploring the possibility of offering online learning and the ways in which this would impact teaching and learning inside the institutions. Faculty require assistance in this area as higher education institutions adjust to these changes. Virtual learning environments, for instance, have been implemented at several institutions as an experiment; but, because of their greater emphasis on administrative duties, they are unable to properly replicate behaviourist, content-centered learning models.[3] The significance of deliberate educational choices concerning the integration of digital technology in instruction and learning is underscored by these results. Constructivist and connectivist learning approaches are more in line with the demands of the future of learning, according to learning theory (network-oriented, diverse, emphasizing algorithmic thinking and meta-cognitive competency, semantically enhanced, individualized, and adaptive).[7,11] The use of digital technology does not always result into improved student outcomes in higher education, just as it did in secondary school. Numerous research indicated that higher education was using technology more often and with a teacher-centered approach[4].

Objectives

- To identify various faculty challenges in digital transformation of education system.
- To discuss student digital transformation awareness levels in this regard.
- To Study technical challenges faced by faculty and students.

Hypothesis

H_{01}: there is no significant relation between human view factors towards digital transformation success.

H_{02}: there is no significant association between technical view factors towards digital transformation success.

METHOD

A sample of four study related dynamics namely Cost benefit analysis (CBA) for digital transformation, digital transformation awareness (DTA) by the beneficiaries and Human View (HV) and finally Technical View (TV) of the users are tested with a structured questionnaire. The DTA factor acted as independent variable whereas CBA, HV and TV are dependent.[14]

Sample & Sample Size

A Sample of 100 UG/ PG faculty opinion was measured with a structured questionnaire, who is actively engaging online class work and online evaluation system during Corona period.

Data Analysis

Data analysis was made with the help of IBM-SPSS software and Structural Equation modeling was prepared for hypothesis testing.

Exploratory Factor Analysis

The objective of FA is "to identify the fundamental structure among the analysis's variables". As the proposed model require determining the structure and their interrelationships among the variables. Highly correlated variables will be formed as a factor which represents one dimension. Factor analysis provides results purely based on sample data only without prior definite structure. KMO Bartlett values of faculty perception shown in table 1.

Table 1. KMO Bartlett values of faculty perception

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0,920
Bartlett's Test of Sphericity	Approx. Chi-Square	2894,820
	Df	253
	Sig.	0,000

The sample adequacy is ascertained by adopting the KMO test. With a KMO score of 0,920, over the cutoff point of 0,60, the sample is sufficient to perform the EFA test. The statistical significance of the correlation matrix is shown by the P-value of 0,000 for the Bartlett test. Total variance table of faculty perception shown in table 2.

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Table 2. Total variance table of faculty perception

Total Variance Explained						
Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	10,405	45,240	45,240	5,010	21,784	21,784
2	2,460	10,695	55,935	4,254	18,497	40,281
3	1,670	7,259	63,194	3,733	16,229	56,510
4	1,002	4,357	67,551	2,539	11,041	67,551

Principle component analysis (PCA) using Varimax rotation was used for EFA in order to determine many factors that were extracted from the sample and their corresponding loadings for every item. Outcomes delineated 4 components have identified based upon Eigen value > 1. The minimum Eigen value is 1,002. All four components cumulatively account for 67,551 % of variance (in social science research variance ≥ 60 % is required) which is said to be satisfactory. Rotated component matrix of faculty perception shown in table 3.

Table 3. Rotated component matrix of faculty perception

Rotated Component Matrix*				
	Component			
	1	2	3	4
CBA_8	0,848			
CBA_7	0,829			
CBA_2	0,799			
CBA_5	0,762			
CBA_10	0,760			
CBA_9	0,632			
CBA_6	0,512			
CBA_4	0,489			
DT_5		0,779		
DT_3		0,767		
DT_6		0,759		
DT_7		0,743		
DT_4		0,739		
DT_8		0,571		
DT_1		0,557		
HV_5			0,842	
HV_4			0,793	
HV_2			0,689	
HV_3			0,658	
HV_1			0,585	
TV_1				0,804
TV_3				0,744
TV_2				0,710

Nota: analysing principal components is the extraction method. Rotation Method: Kaiser Normalisation using Varimax.

*Seven iterations later, rotation converged.

