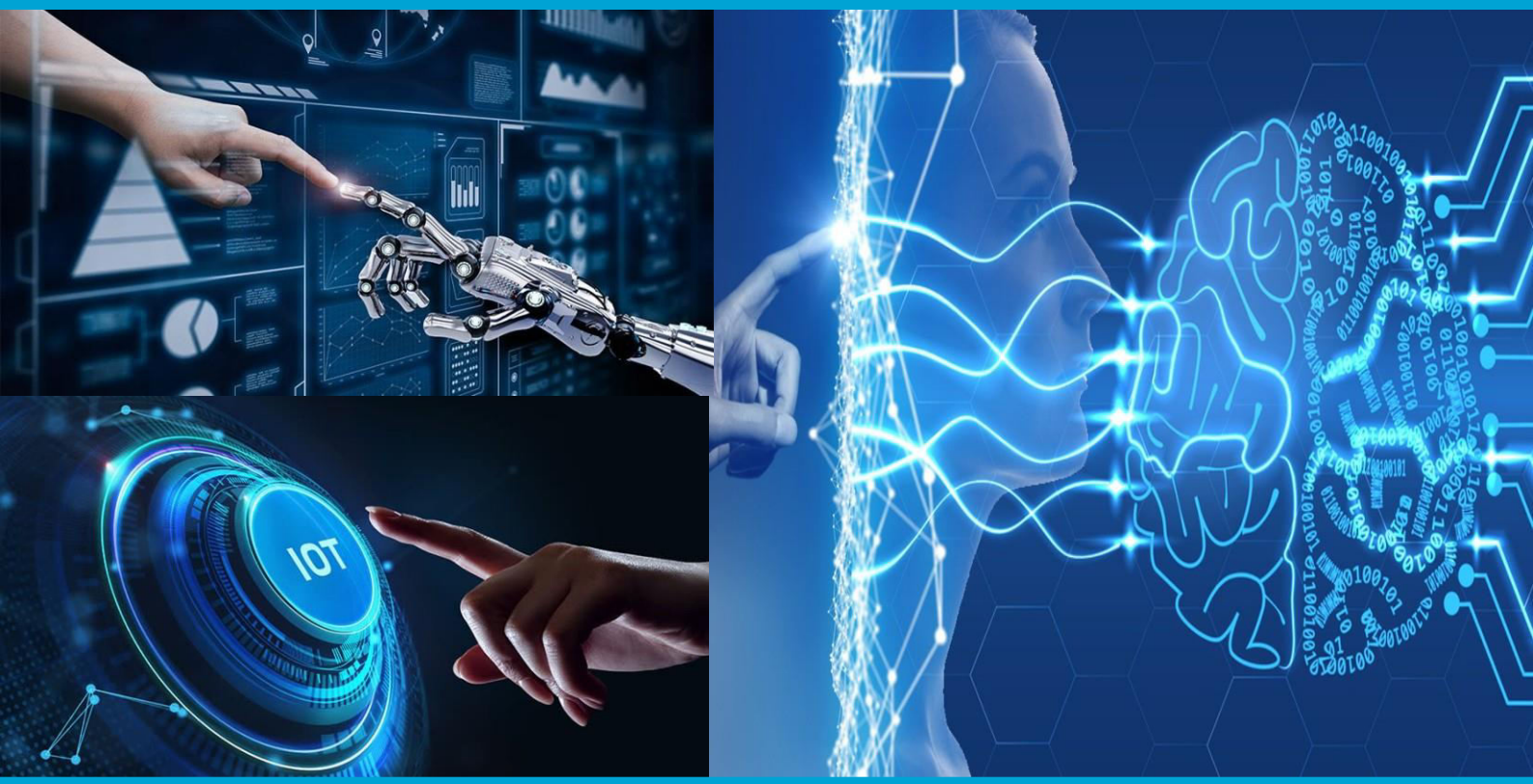
IJMRSETM

e-ISSN: 2395 - 7639



INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY RESEARCH

IN SCIENCE, ENGINEERING, TECHNOLOGY AND MANAGEMENT

Volume 8, Issue 11, November 2021

INTERNATIONAL STANDARD SERIAL NUMBER INDIA

Impact Factor: 7.580

| ISSN: 2395-7639| www.ijmrset.com| Impact Factor: 7.580 | A Monthly Double-Blind Peer Reviewed Journal |

|| Volume 8, Issue 11, November 2021 ||

|DOI:10.15680/IJMRSETM.2021.0811011|

Role of E-Learning in Post Covid Era

Anil Kumar

Assistant Professor, Physics, Govt. Bangur College, Didwana, Nagaur, Rajasthan, India

