

ISBN - 978-93-86752-83-3



In  
collaboration  
with



Approved by : AICTE, NCTE, BCI, INC, MP PARAMEDICAL COUNCIL, DEB (UGC) | Recognized by : UGC | Member of : AIU, ACU

# Redefining, Restructuring and Revamping the World for Sustainable Development Amidst New Normal

**Dr. Sanjeev Kumar Gupta**  
**Dr. Sangeeta Jauhari**  
**Dr. Deepti Maheshwari**  
**Dr. S. Veenadhari**  
**Dr. Rajendra Gupta**





# **Redefining, Restructuring and Revamping the World for Sustainable Development Amidst New Normal**

**Dr. Sanjeev Kumar Gupta**

**Dr. Sangeeta Jauhari**

**Dr. Deepti Maheshwari**

**Dr. S. Veenadhari**

**Dr. Rajendra Gupta**







# PREFACE





The COVID 19 pandemic has sparked a global realization that our current way of life does not work in the existing way. The present situation also highlighted the individuals to rethink, redefine and restructure about their skills, adaptability and its implementation for sustainable development. It is a wake-up call for the public and private sectors to redefine policy frameworks, academic and business strategies. In this regard, Rabindranath Tagore university was organized an International Web conference titled "Redefining, Restructuring and Revamping the world for sustainable Development Amidst New normal". The conference is aimed to address the problems and challenges generated in the wake of COVID 19 in totality through paper presentation, discussions and sharing of the research findings covering different areas. The research findings of the conference collected and edited to bring into form of edited book. This international conference proceedings created five different tracks which are well balanced in content and create an unique discussion space for trendy topics. The international conference covers different topics like Measures for Rejuvenating Youth Employment and Entrepreneurship in Academia and Industry, different new era virtual tools usage for effective online teaching and how to redefine our education and manufacturing industries for sustainable development after covid-19. On this occasion 10 keynote speakers has delivered their outstanding research works in various fields of Industry, Management and Education. There were total 40 oral presentations and 100 research papers received by participants which brought great opportunity to share their recent research works among each other. Efforts taken by peer reviewers contributed to improve the quality of papers provided constructive critical comments. We are very grateful to the International/National advisory committee, Session Chairs, Volunteers and Administrative assistants from institute who selflessly contributed to the success of this conference. Also, we are thankful to all the authors who submitted papers. It was their quality of presentations that really made this conference a grand success.

Last but not least we are thankful for the enormous support by Management, Vice Chancellor and Registrar for supporting us in every step towards success. Their support was not only the strength but also an inspiration to organize this conference.

**Edited by:**

**Dr. S. Veenadhari**  
**Dr. Sangeeta Jauhari**  
**Dr. Rajendra Gupta**  
**Dr. Deepti Maheshwari**  
**Dr. Sanjeev Kumar Gupta**

