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Education Transformation Using Block Chain Technology- A Student Centric Model

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ABSTRACT

The Education sector is undergoing transformation-using technology. The virtual classrooms are replacing the traditional classrooms. The proposed model envisaged is student-centric, where the student has the choice to model his curriculum depending on the student interests and area to work and not follow the usual model, using credits from micro-credentials added per unit. The challenge is to use the features, benefits of Blockchain to introduce this new Education model technology to improve efficiency by reducing cost and improving accountability. The transformation in Education Framework can revolutionize the future Learning, teaching Industry to reduce cost and time. This revolution will also lead to improved chances for Learners to be employable. The Research paper proposes to use the Modified ADKAR Change Management Model to validate this Research study and will be a significant contribution to the research topic and the Theory known.

Keywords: Block Chain Technology; Smart Education; Education Transformation; Education; Education Model; Modern Technologies

Introduction

The current existing Education System does not satisfy the aspirations of the Learners as is evident from the deteriorating employment rates of the majority of the Countries (Peugny, et al. [1,2]). The fees charged are most Universities so high the Learners cannot afford it. Secondly, even the University Degree does not guarantee jobs except to just a small fraction of the intake. The skills imparted to the Learners are not good enough for the industry, and most of the corporates need to impart training to the recruits. The skills imparted has been discussed by most credible Magazines like Forbes, Gartner and Education experts.

The Transformation of the Current Education Model to the Student-Centric

Education Model is happening daily. The dissent from the Learners on the current courses, which is not giving employment guarantees and the increased cost of studies. The traditional Education model has pressurized the parents, the learners, the bankers and society due to the unemployment rate increases across the globe. Hence, adapting the Customer-centric model, which focusses on the Customer, the students and their needs is a necessity (Grech, et al. [3]). The main point is that the current education system is not student centric. Still, the actual position is "Current education system is not very useful to create better employable students for future"(Arnaudov, et al. [4]). Technologies used for Education are Artificial Intelligence, Virtual reality, Augmented Reality, Machine Learning, Blockchain technology, to name a few. The Technologies and tools have augmented the Classroom Management, Blended Learning, Inclusive Learning to make education to give the Teachers and Learners better experiences. The future years will see more technologies to make Learning better. Blockchain is a distributed Public Ledger that can automatically record and verify records which is an essential requirement of Education system where the transcripts, certificates need authentication for the employment procedure. Blockchain can facilitate most of the crucial element for educational institutes. The Education Framework needs most of the advantages of Blockchain Technology except for some challenges that can be modified to be useful (Viriyasitavat, et al. [5]). The An employer to verify the same can view certificates.

The data is not lost or altered, and confidentiality maintained because an authorized person can view data (Crosby, et al. [6]). Block-

chain technology can improve the way the education system works and improvise the future due to its unique features of decentralization, traceability, immutability, and currency properties; and significant advantages such as reliability, trust, security and efficiency are the needs of the education (Jirgensons, et al. [7,8]). The need for transformation in the education sector is evident as the current system is not meeting the aspirations of the Learners due to the lack of achieving employability skills. Blockchain Technology analyzing its features, benefits, and challenges can most readily achieve this. Other technologies like VR, ML, IoT, AI can complement these implementations (Ali, 2019). It seems that Technology adaption theory is applicable as new technology like Blockchain needs acceptance, the environment of the Organization and the User perception, count. So, the above theories TAM-TOE is relevant, and the change Management theory ADKAR is relevant. Initially, each of them is inadequate for the current situation of the Blockchain implementation to education.

Scope of Research

The main scope in the current situation is the need for a new educational framework, so the focus of this paper will address is followed by the evaluation of Blockchain for suitability to this sector. The research will involve the study of the benefits, features and challenges associated with the Blockchain and match it with the needs of the modern new educational model envisaged. It also involves knowing the lacuna of the current Education system. The paper looks at suggesting an education model which is a student-centric model. It also addresses the benefits and features of using such a model and the challenges, issues the transformation can face. There has been an effort to suggest other areas of work for research.

Research Questions

a. How can the Current Education Model be altered to suit the needs of the current and future Education?

b. How the features, challenges and benefits of the Blockchain be useful to the proposed Future New Education Model?