ABSTRACT: The COVID-19 pandemic has forced the world to engage in the ubiquitous use of virtual learning. And while online and distance learning has been used before to maintain continuity in education, such as in the aftermath of earthquakes, the scale of the current crisis is unprecedented. Speculation has now also begun about what the lasting effects of this will be and what education may look like in the post-COVID era. For some, an immediate retreat to the traditions of the physical classroom is required. But for others, the forced shift to online education is a moment of change and a time to reimagine how education could be delivered. Online education has traditionally been viewed as an alternative pathway, one that is particularly well suited to adult learners seeking higher education opportunities. However, the emergence of the COVID-19 pandemic has required educators and students across all levels of education to adapt quickly to virtual courses. (The term 'emergency remote teaching' was coined in the early stages of the pandemic to describe the temporary nature of this transition.) In some cases, instruction shifted online, then returned to the physical classroom, and then shifted back online due to further surges in the rate of infection. In other cases, instruction was offered using a combination of remote delivery and face-to-face: that is, students can attend online or in person (referred to as the HyFlex model). In either case, instructors just had to figure out how to make it work, considering the affordances and constraints of the specific learning environment to create learning experiences that were feasible and effective.

KEYWORDS: COVID-19, education, online, E-learning, environment, classroom, crisis

I. INTRODUCTION

The use of varied delivery modes does, in fact, have a long history in education. Mechanical (and then later electronic) teaching machines have provided individualized learning programmes since the 1950s and the work of B. F. Skinner5, who proposed using technology to walk individual learners through carefully designed sequences of instruction with immediate feedback indicating the accuracy of their response.[1] Skinner's notions formed the first formalized representations of programmed learning, or 'designed' learning experiences. Then, in the 1960s, Fred Keller developed a personalized system of instruction, in which students first read assigned course materials on their own, followed by one-on-one assessment sessions with a tutor, gaining permission to move ahead only after demonstrating mastery of the instructional material. Occasional class meetings were held to discuss concepts, answer questions and provide opportunities for social interaction.[2] A personalized system of instruction was designed on the premise that initial engagement with content could be done independently, then discussed and applied in the social context of a classroom.[3] These predecessors to contemporary online education leveraged key principles of instructional design — the systematic process of applying psychological principles of human learning to the creation of effective instructional solutions — to consider which methods (and their corresponding learning environments) would effectively engage students to attain the targeted learning outcomes. In other words, they considered what choices about the planning and implementation of the learning experience can lead to student success. Such early educational innovations laid the groundwork for contemporary virtual learning, which itself incorporates a variety of instructional approaches and combinations of delivery modes.[4]

Fast forward to 2020, and various further educational innovations have occurred to make the universal adoption of remote learning a possibility. One key challenge is access. Here, extensive problems remain, including the lack of Internet connectivity in some locations, especially rural ones, and the competing needs among family members for the use of home technology. However, creative solutions have emerged to provide students and families with the facilities and resources needed to engage in and successfully complete coursework. For example, school buses have been used to provide mobile hotspots, and class packets have been sent by mail and instructional presentations aired on local public broadcasting stations. The year 2020 has also seen increased availability and adoption of electronic resources and activities that can now be integrated into online learning experiences.[5] Synchronous online conferencing systems, such as Zoom and Google Meet, have allowed experts from anywhere in the world to join online classrooms and have allowed presentations to be recorded for individual learners to watch at a time most convenient for them. Furthermore, the importance of hands-on, experiential learning has led to innovations such as virtual field trips and virtual labs. A capacity to serve learners of all ages has thus now been effectively established, and the next generation of online education can move from an enterprise that largely serves adult learners[6] and higher education to one that increasingly

| ISSN: 2395-7639| www.ijmrset.com| Impact Factor: 7.580 | A Monthly Double-Blind Peer Reviewed Journal |