The results if the component matrix rotated first factor identified are cost benefit Analysis (CBA) and the loadings of CBA factor ranging from 0,489 to 0,848. Second factor identified is digital transformation awareness (DTA) factor and the loadings are ranging from 0,557 to 0,729. Third component is human view (HV) and for HV factor loadings are ranging from 0,585 to 0,842. Fourth, component is technical view (TV) and the loading are ranging from 0,710 to 0,804. As noted, all variable's loadings are above 0,5 said to be significant. Confirmatory Factor Analysis shown in figure 2. Composite reliability values of faculty perception shown in table 4.

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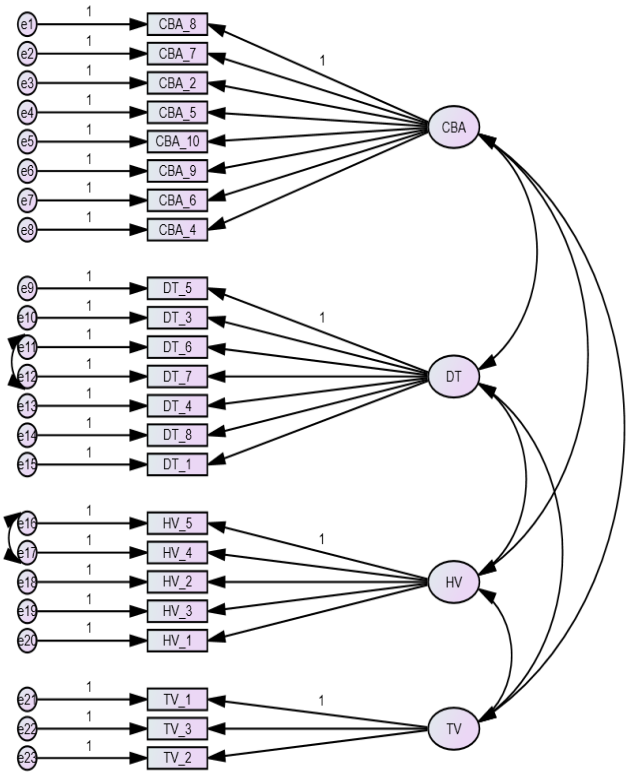

Figure 2. Confirmatory Factor Analysis

Table 4. Composite reliability values of faculty perception

Items	Estimate	Composite Reliability	Average Variance extracted
CBA_2	0,808	0,91	0,56
CBA_4	0,516		
CBA_5	0,792		
CBA_6	0,584		
CBA_7	0,875		
CBA_8	0,883		
CBA_9	0,666		
CBA_10	0,789		
DT_1	0,675	0,91	0,59
DT_3	0,781		
DT_4	0,834		
DT_5	0,917		
DT_6	0,750		
DT_7	0,797		
DT_8	0,575		
HV_1	0,647	0,86	0,55
HV_2	0,836		
HV_3	0,796		
HV_4	0,721		
HV_5	0,696		
TV_1	0,792	0,85	0,66
TV_2	0,823		
TV_3	0,816		
CMIN/df=1,842; Chi-square=408,993; degrees of freedom=222; p-0,000; CFI=0,933; TLI=0,924; IFI=0,934; NFI=0,866; RFI=0,847; RMSEA=0,069			

First order CFA was performed for proposed model and standardized loadings are considered for deriving reliability using Average shared variance (ASV) should be smaller than AVE and the square root of AVE should be bigger than the inter construct for discriminant validity using maximum shared variance (MSV). Composite reliability (CR), convergent validity utilizing CR and Average Variance Extracted (AVE). Correlation tests

wasconducted for components identified from the EFA. Loadings of cost benefit analysis ranged from 0,516 to 0,883, digital transformation awareness ranged from 0,575 to 0,917, human view ranged from 0,647 to 0,836, and technical view ranged from 0,792 to 0,823. Results indicate CR values for CBA, DTA, HA and TV are > 0,7 (Nunnally and Bernstein, 1994) indicating the data satisfy the reliability criteria and internal consistent. AVE values for CBA, DTA, HA and TV factors are above threshold i.e., 0,5 (Fornell&Larcker, 1981) indicates a high amount of association with constructs thus, convergent validity is proved. Further, results of MSV and ASV of CBA, DTA, and TV are less than respective AVE. Whereas, MSV of HV is equal to AVE of human view but not above. However, inter construct correlations was observed lower than the square root of respective AVE. Therefore, satisfying the criteria of discriminant validity. Model fit indices are CMIN/df = 1,842; CFI = 0,933, TLI = 0,924; IFI = 0,934, RMSEA = 0,069 values satisfy threshold criteria. Thus, the model indicates good fit.[17] SEM Analysis Path Model shown in figure 3. Correlation values of faculty perception shown in table 5. SEM Analysis model testing values shown in table 6.