Research Objectives

a. Review the current Education model to adopt a new Education Model suiting the need of Learners

b. To employ/implement Blockchain Technology in Education Domain

Literature Survey & Review

Existing Higher Education System- Drivers and Barriers

Most Universities aim to enhance student learning through the use of learning technologies in learning, teaching, and assessment strategy, particularly concerning student-centred and flexible learning (Davies, et al. [9]). The Higher Education system currently driven by commercial interests and not societal needs which have made it vulnerable to profiteering rather than working towards the Learner requirements. Quality has been lately questionable as most University graduates are not able to get jobs to their liking or no jobs at all. The ILO report, the World bank report and UN report have all expressed the concern of high unemployment rates across the globe barring a few areas like Sweden, Norway (ILO report, 2019); (Mac, et al. 2016). The barriers are mainly the mindset of people involved, the users, the technology availability and infrastructure.

Proposed Education System Features Based on Literature- Student Centric Model Features- ADKAR

The theory study reveals that the ADKAR Change Management Model, probably with some modification and the TOE is applicable. Conceptual Model of TOE framework adapted for analyzing Technology adoption. The proposed education is inclined to the Student Centric Model, whose features ensure that the learner is the center of the model. The learner decides the curriculum required to go through, the style of delivery, the place and location of study, the technology to be used. The above will make the Learners satisfied with their needs and probably meet their employability needs (Aithal, et al. [10]).

Technology Influence and Blockchain Features- Technology Organization Environment Model

Blockchain is a modern technology which uses decentralized ledgers or parts of the chain called blocks and linked using cryptography. Each transaction of the block recollects the previous one, unauthorized adjustments immediately blocked. The Blockchain works as a decentralized sign up that store records at the Internet with an open get right of entry to the public. Decentralized access saves the sources of universities to ensure certificate verification and storage. It also reduces the security issues and frauds. Blockchain technology is right as a new infrastructure to secure, share, and verify studying achievements. Today, education occurs increasingly more out of doors the brick-and-mortar lecture hall universities: it happens on on-line platforms, within communities (Tolbatov, et al. [11]).

Conceptual Research Framework and Research Methodology

The ADKAR Change Management Model and the TOE- Technology, Organization and Environment Model are very relevant and will be used with some modifications to validate the Educational Transformation suggested above (Gutierrez, et al. 2015). The Researcher will test it Quantitatively by Survey Questionnaire based on a Population based in UAE, India, Australia, Singapore, Malaysia and Pakistan. The Researcher would target 385 Respondents as Sample size. The Sampling strategy applicable Stratified, Cluster, Random Convenient simple Sampling conducted via electronic media, mainly in India, UAE. The Hypotheses will be formulated as below and tested, validated using Adanco.

1. **H1:** Perceived usefulness of technology by Stakeholders significantly influences the adoption of Blockchain technology for Education transformation

2. **H2:** Technology readiness of the Organization significantly influence the adoption of Blockchain for Education transformation

3. **H3:** Disaster or Social distancing (remote working) situations influence significantly the usefulness of Blockchain technology for the adoption of Education transformation

4. **H4:** Organization Readiness and Competencies influences significantly, the using of the Blockchain technology for Education transformation (Figure 1).