**Dr. S. Veenadhari**  
**Conference Convener**





# INDEX



| S.No. | Title of Chapter   | Name of Author   | Page No. |
|-------|--|--|----------|
| 1.    | COVID-19 and Educational Scenario in India   | Dr. Neena Gupta  | 9        |
| 2.    | Achieving 'Knowledge Based Society' in Kandi Zones of Punjab Through Skill Development Education   | Manav Saini,<br>Dr. Atul Loomba                          | 14       |
| 3.    | Yoga-education helpful in sustainable development of society at the time of Covid-19 and after   | Dr. Alok Tiwari  | 17       |
| 4.    | An Overview of Covid-19 and its Impact on it Industry  | Dr. R. Malathi Ravindran                                 | 22       |
| 5.    | Insights on Virtual Reality  | Ms. Pushpa Tiwari,<br>Dr. S. Veenadhari                  | 26       |
| 6.    | Role of Digital India in Achieving Sustainable Development   | N. Pooja Shravan,<br>Mr. K.Saravanan                     | 31       |
| 7.    | Technology Based Education: A Nostrum During Covid 19 Pandemic   | Namrata Ganguly,<br>Dr. Pooja Chaturvedi                 | 36       |
| 8.    | Impact of Different Accelerated Curing Conditions on Strength of Concrete- a Review  | Sanjeet Kumar,<br>Amit Kumar, Kapil Soni                 | 41       |
| 9.    | Impact of Environmental Education During Covid-19 Pandemic Among Higher Secondary School Students in South 24 Parganas District, West Bengal: A Case Study | Jayanta Basu,<br>Dr. Kiran Mishra                        | 46       |
| 10.   | Advantages and Drawbacks of Online Education on the Students During Covid-19 Lockdown  | Mahima Chaudhary   | 52       |
| 11.   | Lean Implementation – The Need for Manufacturing Industry  | Ravikumar Purohit,<br>Ashish Hulle                       | 54       |
| 12.   | Impact of Lockdown on Small Businesses in India  | Kartik Jain,<br>Dr Manisha Raj                           | 58       |
| 13.   | शीर्षक:—प्रधानमंत्री जन-धन-योजना के अंतर्गत इन्दौर जिले में खोले गए खातों का समीक्षात्मक अध्ययन  | ललित चौहान,<br>डॉ. बासन्ती मैथिलि मारलीन                 | 68       |
| 14.   | "COVID -19 pandemic and Online Education: An Empirical study with reference to student & employees"  | Ayushi Tiwari,<br>Nikhil Tiwari,<br>Dr. Pooja Chaturvedi | 73       |
| 15.   | Ecological Crisis- An Untold Pandemic: Ecocritical Reading of Colin Thomas Johnson's MASTER OF THE GHOST DREAMING  | S.A.Aswin,<br>Dr. M. Saji                                | 85       |



# INDEX



| S.No. | Title of Chapter   | Name of Author   | Page No. |
|-------|--|--|----------|
| 16.   | Role of Green Marketing in India   | R. Venkatesh Kumar   | 88       |
| 17.   | SMARTx: The Next Generation Learning Management System   | Ashish Hulle,<br>Ravikumar Purohit                         | 92       |
| 18.   | To measure the effectiveness of web-based e-learning in India with reference to management student of Ahmedabad. | Prof. Devrshi Upadhayay,<br>Nitin Acharya,<br>Naitik Ghiya | 100      |
| 19.   | Impact of Information Technology on Social Entrepreneurship  | Dr. Santhosh Kumar A.V.                                    | 110      |
| 20.   | Synthesis and Antimicrobial Activity of Imidazo-thiazole   | Hitesh Samata,<br>Dr. Sheetal Gulati,<br>Dr. H. Patel      | 115      |





## COVID-19 AND EDUCATIONAL SCENARIO IN INDIA

**Dr. Neena Gupta**

Associate Professor, Department of English, Government Gandhi Memorial Science College,  
Canal Road, Jammu. Mail: neenagupta25@gmail.com

### ABSTRACT

Pandemics have had great influence in shaping human society and politics throughout history. From the Justinian Plague of Sixth century to the Spanish Flu of last century, pandemics have triggered the collapse of empires, weakened pre-eminent powers and institutions created social upheaval and brought down wars. Presently the COVID-19 pandemic, also known as the coronavirus pandemic, is an ongoing global pandemic of coronavirus disease. 2019 (COVID- 19), caused by severe acute respiratory syndrome. Covid pandemic has totally changed the dynamics of the world but education sector is one of the worst hit segments in India.

**Keywords:** Pandemics, triggered, upheaval, segments.

### INTRODUCTION

The COVID-19 Pandemic has placed the whole world at a standstill with nations going into lockdown to stall the virus's relentless march. Still, there is no specific data on when situations will stabilize. The COVID-19 has thrown education around the world in a loop with immense educational institutions around the world from Harvard to IITs closed. In higher education, the classes were suspended around 16.03.2020 onwards, and the students were asked to vacate the hostel. It was very tough time for students as most of them had just returned from their homes after the Holi holidays, and a few had still not come back.

The medical experts and scientists are working world-wide to develop a vaccine to control the pandemic, but useful results are likely to take longer time. Definitely, the society has to get accustomed to live with the corona virus following the guidelines issued by the Government from time to time. The activities can also be modified, and can even be postponed if possible, to save people from

getting infected from the disease. In Higher Educational Institutions (HEI) the annual or the even semester examinations are conducted in the month of May every year. This year due to COVID-19, the academic activities suffered badly. Efforts were made to conduct online classes for theory subjects. Also, exercises were given to students in lieu of practical classes, seminar, project work etc. Although there have been limitations of resources and poor internet connectivity with the students staying in remote locations, resulting in inadequate delivery of contents, yet many remained connected to academic activities to a larger extent.