Table 5. Correlation values of faculty perception

Variable	MSV	ASV	DTA	CBA	HV	TV
Digital Transformation Awareness (DTA)	0,46	0,43	0,77⁺			
Cost Benefit Analysis(CBA)	042	0,32	0,645	0,75⁺		
Human view (HV)	0,55	0,44	0,643	0,587	0,74⁺	
Technical view (TV)	0,55	0,40	0,679	0,451	0,741	0,81⁺

Note: ⁺depict the square root of AVE; *Correlation is significant at 0,01 level; N = 177

Model Testing

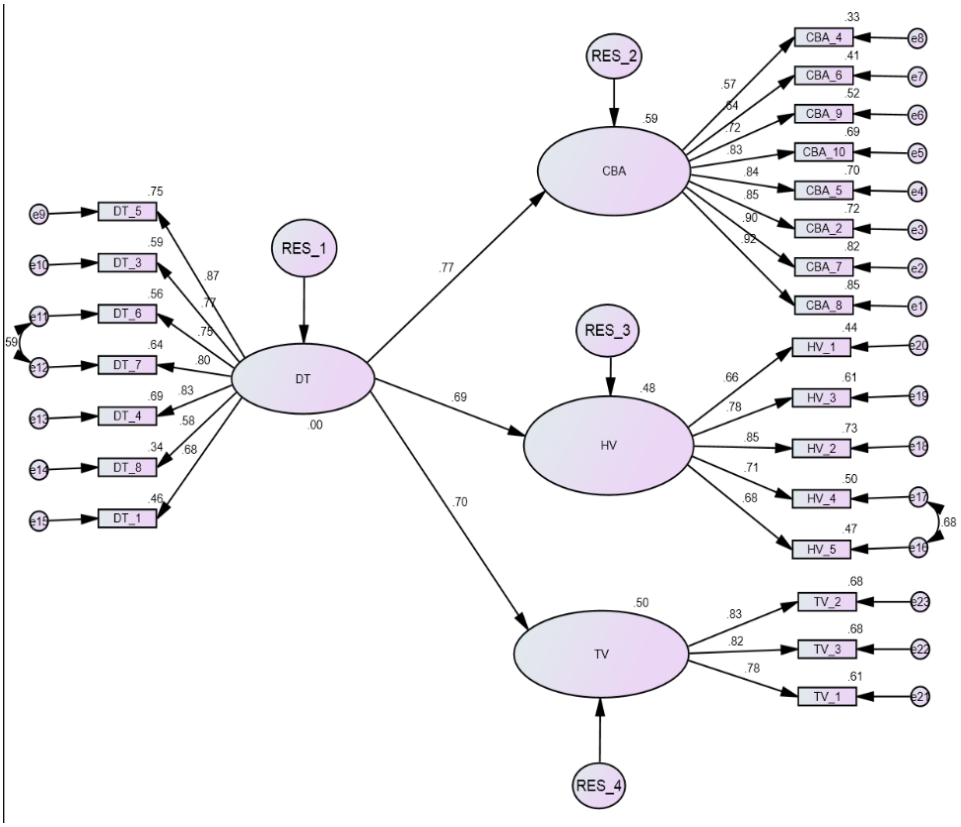

Figure 3. SEM Analysis Path Model

Table 6. SEM Analysis model testing values

Relation	Std. Regression*	R^2	x2/df	RMSEA
DTA → CBA	0,765	0,585	2,105	0,079
DTA → HV	0,694	0,482		
DTA → TV	0,704	0,496		

Note: *= p-values are significant at 0,001; CFI = 0,910; TLI = 0,900; IFI = 0,911; NFI = 0,844; RFI = 0,825; Chi-square = 475,675; df = 226.