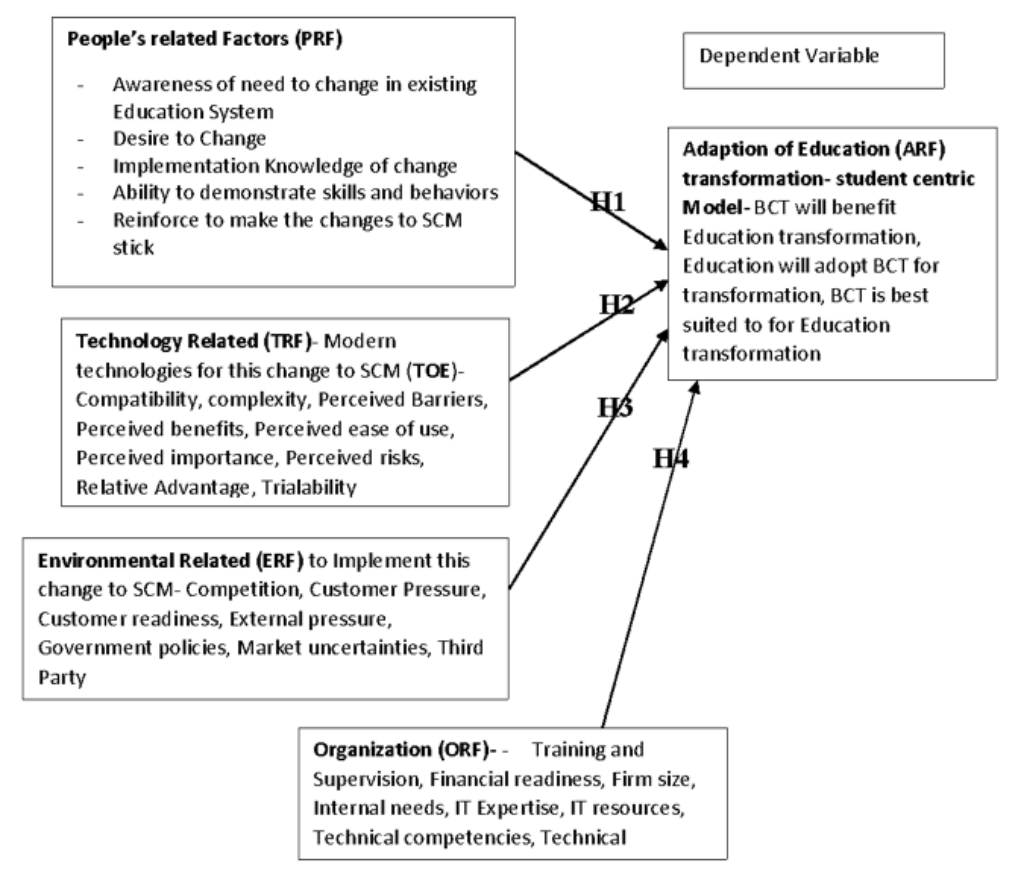

Figure 1: Conceptual Framework- Integrated extended ADKAR-TAM-TOE Model.

Findings, Analysis and Implementation

Details of the Current Education Model in Higher Education

The current Education is more University centric, and not Student Centric. Universities offer preapproved Programs from the Awarding Body, and the student has to select out of the fixed programs (Khoon, et al. 2012). The Learner is not motivated, sometimes not interested in the total program, at the best some parts of the program is useful to the Learner. However, the Student forced to take the full program irrespective of whether it is useful to him or not or get the student employment. It is evident across the global economies, and most education systems are not in a position to reduce unemployment (Kromydas, et al. [12]). The current Education Model cannot guarantee Jobs nor guarantee full employment (Núñez, et al. [13]); (ILO report, 2019). This disruption is happening due to several factors coming together: the ever-rising college tuition, which is not sustainable nor affordable for the Learners (Khalid, et al. [14]). A change in Learner expectation, needs and mindset, declining consumer demand among prospective students, extreme lack of the work readiness of fresh college graduates, a rhetoric of what makes college useful (workplace-integrated and team relationship), and emerging talent attraction and development strategies by employers (Brandon Busteed, 2019).

The Changing Education Scenario

In the Student Centric Education Model mentioned above, the student can choose the course curriculum, the University, the Awarding Body, the type of classroom, delivery type, the course material provided on a single Platform. It might not mean that the Learner can choose for their best; however, it leads to their making a choice and not blame others for it. The above model is very much possible using Blockchain Technology. The cost will be very reasonable, as the Universities do not incur the cost of Infrastructure, Lecturers. Universities get more Learners across the globe, and depending on their reputation will get profitable Business to make this Investment viable. It is an integrated Model which eludes implementation until now. So, it needs exploration. (Aithal, et al. [10]). Most of the Quality institutions should strategize to transform students into life-long learners and innovators by enabling them to think critically, and to encourage them to scientific research (Kennedy, et al. 2019). Change Management model ADKAR Model can be applied here as it discusses the details of change management to be adapted. Once the implementation is started or set in place, it needs to be monitored closely (Tang, [15]). The TOE Theory of Environment also applies as the Educational Environment and Organization.