Amid an unprecedented corona virus crisis across the world, in India, a discussion about online education has now acquired paramount importance in terms of reliance on imparting knowledge virtually, compared to the conventional method of face-to-face teaching. Our education structure is different and only limited people have access to digital media. We can enter into this model of education if all the students have access to internet and computers. But that is not the case.

With a view to understanding the educational problems under lockdown, I would like to present my viewpoints in the wake of consultations with a number of people from academia.

- Status of online education under lockdown.
- Status of conventional education.
- Effectiveness of online education with some suggestions.

### I. STATUS OF ONLINE EDUCATION UNDER LOCKDOWN

Universities, colleges and schools across the country have been closed since March 16, 2020 when the Union Government announced a countrywide classroom

shutdown as one of the major measures to contain the outbreak. Later, a nationwide lockdown was announced.

Most governments around the world have temporarily closed educational institutions in an attempt to contain the spread of Covid-19. As of 7th June, 2020 approximately 1.725 billion learners are currently affected due to school closure in response to the pandemic. According to UNICEF monitoring, 134 countries are currently implementing nationwide closures and 35 are implementing local closures, impacting about 98.5 percent of the world's student population. The world has never experienced such a dramatic impact on human capital investment and the consequences of COVID-19 on economic, social and political indicators.

The learning gap between rich and poor will likely grow during the pandemic, not just between high and low-income countries, but also between high and low-income regions and communities within countries. There are some predictable risks. **One very real risk is exacerbating existing inequities.** Today for students who do not have access to technology, books, food or literate adults at home, remote learning runs the risk of drastically widening the gap between haves and have-nots of those resources. A panel appointed by the UGC has recommended that the academic session in universities and higher educational institutions can be started from September, 2020 instead of July, 2020 in view of the COVID-19 situation in the country.

Many institutions swiftly and efficiently shifted online after the lockdown but many students have complained about having little or no access to the internet and have raised their issues with their colleges too. This points out that the results of the survey could easily reflect the conditions in the rest of the country and could be something that the state and centre should take into consideration as well.

The situation of every student is different, including the rate of COVID-19 infections. Also, some universities may be small and be able to provide online facilities to all

students. Others have thousands of students and fewer resources. **We cannot mandate one standard solution to all.**

### SCHOOL EDUCATION

Apart from university education, the school education has a different picture of its own. The lives of children are now heavily altered without play and peers and schools. In India, 41 per cent of the population is less than 18 years of age. Closures of school may protect the school children from corona virus but the impact on them is going to be detrimental. Children are losing out on their daily interactions with their schoolmates and teachers and it will be long before they go back to school.

Learning is certainly going to be disrupted, more so for children whose parents are not literate or who do not have access to internet-based learning. There is no certainty as to when schools will resume; a prolonged gap is going to affect children's interest and ability to go back to learning. If schools continue to be shut down for a long period, education is going to be a casualty.

ICT is emerging as an alternative, its potential as a tool to reach education to primary and secondary grade children is being explored. It may look a good option for the middle class children, but not for others.

**The lack of android phone at every household and availability of quality e-materials in regional languages are another bottleneck.**

**School closure also means loss of the midday meals.** This, for poor children is going to be distressing, furthering the existing hunger and malnutrition. It is the poor and marginalized children who are going to be most affected by the lockdown. The impact of the pandemic on children is insidious and going to be long lasting. The visuals of huge groups of migrants walking back to their villages, with children in tow, is heart-wrenching.

International Labour Organization (ILO) estimates that 40 crore workers in the informal economy are at risk of falling deeper into poverty during the corona crisis.

**Loss of livelihood is going to leave a deep impact on children,** there will be less to eat, more children will be pushed out of school and there will be many more children who will go to work. Some children have already started working with their parents on farms, and in non-farm activities; some are found assisting in small grocery shops or selling vegetables in local markets. The situation is dire, the impact of the pandemic and the lockdown on children has to be understood and acted upon.