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The proposed model was tested by considering the digital transformation awareness as independent variable and cost benefit analysis, human view and technical view as dependent variables. The standardized regression values of three relations were observed significant with $p < 0,05$. Positive estimates indicate the positive relationship between DTA → CBA, DTA → HV and DTA → TV. Therefore, one unit increase in DTA causes to increase the CBA by 0,765, HV by 0,694, and TV by 0,704 units respectively. The R^2values indicates the CBA is caused 58,5 % of variance, HV is caused by 48,2 % of variance, and TV is caused by 49,6 % of variance by DTA. Model fit indices are RMSEA = 0,079, CMIN/df = 2,105, CFI = 0,910, TLI = 0,900, IFI = 0,911, NFI = 0,844, RFI = 0,825. Thus, the model indicates good fit. Consolidated Hypothesis table shown in table 7.

Table 7. Consolidated Hypothesis table

Sl.No	Hypothesis	Sig.value	Result
1	H_{01}: there is no significant relation between human view factors towards digital transformation success.	0,001	Rejected
2	H_{02}: there is no significant association between technical view factors towards digital transformation success.	0,044	Rejected

RESULTS AND DISCUSSION

Since the transition to digital learning wasn't anticipated until the COVID-19 pandemic struck, it is disruptive. As a result, most policymakers are ill-prepared to handle the difficulties of transition and are in a difficult situation.

All phases of the school life cycle are often shown to benefit from behavioral interventions, such as computer-assisted learning, although the advantages are usually lower than those observed with the most successful computer-assisted learning models. At the same time, technology-enabled behavioural interventions have a lot of promise as an affordable teaching technique and are generally relatively cheap to deploy, like large-scale text messaging campaigns. It ought to concentrate its future efforts on figuring out the optimal times for technology-based behavioural nudges. The use of cutting-edge technology, like machine learning, may help identify the root of the issue. Learning results for online course participants could be subpar. Conversely, the outcomes of blended learning are often equivalent to those of fully in-person classes. This demonstrates that it is feasible to combine online and in-person learning at a reasonable cost. With the digital learning sector growing at an exponential rate, more research is required to understand how new models, including micro masters programmes and nano-credentials, may affect or democratise learning. The educational technology sector is rapidly changing, and after just a few years, innovative tools and apps are usually considered outdated. Reusable value is often the expectation of school administrators when making purchases. Massive Open Online Courses (MOOCs) are an additional kind of online education that might be helpful.[15]

In order to outmaneuver the offline paradigm, educational institutions must first assess the capabilities of their present systems and develop a comprehensive digital learning plan that balances the risks associated with short- and long-term objectives. They have to design how to make the extra information accessible, curate the already-existing content, and match it to the curriculum. Several universities and institutions have either translated open education materials from other languages or partnered with publishing companies to access their knowledge inventories. Apart from this, there are a number of other issues that call for reason, such how the material should be distributed, what kind of devices should be utilised, how to reliably guarantee connection, and how to educate instructors. It's not easy to enable a full-scale digital transformation in a comparatively shorter amount of time, but if done well, the process may teach resilience. There has always been debate about the role that digital learning solutions should play in administering tests and evaluating student achievement while reducing bias and mistake. It is clear that the coronavirus pandemic has dealt a severe hit to the world economy. The epidemic has caused enormous losses in the stock market, disrupted supply networks, and slowed down the economy. There has always been debate about the use of online learning platforms in administering tests and evaluating student achievement while reducing biases and mistakes.[6]

The development of technology has made education more accessible and simpler. The ability to study from anywhere, at any time, and with any means is provided via online, open, web-based, computer-mediated, blended, and mobile learning.[22] The teaching and learning process has undergone innovation, and the quick changes in delivery methods have brought attention to the positive outlook in the education industry. With the use of chat rooms held via internet channels, real-time classroom engagement has now been supplanted by virtual classrooms. The platforms like video conferencing (Google Meet, Google Handout, Webinar Jam, Microsoft Team, Zoom, Slack, Cisco WebEx), etc., are being used to arrange the virtual classes. The global pandemic has forced everyone to acknowledge that life is unpredictable and that they must always be prepared for obstacles. Since epidemics provide little time for preparation or execution, it is crucial to plan everything out from the start, even if it ends in failure. The epidemic has made it necessary to acknowledge and evaluate the flaws in the educational system.

https://doi.org/10.56294/sctconf2024884

BIBLIOGRAPHIC REFERENCES

1. Rof A, Bikfalvi A, Marquès P. Digital transformation for business model innovation in higher education: Overcoming the tensions. Sustainability. 2020 Jun 18; 12(12): 4980. https://doi.org/10.3390/su12124980

2. Kundu A, Dey KN. A contemporary study on the flourishing E-learning scenarios in India. International Journal of Creative Research Thoughts. 2018 Apr; 6(2): 384-390.