|| Volume 8, Issue 11, November 2021 ||

|DOI:10.15680/IJMRSETM.2021.0811011|

serves younger learners, in primary and secondary education and from ages 5 to 18. The COVID-19 pandemic is also likely to have a lasting effect on lesson design. The constraints of the pandemic provided an opportunity for educators to consider new strategies to teach targeted concepts. Though rethinking of instructional approaches was forced and hurried, the experience has served as a rare chance to reconsider strategies that best facilitate learning within the affordances and constraints of the online context. In particular, greater variance in teaching and learning activities will continue to question the importance of 'seat time' as the standard on which educational credits are based [7]— lengthy Zoom sessions are seldom instructionally necessary and are not aligned with the psychological principles of how humans learn. Interaction is important for learning but forced interactions among students for the sake of interaction is neither motivating nor beneficial.[8]

While the blurring of the lines between traditional and distance education has been noted for several decades, the pandemic has quickly advanced the erasure of these boundaries. Less single mode, more multi-mode (and thus more educator choices) is becoming the norm due to enhanced infrastructure and developed skill sets that allow people to move across different delivery systems. The well-established best practices of hybrid or blended teaching and learning have served as a guide for new combinations of instructional delivery that have developed in response to the shift to virtual learning.[9] The use of multiple delivery modes is likely to remain, and will be a feature employed with learners of all ages. Future iterations of online education will no longer be bound to the traditions of single teaching modes, as educators can support pedagogical approaches from a menu of instructional delivery options, a mix that has been supported by previous generations of online educators.[10]

Also significant are the changes to how learning outcomes are determined in online settings. Many educators have altered the ways in which student achievement is measured, eliminating assignments and changing assessment strategies altogether. Such alterations include determining learning through strategies that leverage the online delivery mode, such as interactive discussions, student-led teaching and the use of games to increase motivation and attention. Specific changes that are likely to continue include flexible or extended deadlines for assignment completion, more student choice regarding measures of learning, and more authentic experiences that involve the meaningful application of newly learned skills and knowledge ,for example, team-based projects that involve multiple creative and social media tools in support of collaborative problem solving.[11]

In response to the COVID-19 pandemic, technological and administrative systems for implementing online learning, and the infrastructure that supports its access and delivery, had to adapt quickly. While access remains a significant issue for many, extensive resources have been allocated and processes developed to connect learners with course activities and materials, to facilitate communication between instructors and students, and to manage the administration of online learning. Paths for greater access and opportunities to online education have now been forged, and there is a clear route for the next generation of adopters of online education.[12]

Before the pandemic, the primary purpose of distance and online education was providing access to instruction for those otherwise unable to participate in a traditional, place-based academic programme. As its purpose has shifted to supporting continuity of instruction, its audience, as well as the wider learning ecosystem, has changed. It will be interesting to see which aspects of emergency remote teaching remain in the next generation of education, when the threat of COVID-19 is no longer a factor. But online education will undoubtedly find new audiences. And the flexibility and learning possibilities that have emerged from necessity are likely to shift the expectations of students and educators, diminishing further the line between classroom-based instruction and virtual learning.[13]

II. DISCUSSION

E-learning, also known as online or digital learning, has been one of the most exciting trends in the field of education in recent years. eLearning has experienced swift adoption worldwide, especially during 2020 in wake of the COVID-19 pandemic, which has led to numerous predictions about the technology and its future in education.Over the years, the need for cost-efficient training in academic institutes and corporate offices has led to the rise of e-learning technologies. The proliferation of cloud and implementation of cloud-based platforms is bringing increased accessibility, processing ability, and content storage capabilities to eLearning solutions, leading to their wider adoption.[14]

| ISSN: 2395-7639| www.ijmrset.com| Impact Factor: 7.580 | A Monthly Double-Blind Peer Reviewed Journal |

|| Volume 8, Issue 11, November 2021 ||

|DOI:10.15680/IJMRSETM.2021.0811011|

Digital learning, especially video-based learning, is rising exponentially across the world. Cisco Systems, Inc., predicted that a whopping 3 trillion minutes of video content will be streamed each month in 2021. It is expected that a majority of people will use smartphones to access different types of learning content available on online platforms. Consequently, mobile e-learning could be one of the fastest emerging segments of the industry-led by the increased production of smartphones.[15]