## II. STATUS OF CONVENTIONAL EDUCATION

Under corona pandemic lockdown, if we talk about conventional education, it does mean that the plight of the majority of the Indian children along with the children of the other countries of the world needs to be seriously taken into account. The world today faces a global learning crisis, with the 2030 Sustainable Goals for Education far from reaching the goals. Though many of the world's children are in school today, 263 million children remain without access. For the children and young people that are in school, they are often not really learning. Poor quality schooling is an issue in all countries but is more pronounced in developing countries and for the most marginalized children. In India too, the quality and pace of the learning of the majority of the children in public education system is very slow. One can see ASER Reports.

If we talk of absence of 4Cs – communication, collaboration, creativity and critical thinking – in the online learning approach, all these are equally absent in the present day classroom teaching-learning process. **Learning and teaching are not two sides of the same coin.** Learning is a process that takes place in a living organism; as a result of it, the behavior of the organism changes.

This process is the object of psychological research. The role of teaching, on the other hand, is to organize the environment in such a way as to enable learning to take place. In order to organize the environment, we must know the conditions under which learning takes place.

Instruction, according to its own logic, may reject certain learning activities (such as indoctrination or conditioning) and approve others (such as learning by discovery or learning based on understanding).

Once instruction has approved certain kinds of learning, psychological research into them should dictate the activities of instruction (Lamm, 1976, p. 188, 190). If all these are missing for the children, school is rigid, uninteresting and ultimately alienating. The result is the mismatch between the learner and educator. **But it is not the children who are mismatched to the schools; rather the schools are mismatched to the children.**

This divergence between our children and our educational practice needs a drastic educational reform that will bring the classroom to accord with society. Only by revising educational practices, can we close this gap, and reunite our schools with our children and the rest of our country. The constructive theory provides a foundation for such changes, and the time to implement them is now.

## REVISIT THE POLICIES

**The upheaval caused by the novel coronavirus should inspire a basic review of past choices and policies.** Some of these policies had gained so much acceptance that one felt there was no point in questioning them.

Public health and education are two areas in which India took decisive turn in the 1990s. When several states decided to stop giving permanent appointment letters to doctors and teachers in the mid-1990s, they were guided by an ideological shift at the national level towards allowing health and education to be opened for private enterprise. This was viewed as a major policy reform, a necessary part of the bigger package of economic reforms. They were presented as a package, offering little choice for specific areas.

The new buzz has been public-private partnership. It covered everything from roads to schools. The form it took made it amply clear that the state would take a back

seat after issuing a set of rules for private operators while the state's existing infrastructure is appropriated and will gradually shrink. Soon enough, cost-effective measures became the priority in both health and education.

As we begin to imagine the post-coronavirus scenario, **a key question to contemplate is whether we should revisit the policies put in place ever since the 1990s.** Some will doubtless argue that the clock cannot be put back and that we should not waver from the path we had chosen, no matter what hardships people have to endure.

Certain policies were specific to domains such as health and education. Others were more like frameworks within which policies for specific areas emerged and evolved. One such framework had to do with villages. Special measures were designed to select the 'best' among rural children and make them competitive enough to survive in the urban world that was treated as mainstream.

### III. EFFECTIVENESS OF ONLINE EDUCATION WITH SOME SUGGESTIONS IN TERMS OF ALTERNATIVES TO IT

I'm really grateful to my friends who include teachers, teacher educators, academicians and social activists for sharing their personal experiences on the basis of which I have been able to contemplate on online education during corona lockdown. Though I was looking for some alternatives to online education during lockdown, I have received mixed responses and reactions and some suggestions in terms of alternatives to online education during lockdown.

Deliberations in the present context remind us that a child's learning occurs in many different ways : in whole group activities, in small group situations, in one-to-one exchanges with the teacher and other children, and as an individual. A fundamental aspect of a supportive classroom is that the teacher attempts to monitor learners in all of these learning situations and attempts to offer support which meets the diverse needs of each

learner. This is almost impossible in online education.

It is important to keep mind that technology is merely a learning medium. It can be a bridge, never a destination. Computers may help the students learn but it cannot make the students learn. If learning is the heart of the world of education, even in digital form, the teacher is its lifeblood. In fact the teacher, not the technology, is the key to the future. Without good teachers we have no future.