3. Blin F, Munro M. Why hasn't technology disrupted academics' teaching practices? Understanding resistance to change through the lens of activity theory. Computers & Education. 2008 Feb 1; 50(2): 475-490.

4. Bond M, Marín VI, Dolch C, Bedenlier S, Zawacki-Richter O. Digital transformation in German higher education: student and teacher perceptions and usage of digital media. International journal of educational technology in higher education. 2018 Dec; 15(1): 1-20.

5. Dede C. Emerging technologies, ubiquitous learning, and educational transformation. InTowards Ubiquitous Learning: 6th European Conference of Technology Enhanced Learning, EC-TEL 2011, Palermo, Italy, Springer Berlin Heidelberg, Proceedings Sep 2011: 1-8.

6. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. Journal of marketing research. 1981 Feb; 18(1): 39-50.

7. Hinings B, Gegenhuber T, Greenwood R. Digital innovation and transformation: An institutional perspective. Information and organization. 2018 Mar 1; 28(1): 52-61.

8. Iivari N, Molin-Juustila T, Kinnula M. The future digital innovators: empowering the young generation with digital fabrication and making. (2016).

9. Jensen L, Price L, Roxå T. Seeing through the eyes of a teacher: differences in perceptions of HE teaching in face-to-face and digital contexts. Studies in Higher Education. 2020 Jun 2; 45(6): 1149-1159.

10. He T, Li S. A comparative study of digital informal learning: The effects of digital competence and technology expectancy. British Journal of Educational Technology. 2019 Jul; 50(4): 1744-1758.

11. Nunnally JC, Bernstein IH. Psychometric theory, 3. New York, NY: McGraw-Hill. 1994.

12. Balyer A, Öz Ö. Academicians' Views on Digital Transformation in Education. International Online Journal of Education and Teaching. 2018; 5(4): 809-830.

13. Papagiannidis S, Harris J, Morton D. WHO led the digital transformation of your company? A reflection of IT related challenges during the pandemic. International journal of information management. 2020 Dec 1; 55: 102166. https://doi.org/10.1016/j.ijinfomgt.2020.102166

14. Agarwal R, Gao G, DesRoches C, Jha AK. Research commentary—The digital transformation of healthcare: Current status and the road ahead. Information systems research. 2010 Dec; 21(4): 796-809.

15. Raja R, Nagasubramani PC. Impact of modern technology in education. Journal of Applied and Advanced Research. 2018 May 10; 3(1): 33-35.

16. Roy S. e-learning Scope and Trend in India. (2020). https://www.researchgate.net/publication/338913710_elearning_Scope_and_Trend_in_India

17. Vial G. Understanding digital transformation: A review and a research agenda. Managing digital transformation. 2021 May 26: 13-66.

18. Kapur R. Significance of digital technology. International Journal of Transformations in Business Management. 2018; 8(2): 20-33.

19. Pulkit M Singh A. Teachers' Voices on the Impact of COVID-19 on School Education: Are Ed-Tech Companies Really the Panacea? Contemporary Education Dialogue. 2020; 18: 58–89.

20. Joshi A, Vinay M, Bhaskar P. Impact of coronavirus pandemic on the Indian education sector: perspectives of teachers on online teaching and assessments. Interactive technology and smart education. 2021 Sep 22; 18(2): 205-226.

21. Raja R. Effect of pandemic based online education on teaching and learning system. International Journal of Educational Development. 2018.

22. Zawacki-Richter O, Müskens W, Krause U, Alturki U, Aldraiweesh A. Student media usage patterns and non-traditional learning in higher education. International Review of Research in Open and Distributed Learning. 2015 Apr; 16(2): 136-170.

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