The Change Management – ADKAR Change Management Model will be validated statistically using Qualitative data collection, survey Questionnaire. It involves testing and evaluating of the Structural Equation Model on Adanco, testing the correlation.

The Suggested Needs of the Student-Centric Education Model in Current Scenario

The Learner centric Learning focuses on flexibility in the choice of subjects to study, select their curriculum, identify the best timeline, schedule in completing their program. The student can select the mode of learning like direct learning in classrooms, virtual classroom using technology online. They have the flexibility in selecting the evaluation system and the examination system (Henderson, et al. [16,17]). This model can allow Learners to add more credit papers as the course progresses, even more than the minimum requirement. Workplace Learning allows the students to earn while studying, so the burden on the financial need reduced, and the defaults on student loans avoided (Fernando, [18]). Workplace Learning has given the student flexibility of earning while learning. The Workforce indulges in more comfortable and faster ways of performing work by adopting technology (Komori [19]). The new Learner is impatient and does not want to wait for employment to pay off the loans borrowed for financing these courses. The current Scenario is due to lack of well-paying jobs even after guarantees from the best Colleges across the globe (Mikkonen, et al. [20]). The academic units and workplace learning blending happen under the expertise of the Classroom Lecturer and the Workplace Manager (Pylväs, et al. [21,22]).

How the Block Chain will help Implement the New Education Model- Student Centric Approach

The primary requirements of the New Education Model- Student Centric Approach has cost reduction, enhanced efficiency, immediate authentication, transparency, security, faster operation speeds, low cost of processing and decentralized ledgers avoids hacking and loss of data and safeguard of confidentiality of stored data, which can be easily retrieved. All these are the useful features of Blockchain technology (Xie, et al. [3,23,24). These are the benefits required for the Education Domain, as this will ensure transactions and information to be secured, and time stamped. It can be then encrypted in codes and stored for further reference. The Certificates authentication happens with the click of the mouse (Chen, et al. [4,8]). The usefulness of Blockchain, Artificial Intelligence, Virtual Learning, Machine Learning, Virtual Reality is quite interesting to study and apply to the Education Domain (Kolekar, et al. [25]).

Adanco Model, Findings and Discussions

The quantitative approach is deductive research which utilizes a structured approach, statistics, and large sample size to analyse data. Looking at the sampling methodology, the population of this research is India, UAE, Singapore, Malaysia and other parts of the World. Most of the studies conducted in other countries focused on the town or city of the country; therefore, the UAE being the location of research. Based on sampling methodology, this research uses simple random sampling methodology (Sa'ait, et al. 2016; Huyen and Costello, 2017). The data collection process conducted among a population of 20 million who were able to access the Federal Territory of UAE through online distribution. According to Rao soft Inc (2018), the results from Rao soft Sample Size Calculator suggested that 386 is the minimum sample size of the survey (margin of error 5 per cent; confident level 95 per cent). The total number of respondents targeted was 385. The inclusion criterion in respondent selection is that the individual had to be a student, Teacher, the user of Blockchain, Consultant, Educationists. This research uses the five-point Likert scale for the survey statements.

Besides, according to Sarstedt, et al. (2014), PLS-SEM is a useful tool for family business research, and this model widely used in many fields of business research. PLS-SEM was used to measure and evaluate the reflective measurement and structural measurement. There are two stages for this model; stage one is to measure the reflective model (Nimako, et al. 2014). In the beginning, indicator's reliability, internal consistency reliability, convergent validity, and discriminant validity assessed in a reflective model. It is important also to measure the collinearity, predictive relevance, significance, and relevance of path coefficients in the context to the overall structural measurement of the model.

