

“EMPOWERING INDIA THROUGH DIGITAL TRANSFORMATION : A SUSTAINABLE APPROACH”

Volume - I

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Empowering India through Digital Transformation – A Sustainable Approach

Vol. – 1

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Empowering India through Digital Transformation

- A Sustainable Approach, Volume - 1

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First Edition : July 2024

ISBN : 978-93-340-6921-1

Price : Rs. 580/-

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Printed at

CAUVERITECH Computerised Print Shop

21/2, Rajamill Road, Pollachi – 642 001.

Ph : 04259 – 221734

E-Mail : cauveritech@gmail.com

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A Study on Digital Transformation and Its Impact on Education Sector

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Abstract

Digitalization can be termed as an innovation within the sector of education because it highlights the varied activities that result in the modernization of business model or relating to education sector. The term digitalisation refers to the conversion of paper mode or kind written data into digital type. The application of digitalisation in education sector ends up in learning surroundings within the twenty first century. It shows all concerning the replacement of old schoolsystem, new establishment that boosted digital education. Digitalization is bringing about sweeping changes in the education sector. It incorporates development of orientation lecture in technical manner. In the streamline, this paper makes an attempt to highlight some key areas of transformation in education sector, the impact of Covid-19 pandemic on education scenario and tries to give a roadmap to future e-learning system.

Keywords: Digital Education, E- Learning, Education, Digitalization

I. Introduction

India has the world's second largest school system, after China. According to United Nations Educational, Scientific and Cultural Organization (UNESCO), 63 million teachers were affected in 165 countries during Covid-19 pandemic. A total of 1.3 billion learners around the world were not able to attend schools or universities, and

approximately 320 million learners are affected in India alone (National Statistical Office, 75th Round, 2017-18). It has changed the traditional education system to the educational technologies model in which teaching and assessments are conducted online. Indian government has announced the lockdown and closure of educational institutions as a logical solution to enforce social distancing within communities. All educational activities like examinations, school admissions, entrance tests of various universities and competitive examinations, others, are being held during this period. As the days are passing by with no immediate solution to stop this outbreak, the closure of schools and universities is hugely affecting the learning across the country.

The structure of the Indian education system i.e. learning methodology, teaching techniques and assessment methodologies, is quite affected, resulting in a shift to online education with most focus on virtual education to accomplish the set aims and objectives. Digitalization in Education sector is an issue that concerns many educational stakeholders. In this globalised era, ICT skills are becoming increasingly relevant in every context, especially in the workplace, therefore one of the prime objectives for educational institutions has become preparing future professionals to be able to deal with problems and search for solutions, including digital competence as a vital skill set. Different policies, initiatives and strategies are currently being proposed by the government also to address educational technology innovations in education sector.

India is a vast country with much diversity in culture, language, heritage etc. and so is its education system. We have schools with all digitized air-conditioned classrooms as well as the transportation; there are schools which believe in emphasizing on value education by following Gurukul system where students are taught under the trees despite of having world-class infrastructure. At the same time there are schools which emphasize on books and physical development of students by conducting in-house activities whereas others can afford

international exchange programs. At the same time we have schools where students struggle for books. India holds an important place in the global education industry.

According to the report of National Sample Survey Office, the country has more than 1.4 million schools with over 227 million students enrolled and more than 36,000 higher education institutes. India has one of the largest higher education systems in the world. However, there is still a lot of potential for further development in the education system. Before the lockdown in India, no one estimated that the face of the Indian educational institutions could change so drastically. Schools that never allowed students to carry an electronic gadget turned into learning centers for online classes. Both teachers and students are getting familiar to this new normal, which is definitely more challenging for them to handle with this situation.

II. The Objective of the Study

The objective of the study is to understand impact of digital transformation in education sector and to highlight the emerging changes in education sector due to digital transformation. This is descriptive nature-based study.

III. Review of Literature

Korableva (2019) highlighted on the benefit of online courses over the traditional class room based teaching. In extend of the study, more insight was on the latest two online platforms, MOOC and Course era, to understand which more user convenience is as well as give the best solution in terms of knowledge. R.Raja (2018) did a research on the importance of technology in education system with reference to schools in Chennai and found that with the onset of latest technology like ICT, and other digital tools are very helpful to impart knowledge to our students and process of teaching and learning can be more enjoyable.

IV. Methodology

As per the requirements of the study descriptive nature is being adopted in research design. The research study is totally based on descriptive nature. Secondary source and published articles were extensively used for the collection of data. Distinctively used sources were various web articles.

V. Digital Transformation on Education

Digital transformation can play a crucial role in advancing the goals of Sustainable Development Goal 4 (SDG 4) on Education set by the United Nations. By leveraging digital technologies and innovative approaches, countries can enhance access to quality education, promote lifelong learning opportunities, improve teaching methods, and foster inclusive and equitable education. **Access to Education:** Digital transformation can bridge the gap in access to education by providing online learning platforms, digital libraries, and educational resources that students can access regardless of their geographical location. This ensures that individuals in remote or underserved areas can receive quality education.

Quality Education: Digital tools and technologies deliver interactive and engaging learning experiences catering to diverse learning styles. Adaptive learning platforms, personalised learning pathways, and real-time feedback mechanisms help tailor education to individual needs, enhancing quality of learning outcomes.