Growing digitalization in education, the proliferation of smartphones and the internet, and the dreaded COVID-19 pandemic are all augmenting global e-learning market share, which is projected to hit the US$1 trillion mark by 2027, says Global Market Insights, Inc. Allen Interactions, Cisco Systems, Apollo Education Group, Citrix Education, Articulate Global, Cornerstone OnDemand, Adobe Systems, Oracle Corporation, and Microsoft Corporation are some of the top names in the domain.The COVID-19 pandemic has boosted e-learning use in numerous ways. With schools, colleges, and offices shut down, most people adopted new ways to learn remotely. Also, with the cancellation of social events and lockdown restrictions, many individuals are utilizing spare time to acquire new personal or work-related skills through online learning platforms.[16]

With COVID-19, digital learning is becoming an indispensable tool. According to UNESCO, in April 2020, there were more than 1.2 billion children across nearly 186 countries affected by school closures due to COVID-19. The pandemic has forced educational institutes and organizations, big or small, to use technology and support their learning using online tools.The U.S. Census Bureau reported that in 93 percent of households with school-going children, kids were using some form of distance learning, even with many school districts across the country normally in session. Due to the worsening COVID-19 situation and the rise in home learning, numerous mobile eLearning solutions providers have been offering students free access to digital learning content.Last year in April, for instance, Asia-based ed-tech firm Snapask had announced more than 10,000 free subscriptions to its mobile e-learning app for students in Singapore. In India, BYJU's, one of the country's largest tech companies, reported a staggering 200 percent rise in the number of new students using its platform since it announced free live classes on its Think and Learn mobile app.[17]

Considering the sustained nature and widespread impact of the COVID-19 pandemic worldwide, e-learning will continue to be a safe, efficient, and cost-effective education tool, supporting millions of students remotely. Even before the coronavirus pandemic, the e-learning market was growing rapidly. However now, the closure of businesses and educational institutes has provided greater momentum to the adoption of eLearning tools. Whether it is distance learning, virtual tutoring, videoconferencing, online learning software, or language apps, there has been a massive upsurge since COVID-19. One can expect online tutoring to become a trend after the pandemic passes, supplementing the resumed learning at schools and colleges.[18]

In the coming years, the integration of information technology, AI, and AR/VR in education will be further accelerated, making online education an integral component of school learning. In the post-COVID-19 era, traditional offline learning and eLearning could go hand in hand, enhancing the overall education experience for young learners as well as adults. The E-learning market evolving as it heads towards more collaborative and inclusive approaches. The industry is quickly moving towards more engaging formats integrated with advanced technologies such as AI, AR/VR, and gamification to keep learners interested. Providing students with a fun and unique way to learn is vital to ensure an efficient and fruitful learning experience.[19]

However, there are critical challenges to overcome. One such major challenge is accessing. Students without reliable access to the internet or technology struggle to participate in eLearning. For instance, in developed countries such as Austria, Norway, and Switzerland, nearly 95 percent of students have access to computers for their schoolwork, whereas in developing nations such as Indonesia the percentage is just 34 percent, as per OECD data.To provide better access to the internet and other technologies necessary for remote learning, governments had introduced numerous programs and initiatives last year. For example, in April, the England Education Secretary had announced the provision of laptops, tablets, and 4G routers for disadvantaged students staying at home due to the coronavirus outbreak.Remote education also brings significant changes to how learning outcomes are determined in online settings. By eliminating assignments and other coursework, it has altered the ways in which student achievements are measured and assessed. On the other hand, some aspects of school learning such as practical and ethical lessons cannot be covered efficiently through the use of e-learning platforms.[20]

| ISSN: 2395-7639| www.ijmrset.com| Impact Factor: 7.580 | A Monthly Double-Blind Peer Reviewed Journal |

|| Volume 8, Issue 11, November 2021 ||

|DOI:10.15680/IJMRSETM.2021.0811011|

E-learning has been traditionally viewed as an alternative pathway by many, one that is particularly suited to adult learners seeking opportunities in higher education. The emergence of COVID-19, however, required students as well as educators across all levels of education to quickly adapt to virtual learning. With the sudden shift away from the classroom, some are wondering whether the surge in e-learning will continue to persist after the pandemic, and how such a transformation would impact the global education industry.