Big guns are advertising in the media and a market for education in digital mode is being pushed. India cannot afford to provide primary education in virtual mode. Even those who afford will not be benefitted except a small proportion of children from elite families where parents are highly educated. The poorer and rural children will surely suffer, as even now, with direct face to face teaching, they are learning and performing poorly, as so many NCERT surveys and ASER reports indicate. Online education is being proposed not merely as an interim solution, but as a possible substitute to conventional academic mode. If it is pursued after the lock down is over, it needs to be resisted by teachers as well as parents. Concluding his views the activist says that we already have a pedagogic and political culture of silence and suppression of dissent. And it may be aggravated in coming times, we need to keep eyes open, and observe how all this evolves.

While focusing our attention towards Union Territory of Jammu and Kashmir theoretically everything seems to be perfect but practically things are not so easy, specifically in Jammu region. With 2G mobile connectivity in Jammu, it's virtually impossible to conduct classes as it takes hours together to get the requisite material loaded online. Some teachers and students are lucky enough to have broadband, fiber or FTTH connections but majority of students simply don't have access to smart phones leave alone these high speed connections. Internet is no more a privilege, but a necessity. In this digital age certain rural areas of Jammu Division don't have mobile connectivity at all. With no access to internet a student risks missing out classes altogether. With only one laptop



or mobile in a family, especially if there are multiple siblings, it becomes more complicated if parent is also teacher and assigned to conduct online classes tend to clash and students don't show up.

Even teachers need time to adapt to digital learning as some concepts need visual aids and innovative ideas to make children understand topics. Kindergarten and lower classes are exempted in some schools. Students have been using language, expressions and gestures which must not be used before anyone, let alone a teacher. The suddenness with which teachers have been plunged into online teaching amid the lockdown means they did it with little preparation. Many schools also have no clear markers for how much they were trying to achieve through this changed process. Online classes might last for four hours but teachers are putting in almost the same amount of time preparing assignments which are not just useful but should also be pretty. Low and irregular attendance, lack of attention by students; the fear of technology (especially among older teachers), poor internet connectivity and in most cases, have made online teaching a dreaded activity for many teachers. Schools want to be perceived as giving their best to students—a burden that is unfairly borne by teachers more so than in normal school days.

### CONCLUSION

To conclude, a question automatically crops up: How far 'stop classes without stopping learning' may be successful in India? Some teachers may grow stressed dealing with the challenges of online teaching including the lack of face-to-face interaction and sometimes unreliable technology. During this short period of time, the challenges would be two-fold: online platforms should include multiple options for meeting practical teaching needs, such as synchronized video and voice for group learning and classroom interactions. However, in poorer or more rural areas, this would be limited by the technological facilities or even the uninterrupted availability and cost of electricity. We need to think again

and again how education can be effective for students' overall cognitive and non-cognitive development with e-learning. It seems impossible, for real learning occurs only when the students investigate a concept, find information, discuss it and create in their own way.

The present education system and the dynamics of a student-teacher relationship are likely to change in the near future. With the way that countries are closing their borders across the globe, Indians in foreign lands are returning to their homeland, and rural migrants returning to their villages, there might be a need to formulate the policies for the majority of the students. While fighting with the virus, we should not forget the invisible children. Children may look less vulnerable from corona but may feel the heat heavily. We cannot wait for the crisis to be over before we reach out to the children. Children should be ensured nutrition, protection and continuity of education. Discussion on policy, strategies and line of action ought to be continued. Tomorrow will be a new dawn. What we make of it is entirely in our own hands. Undoubtedly Change is desirable and inevitable. Change in fact has been forced upon us due to the onset of Covid 19. Whether we use the opportunity to our advantage or let it pass by will decide whether the future will be a better tomorrow.

### REFERENCES

1. [en.unesco.org/covid19/education response](https://en.unesco.org/covid19/education-response) browsed on 14July
2. [www.hindustantimes.com/more-lifestyle/covid-19](https://www.hindustantimes.com/more-lifestyle/covid-19) browsed on 14July
3. [www.republicworld.com/India-news/education/hrd-reviews-education-situation](https://www.republicworld.com/India-news/education/hrd-reviews-education-situation) browsed on 15July
4. <https://en.wikipedia.org/wiki/PandemicLiteratureReview> browsed on 15July
5. <https://www.financialexpress.com> browsed on 15July
6. <https://www.thehindu.com/news/national/analysis> browsed on 15July
7. <https://www.aegonlife.com/insurance-investment-knowledge/life-after-covid-19> browsed on 15July