Teacher Capacity Building: Digital transformation offers opportunities for teacher professional development through online training programs, virtual workshops, and collaborative platforms. Educators can enhance their teaching skills, integrate technology into their pedagogy, and stay updated on best practices in education, ultimately improving classroom teaching and learning quality.

Inclusive Education: Digital transformation can promote inclusive education by accommodating students with diverse needs, such as those with disabilities or special learning requirements.

Assistive technologies, captioning tools, and adaptive learning resources ensure that all learners have equal educational opportunities and can thrive in the learning environment.

Monitoring and Evaluation: Digital technologies facilitate data collection, analysis, and monitoring of education indicators, allowing policymakers to track progress, identify areas for improvement, and make data-driven decisions to support the achievement of SDG 4 targets. Through digital dashboards, analytics tools, and reporting mechanisms, stakeholders can measure impact and adjust strategies accordingly.

Global Collaboration: Digital platforms enable global collaboration and knowledge-sharing among educators, policymakers, researchers, and education stakeholders. Virtual conferences, online forums, and collaborative projects foster cross-border partnerships, innovation exchange, and best practice dissemination, promoting synergies and collective action towards achieving SDG 4 on Education.

Harnessing the power of digital transformation can unlock new possibilities and opportunities to accelerate progress towards the goals of UN SDG 4 on Education. By leveraging digital tools, promoting innovation, fostering inclusivity, and strengthening collaboration, countries can build a more resilient, equitable, and sustainable education system that empowers learners, educators, and communities to thrive in the digital age.

Challenges

The digital transformation of education presents several challenges that must be addressed to realise its full potential. One major challenge is the digital divide, which refers to the unequal access to

technology and internet connectivity among students and educators. This can exacerbate existing inequalities in educational opportunities and outcomes. Additionally, resistance to change, lack of digital skills among educators, data privacy concerns, and the need for substantial investments in infrastructure and training are significant challenges that must be overcome.

Digital Tools

A wide range of digital tools is available to support the digital transformation of education, including learning management systems (LMS), virtual classrooms, video conferencing platforms, online assessment tools, educational apps, and interactive multimedia resources. These tools facilitate personalised learning, collaboration, engagement, and assessment, enhancing the overall teaching and learning experience.

E-Learning Initiatives

E-learning initiatives have gained momentum recently, especially in response to the COVID-19 pandemic, which forced educational institutions to adopt online learning models.

These initiatives encompass online courses, virtual classrooms, digital libraries, academic websites, and multimedia resources designed to deliver educational content and support remote learning anytime.

Benefits

The digital transformation of education offers numerous benefits, including increased access to education, flexibility in learning schedules, personalised learning experiences, improved student engagement and motivation, enhanced collaboration and communication among students and educators, real-time feedback and assessment, cost savings, and a more inclusive and equitable educational system.

Digital Literacy

Digital literacy is essential for students and educators to effectively navigate the digital landscape and make the most of digital tools and resources. It encompasses the skills and competencies needed to access, evaluate, create, and communicate information using digital technologies. Promoting digital literacy is crucial for empowering individuals to become active and responsible digital citizens in the 21st century.

Role of Government Policy

Government policies play a critical role in shaping the digital transformation of education by providing strategic direction, funding support, regulatory frameworks, and incentives for adopting digital technologies in educational settings. Policies focusing on infrastructure development, teacher training, curriculum integration, data privacy protection, and digital inclusion can help drive sustainable change and innovation in education.

Partnerships and Collaborations

Partnerships and collaborations between government, educational institutions, technology providers, non-profit organisations, and other stakeholders are vital for advancing the digital transformation of education. By working together, sharing resources, expertise, best practices, and leveraging collective strengths, stakeholders can address common challenges, scale innovative solutions, and promote inclusive and sustainable digital learning ecosystems.

Future Trends

The future of education will likely be increasingly digital, with trends such as blended learning, personalised learning pathways, adaptive learning technologies, artificial intelligence in education, virtual and

augmented reality, gamification, and microlearning gaining prominence. These trends are expected to revolutionise how education is delivered, accessed, and experienced, leading to more responsive, engaging, and effective learning environments.

Framework

A comprehensive framework for digital transformation in education should encompass clear goals and objectives, stakeholder engagement, capacity building, resource allocation, monitoring and evaluation mechanisms, and continuous improvement processes. The framework should be adaptable, scalable, and sustainable, considering the evolving needs and challenges of the educational system.

The Need for Digital Transformation

The need for digital transformation in education is driven by the increasing demands for quality education, technological advances, changing learning preferences, and global trends towards digitalisation. Embracing digital transformation is essential for preparing students for the future workforce, fostering innovation and creativity, enhancing educational outcomes, and building resilient and inclusive learning communities.

VI. Conclusion

In the present hyper-connected world, reasonable utilization of innovation and digital technology can improve education. It is obvious that the advantages are much more. Yet, the way to innovation in the class room is continually going to be the educator learner relationship, since that is the place where education occurs. Technology can be an exceptionally compelling tool, however that is all it is – a device since man has made innovation and innovation has not made man. Innovation isn't intended to replace the