III. RESULTS

E-Learning would be the industry that achieved huge growth during the global pandemic. It has become more accessible in the last few years, with new startups popping up constantly. The growth of Byju's from a education mobile app to a unicorn in a short period is the best sign of market growth.

The pandemic has created a need for more e-learning content (because many schools were closed). Also, it forced people to use free online resources to learn new skills which contributed to this trend. In the past, we had two primary methods of learning: analog, digital and now, Edtech. The rise in Edtech has been accelerated by the pandemic as well as changes in education policies. In the case of the pandemic, there was a need to continue providing education to billions of children who were unable to goto school. Thanks to Internet and other digital infrastructure that made this possible. Have you ever imagined how the world would have been if there were no infrastructure to keep providing education during the pandemic period?

The use of technology in education has been present for a while, but never has it been so prominent. Technology provides a platform to learn from home during the course of the day, or from anywhere in the world if you have access to an internet connection.Technology and edtech go hand-in-hand and provide a multitude of benefits for student, educators and parents alike. It has changed the way we learn by moving it away from traditional classrooms and towards an interactive experience with others through the web.

Mobile phones replaced classrooms. Through video calling technologies and e-learning apps, teachers were able to interact with students, monitor their progress, and do evaluation remotely.Not just for students, but for professionals who are planning to learn a new skill can easily join a course on e-learning websites like Udemy or Coursera and learn at their own Pace! Now this is important. We all know Covid has accelerated the future of e-learning. But now as schools are re-opening in different parts of the world, what will the future of e-learning look like?By observing the trend and impact of e-learning in the education sector, we can be sure that online learning is here to stay. Not just that, but it will continue to grow exponentially! The convenience of learning digitally has made everyone addicted to it. And since there are no drawbacks or negatives, this trend will continue.[21]

Do not confuse e-learning with remote learning. Remote learning trend might have been a temporary setup for schools to continue educating their children during the pandemic. But that trend will surely drop once students return to classrooms. Note that, I'm talking about remote-learning and not e-learning or digital learning.Even after students return to classrooms, digital tools will still be used to provide digital content to augment classroom learning. This is necessary because, education shouldn't be just limited to school and classrooms. Students should be able to explore and learn at their own pace.This is known as "Hybrid model" for education that uses both offline and online ways to provide education to students. Kerala, the Indian state is already planning to re-open schools and still continue digital learning in a hybrid model. Digital learning has the potential to transform the way how students learn and interact with teachers after class. For example, homeworks will not be the same anymore. Gone are the days when teachers used to give assignments and homeworks should be submitted physically next day. With the advent of e-learning, even homeworks are going digital. That is what startups like Questt (that builds mobile app for homeworks) is doing, and their recent funding round signals the potential of such ideas.[22]

IV. CONCLUSIONS

E-learning here to stay, and we will see even more widespread adoption of e-learning mobile apps in the coming years. Even though students are returning back, schools and colleges will adopt more digital tools to augment the in-class education. Every schools and universities might build their own e-learning mobile apps to help their

| ISSN: 2395-7639| www.ijmrset.com| Impact Factor: 7.580 | A Monthly Double-Blind Peer Reviewed Journal |

|| Volume 8, Issue 11, November 2021 ||

|DOI:10.15680/IJMRSETM.2021.0811011|

students interact with their teachers, access class room lectures, or even submit assignments. The future of education is hybrid, and therefore e-learning will continue to grow in the post covid-era.[22]