Data Validation and Analysis

Respondents' Characteristics: Table 1 shows the profile of respondents who had participated in the online survey. A total of 886 survey questionnaires were distributed to millennials in Federal Territory of UAE, Indian cities, Malaysia and Singapore electronically using emails, WhatsApp and other social media means, but only 386 (43.3 per cent) of respondents participated in this research. In this research, the male respondents were 238 (61.73 per cent), while female respondents were 148 (38.27 per cent). Besides, as this study focused on millennials, the terms of age group were limited and divided into two groups, which were 18–27, 28–36 and 36-44. Based on the results from Table 1, the majority of the respondents aged between 18 to 44 years (80 per cent, 308 respondents), while only 81 respondents aged beyond 46 years. As for the nationality, all the respondents were majorly Indian, UAE, Pakistani, Malaysian and Singaporeans, which fulfilled the essential requirement of the research. In terms of education level, majority of the respondents were Postgraduates (182; 47.1 per cent). Respondents in Graduate were 136 (35.3 per cent), Doctorates were 39 (10.1 per cent), and rest were 29 (7.6 per cent). The descriptive statistics showed that the majority of the millennials that participated in this research were undergraduates. Overall Model- all path coefficients have *** indicating all of them are significant and consistent to the SEM. Overall R2 of 0.641 means that 64.1% of the relations and correlations between the constructs have been explained satisfactorily which is considered good statistically (Table 2).

Table 1: Demographics.

Demographic Variable	Category	Percentage	Demographic Variable	Category	Percentage
Age Group	18-25	24.4			
	26-35	32.8			
	36-45	21.8			
	46-55	14.3			
	56+	6.7			
Gender	Male	61.73			
	Female	38.27			
Education	Highschool	1.7 (6)	Income Level	Under 5000 AED	28.8
	Undergraduate	5.9 (23)		5001-10000 AED	16.1
	Graduate	35.3 (136)		10001-15000 AED	15.3
	Masters	47.1(182)		15001-20000 AED	10.5
	Doctoral	10.1 (39)		Above 20001	30.5

Demographic Variable	Category	Percentage	Actual Numbers
Usage of Smart Phones and other Devices on regular basis (Total Respondents= 3 and multiple answers as same respondent uses many of these devices)	Smart Phones	97.33	376
	iPad	46.2	178
	PC's	93.27	360
	Smart TV	50.1	195
	Accessories working on blue tooth	67.22	259

Table 2: Goodness of model fit (saturated model).

	Value	HI95	HI99
SRMR	0.0716	0.0391	0.0416
d_{ULS}	1.1852	0.3539	0.3992
d_G	0.7556	0.2686	0.293

A cut-off value SMRM of 0.08, as proposed by Hu & Bentler (1999), appears to be better for variance-based SEM and met by this Model. ADANCO 2.0.1 uses bootstrapping to provide the 95%-percentile ("HI95") and the 99%- percentile ("HI99") for the dULS if the theoretical model was true. (If the dULS exceeds these values, it is unlikely that the model is true.) In our results the generated values are within the values of the dULS which indicates that the model is likely to be true as per Dijkstra & Henseler (2015a).

Reflective Measurement Model

The reflective measurement is the first stage of examining the reliability and validity of the measurement model. This section will be divided into several subtopics:

(1) Indicator reliability (loadings),

(2) Construct reliability,

(3) Convergent validity and,

(4) Discriminant validity (Sarstedt, et al. 2014).

Indicator Reliability (Loadings): Examining the indicator loadings was the first step in the reflective measurement, and the loadings score above 0.7 represented that the construct explained more than 50 percent of a variable (Sarstedt, et al. 2014). Based on Table 3, the results showed that all the indicators were over 0.7.

Table 3: Indicator Loadings.

Indicator	People Related Factors	Technology Related factors	Environmental related factors	Organizational related factors	Adaption related factors
PRF 1	0.712				
PRF 2	0.7626				
PRF 3	0.6599				
PRF 4	0.6093				
PRF 5	0.7473				
TRF 1		0.8192			
TRF 2		0.8505			
TRF 3		0.7574			
ERF 1			0.8059		
ERF 2			0.6748		
ERF 3			0.5393		
ERF 4			0.7313		
ERF 5			0.679		
ORF 1				0.6637	
ORF 2				0.7589	
ORF 3				0.7739	
ORF 4				0.663	
ORF 5				0.6892	
ARF 1					0.9142
ARF 2					0.9367
ARF 3					0.8469

Internal Consistency Reliability: Internal consistency reliability was used to examine the reflective measurement model, where previous studies stated that the higher the value indicator, the higher the degree of reliability (Joseph, et al. 2010). Also, Jöreskog's rho (ρc) was the standard method used to evaluate the internal consistency reliability. The minimum acceptable value for internal consistency reliability was 0.6, as the value below was considered as having low significance or weak reliability. The maximum value was considered as 0.95 as the value over it was considered as problematic, or the indicator was redundant (Sarstedt, et al. 2014). Based on Table 3, the result showed that the Jöreskog's rho (ρc) values for each construct, that is, People Related Factors (0.9244), Technology related factors (0.9270), Environmental related factors (0.9158), Organizational related factors (0.9243), and Adaption related factors (0.9440), ranged within 0.6 and 0.95. Therefore, all the Jöreskog's rho (ρc) values in this research were considered as "satisfactory to good," and all of the indicators in this research were significant and reliable for the internal consistency reliability.

Construct Reliability: For the extent of internal consistency reliability and construct reliability, Cronbach's alpha was used to measure and examine the reliability for all the constructs. The minimum acceptable Cronbach's alpha is 0.7 or above and the higher the Cronbach's alpha, the higher the reliability of multiple measures for the measurement of each construct (Joseph, et al. 2010). Based on the results from Table 4, all the constructs were higher than the standard requirement (0.7) with People Related Factors as 0.8927, Technology related factors as 0.8819, Environmental related factors as 0.8843, Organizational related factors 0.8982, and Adaption related factors as 0.9438.

Table 4: Construct Reliability.

Construct	Dijkstra-Henseler's (ρ_A)	Jöreskog's rho (ρc)	Cronbach's Alpha (α)
People Related Factors	0.9069	0.9203	0.8927
Technology Related Factors	0.8868	0.9270	0.8819
Environmental Related Factors	0.8912	0.9158	0.8843
Organizational Related Factors	0.9054	0.9243	0.8982
Adaption Related Factors	0.9472	0.9440	0.9438

Convergent Validity: Convergent validity is used to measure and examine the extent that a construct converges with the specific construct's indicators by explaining the items' variance (Hair, et al. 2011; Sarstedt, et al. 2014). Commonly, the Average Variance Extracted (AVE) will be used to measure for all items associated with each construct. The mean of the squared loadings for all indicators associated with the construct is the calculation method to calculate the value of AVE (Cheah, et al. 2018). Besides, the minimum acceptable value for AVE is 0.5, and if the value is more than 0.5, the result represented that the construct explains more than 50 percent of the variance of items. Based on the result, all the AVE values for the constructs in this research were exceeding 0.5, which were People Related Factors (0.6982), Technology related factors (0.8090), Environmental related factors (0.6861), Organizational related factors (0.7097), and Adaption related factors (0.8992). As all the AVE values were exceeding 0.5, the convergent validity was established in this research.

Discriminant Validity: Discriminant validity was the final step in the reflective measurement model after the indicator reliability, internal consistency reliability, and convergent validity were successfully established. Discriminant validity methods used to measure the different constructs differ in terms of how much a variable correlates with other variables and how much the indicators represent only a single variable. There are two methods to measure and evaluate the discriminant validity: Fornell-Larcker criterion and cross-loadings (Mohd, 2013; Hair, et al. 2013; Sarstedt, et al. 2014). Based on the results, the AVE value of People Related Factors with the construct of People Related Factors was 0.6982, which was higher than the square of inter- construct correlation; the AVE value of technology functionality with the construct of technology functionality was 0.7867, which was higher than the squared of inter-construct correlation; the AVE value of perceived usefulness with the construct of perceived usefulness was 0.7479, which was higher than the square of inter-construct correlation; the AVE value of perceived ease of use with the construct of perceived ease of use was 0.8285, which was higher than the square of inter-construct correlation; and the AVE value of adoption intention with the construct of adoption intention was 0.7971, which was higher than the squared of inter- construct correlation (Table 5).

Table 5: Discriminant Validity: Fornell-Larcker Criterion.

Construct	People Related Factors	Technology Related Factors	Environmental Related Factors	Organizational Related Factors	Adaption Related Factors
People Related Factors	0.6982				
Technology Related Factors	0.5774	0.6290			
Environmental Related Factors	0.4414	0.4643	0.6861		
Organizational Related Factors	0.3660	0.5453	0.5415	0.7097	
Adaption Related Factors	0.3263	0.5333	0.5205	0.6758	0.8992

Structural Model Assessment

Before the structural model assessment, the potential collinearity between the predictor constructs must be tested to ensure the quality of the results. Therefore, this section will be divided into several subtopics: (1) collinearity, (2) predictive relevance and, (3) significance and relevance of path coefficients.