REFERENCES

1. Gamage, K.A.A.; de Silva, E.K.; Gunawardhana, N. Online Delivery and Assessment during COVID-19: Safeguarding Academic Integrity. Educ. Sci. 2020, 10, 301. [CrossRef]
2. Watermeyer, R.; Crick, T.; Knight, C.; Goodall, J. COVID-19 and digital disruption in UK universities: Afflictions and affordances of emergency online migration. High. Educ. 2021, 81, 623–641. [CrossRef] [PubMed]
3. Peimani, N.; Kamalipour, H. Online education and the COVID-19 outbreak: A case study of online teaching during lockdown. Educ. Sci. 2021, 11, 72. [CrossRef]
4. Kamalipour, H.; Peimani, N. Sustaining place transformations in urban design education. In The Wiley Handbook of Sustainability in Learning and Teaching in Higher Education; Gamage, K., Gunawardhana, N., Eds.; Wiley: Hoboken, NJ, USA, 2022.
5. Pelletier, K.; Brown, M.; Brooks, D.C.; McCormack, M.; Reeves, J.; Arbino, N.; Bozkurt, A.; Crawford, S.; Czerniewicz, L.; Gibson, R.; et al. 2021 EDUCAUSE Horizon Report: Teaching and Learning Edition; EDUCAUSE: Boulder, CO, USA, 2021.
6. Timmons, V.; Cairns, E. Case Study Research in Education. In Encyclopedia of Case Study Research; Mills, A.J., Durepos, G., Wiebe, E., Eds.; Sage: Thousand Oaks, CA, USA, 2010; pp. 100–102.
7. Anderson, T. (Ed.) The Theory and Practice of Online Learning, 2nd ed.; Athabasca University Press: Edmonton, AB, Canada, 2008.
8. Davis, N.L.; Gough, M.; Taylor, L.L. Online teaching: Advantages, obstacles and tools for getting it right. J. Teach. Travel Tour. 2019, 19, 256–263. [CrossRef]
9. Dumford, A.D.; Miller, A.L. Online learning in higher education: Exploring advantages and disadvantages for engagement. J. Comput. High. Educ. 2018, 30, 452–465. [CrossRef]
10. Palvia, S.; Aeron, P.; Gupta, P.; Mahapatra, D.; Parida, R.; Rosner, R.; Sindhi, S. Online Education: Worldwide Status, Challenges, Trends, and Implications. J. Glob. Inf. Technol. Manag. 2018, 21, 233–241. [CrossRef]
11. Garrison, D.R. E-Learning in the 21st Century: A Framework for Research and Practice, 2nd ed.; Routledge: New York, NY, USA, 2011.
12. Ikenberry, S.O. The university and the information age. In Challenges Facing Higher Education at the Millennium; Hirsch, W.Z., Weber, L.E., Eds.; Oryx Press: Phoenix, AZ, USA, 1999; pp. 56–64.
13. Prensky, M. Digital Natives, Digital Immigrants Part 1. On the Horizon 2001, 9, 1–6. [CrossRef]
14. Gaston, J. Reaching and teaching the digital natives. Libr. Hi Tech News 2006, 23, 12–13. [CrossRef]
15. Dede, C. Planning for neomillennial learning styles. Educ. Q. 2005, 28, 7–12.
16. Norton, A.; Sonnemann, J.; McGannon, C. The Online Evolution: When Technology Meets Tradition in Higher Education; Grattan Institute: Melbourne, Australia, 2013.
17. Shuey, S. Assessing Online Learning in Higher Education. J. Instr. Deliv. Syst. 2002, 16, 13–18.
18. Reeves, T.C.; Reeves, P.M. Designing online and blended learning. In University Teaching in Focus: A Learning-Centred Approach; Hunt, L., Chalmers, D., Eds.; Routledge: Abingdon, UK, 2013; pp. 112–127.
19. McKnight, K.; O'Malley, K.; Ruzic, R.; Horsley, M.K.; Franey, J.J.; Bassett, K. Teaching in a Digital Age: How Educators Use Technology to Improve Student Learning. J. Res. Technol. Educ. 2016, 48, 194–211. [CrossRef]
20. Johnson, L.; Adams Becker, S.; Cummins, M.; Estrada, V.; Freeman, A.; Ludgate, H. The NMC Horizon Report: 2013 Higher Education Edition; New Media Consortium: Austin, TX, USA, 2013.
21. Hattie, J. Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievement; Routledge: New York, NY, USA, 2009.
22. Watson, D.M. Pedagogy before Technology: Re-thinking the Relationship between ICT and Teaching. Educ. Inf. Technol. 2001, 6, 251–266. [CrossRef]

Impact Factor: 7.580

INTERNATIONAL JOURNAL
OF MULTIDISCIPLINARY RESEARCH
IN SCIENCE, ENGINEERING, TECHNOLOGY AND MANAGEMENT

+91 99405 72462 +91 63819 07438 ijmrsetm@gmail.com