Collinearity: In order to ensure the results were not biased by collinearity issues, Variance Inflation Factor (VIF) was used to measure for each indicator in the construction. Usually, the value of VIF less than 5 is acceptable and assumed to be safe for avoiding any collinearity issues, but there could be exceptions (Benitez, et al. 2020). Based on the results, all the indicators' VIF values were below five which is acceptable. This result represented that there was no significant collinearity issues observed in this model.

Predictive Relevance (R2): The coefficient of determination (R2) was used to measure how well the construct was explained toward all the constructs in the research. According to some researchers, the minimum requirement of R2 was 0.2, and the construct was relevant and significant if the value of R2 exceeded 0.2 (Hair, et al. 2011). Based on the result, the value of R2 of adoption intention was 0.6414, which represented that the construct was relevant and significant, and considered as moderately high in explaining all the variables in the research.

Significance and Relevance of Path Coefficients: The final step in the structural model assessment was significance and relevance of path coefficients. According to Sarstedt, et al. (2014), the researchers stated that the standard range for path coefficient values was from -1 to +1 one, while the value closer to +1 represented strong positive relationship, and the value closer to -1 represented strong negative relationship. The results from the bootstrapping procedure (386 cases, 1000 samples, no sign changes option) reveal that all four structural relationships were significant ($p \leq 0.05$). The results showed that all the independent constructs had positive and significant relationship toward Blockchain technology adaption to Education, and the results represented that all of the hypotheses were authenticated and supported by data (Table 6). The results showed that all the independent constructs had a positive and significant relationship with Blockchain Technology's adaption for Education. The results represented that all of the hypotheses were authenticated and supported by the data. The research objective of this study was to identify the relationship between constructs of technology-related factors, People's related Factors, Environmental related Factors, Organizational related factors and Adaption of Blockchain Technology for Education. All the hypotheses are accepted, and the relationships are statistically established through this study to achieve the primary objective (Figure 2).

Table 6: Direct Effects Inference

Effect	Original coefficient	Standard Bootstrap Results					Percentile Bootstrap Quantiles			
		Mean value	Standard error	t-value	p-value (2-sided)	p-value (1-sided)	0.5%	2.5%	97.5%	99.5%
People Related Factors -> Adaption Related Factors	0.1092	0.1116	0.0365	5.9890	0.0028	0.0014	0.0102	0.0385	0.1826	0.2013
Technology Related Factors -> Adaption Related Factors	0.3630	0.3618	0.0474	7.6632	0.0000	0.0000	0.2400	0.2706	0.4581	0.4917
Environmental Related Factors -> Adaption Related Factors	0.2893	0.2874	0.0580	4.9888	0.0000	0.0000	0.1333	0.1755	0.3996	0.4370
Organizational Related Factors -> Adaption Related Factors	0.1525	0.1556	0.0475	6.2108	0.0013	0.0007	0.0273	0.0606	0.2478	0.2749

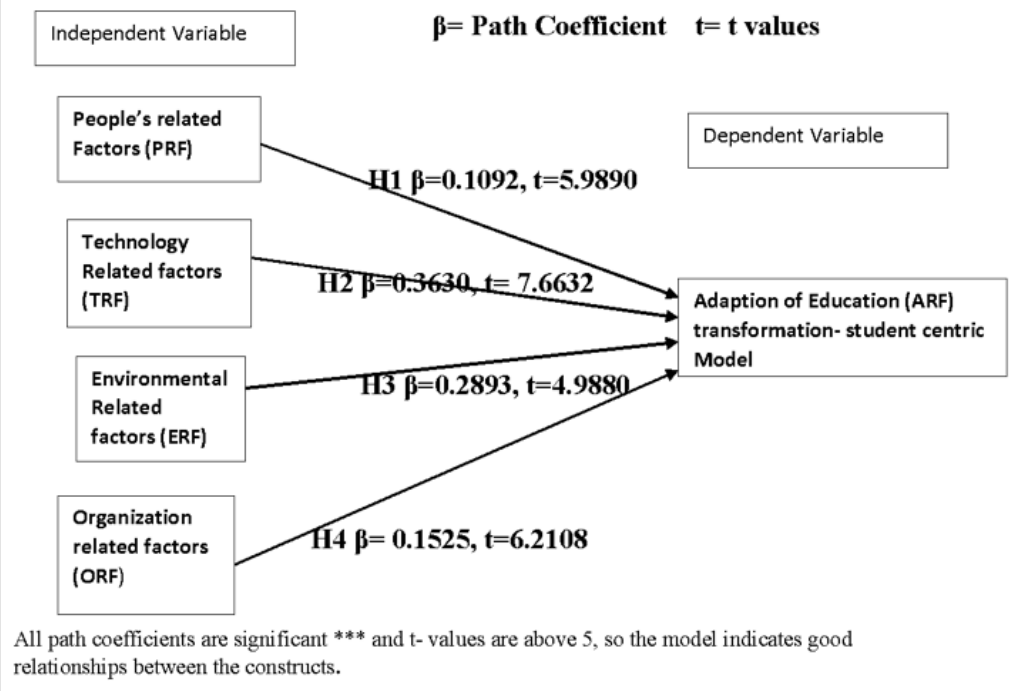

Figure 2: PLS-SEM Validation.

ADKAR Change Management Model, Transformation Theory, TAM-TOE, individually seem inadequate for the current COVID, economic, technology bound situation. An integrated model using some of these identified constructs with more relevant factors considered seem appropriate. So, the above research framework was developed and tested for validity and reliability using PLS-SEM has been a useful contribution of this research paper and by getting a consensus of 386 respondents- stakeholders of the Blockchain education application. The methodology followed goes a long way in addressing the scarcity of relevant data for future researchers and lay the path for further research by developing on this model or such similar models. The above-cited theories have their importance in a particular situation in stable economies, equal education opportunities, infrastructure availability. However, in recession, COVID, sanction regimes, these above theories seem lacking to explain many factors. Hence a concrete, a sound research-based framework has been developed to contribute to further work.

Contributions

Research Implications

The research study indicates that extending the technology acceptance model along with Change Management model while measuring the User's adoption intention. The validated hybrid model through SEM-PLS provides a better understanding to researchers and practitioners why individuals choose technology for Education Purpose.

Managerial Implications

The technology managers who are investing in BCT for knowledge workers would gain a better understanding of consumer perspective through this study's finding. The hybrid framework allows technology managers to assess BCT adaption for Education through specific contexts such as Student-centric Model. Based on the research data, the adoption intention must not focus on a particular age group or education level of users. This finding provides a strong business case for solution providers in emerging economies to focus on appropriate tools and features to be rolled out using technology.

Limitations

The limitation of this Research can be not enough evidence is registered or discussed on the actual failures of the education system despite the Learners disgruntled with the shortcomings. The need to change to student-centric has not been addressed in a significant way by the various stakeholders. The other limitation being the lack of successful implementations of Blockchain in various applications except for Bitcoin and other crypto Currencies which have some lacuna. So, at best the exposure can be called Smart system which passed off as blockchain technology which it is not as all the participants are not at the same operating level. Second, the volumes of scale do not justify the spends on the BCT as the energy requirements, and initial Investments are enormous to get ROI. The lack of Sponsor Organization and Regulatory body is not able to give the BCT application the credibility. Blockchain technology claims of successful implementation in the education sector tested.

Conclusion

The student-centric education model is the future of Global Education. The Model is going to be powered by modern technologies like Blockchain Technology, Artificial Intelligence, Machine Learning, Virtual Imaging, Virtual Reality. It will reduce the cost, efforts, staff hour needs and security of the new education system. A smart city like Dubai is well poised to take this route due to the availability of the infrastructure, the political will and the skilled workforce. Education student-centric model in smart cities like Dubai is going to make it the future. The investment and the process are well on its way for this educational transformation. Dimensions of strategic change advocated by Pettigrew and Whipp stresses on the interplay of three dimensions of strategic change like the Content of new education model implementation the objectives, purpose and goals; Implementation process; and the context, the internal and external environment to implement the new educational Model. The success of the implementation of the new Model will depend on how Management able to handle these factors properly and control the interplay (Dutta, et al. [26,27]).

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