## ACHIEVING 'KNOWLEDGE BASED SOCIETY' IN KANDI ZONES OF PUNJAB THROUGH SKILL DEVELOPMENT EDUCATION

**Manav Saini <sup>1</sup>, Dr. Atul Loomba <sup>2</sup>**

1. Director/Associate Professor, Faculty of Management KMS College of IT and Management, Dasuya

2. Associate Professor, Rabindranath Tagore University, Bhopal

### ABSTRACT

This study is focusing Hoshiarpur in Punjab. Hoshiarpur is sub hilly and this region is generally called Kandi territory or semi-sloping region. This study is directed to discover the adequacy of advertising systems for expertise training in sub-mountain zones of Punjab. Improved advertising systems can cop up with the difficulties. Customary Marketing, print ads, for example, bulletins, boards, flyers and paper print advertisements and advanced marketing techniques can help in advancement of the significance of ability improvement training in rustic zones.

### I. INTRODUCTION

Skill development education is the leading necessity of modern society. It can change human beings to human resources, so we need to frame marketing strategies for the promotion of the same. Along with higher education, Skill Development Education (SDE) is equally important for the future generation. Most of the Skill Development training organizations in rural areas need quality.

Kandi region is full of seasonal streams. It falls into two equivalent segments of hills and plain nation. For Development of Kandi Zones, Skill Development Education (SDE) can be a crucial input. Sub-Mountain (Kandi), zones of Punjab have been trying particularly hard to achieve its Skill Development and educational objectives to attain the growth and overall development. While developing marketing strategies, it would be found that youth of Kandi regions must be considered for SDE. Skill Development Institutions essentially center on the youth can go for native advertising medium, video/visuals advertisements, social media, email and marketing

automations; so that individuals and society can get the advantage.

### II. OBJECTIVES OF THE STUDY

Through this study an attempt is made to highlight the status of skill development in semi uneven sub-mountain areas as well as what challenges have been faced by the skill developmental institutions in Kandi areas. The objective youth are in the age gathering of 18 to 25 years and have a place with Agriculture families having a landholding of 3 to 5 section of land. Larger part of the guardians are uneducated however optimistic for their child training.

They are prepared to put resources into instruction for their youngsters; however they have no essential comprehension of the courses being offered by the Institutes. The study is conducted to the following objectives:

- I. To determine the status of SDE in Kandi.
- ii. To know the problems of SDE in Kandi.
- iii. To find out best possible remedies to cope out those problems through marketing.

### III. METHODOLOGY ADOPTED

This research is based on survey that gathers data from members of the selected population with the aid of open and close ended questionnaire containing statements and interview from more than 300 respondents.

The data has been gathered using both by primary data collection methods as well as secondary sources. The data generated using the questionnaire is analyzed

## Chi – Square Test

| Profile                                    | Variable        | Observed Values | Expected Value | Chi-Square | $\chi^2$ Sum | Degree of Freedom (df) | Level of Significance ( $\alpha$ ) | Table Value | $\chi^2 >$ Table value | Hypothesis     |
|--|-----------------|-----------------|----------------|------------|--------------|------------------------|------------------------------------|-------------|------------------------|----------------|
| Age  | < 35            | 6               | 25             | 14.44      | 44.24        | 3                      | 0.05                               | 7.815       | 44.24 > 7.815          | H1 : Satisfied |
|  | 35 - 45         | 43              | 25             | 12.96      |              |                        |                                    |             |                        |                |
|  | 45 - 55         | 40              | 25             | 9.00       |              |                        |                                    |             |                        |                |
|  | > 55            | 11              | 25             | 7.84       |              |                        |                                    |             |                        |                |
| Teaching Staff and Facilities in Institute | Very Good       | 55              | 25             | 36.00      | 67.76        | 3                      | 0.05                               | 7.815       | 67.76 > 7.815          | H1 : Satisfied |
|  | Sufficient      | 33              | 25             | 2.56       |              |                        |                                    |             |                        |                |
|  | Not Sufficient  | 8               | 25             | 11.56      |              |                        |                                    |             |                        |                |
|  | Very Poor       | 4               | 25             | 17.64      |              |                        |                                    |             |                        |                |
| Motivation of Parent's through Marketing   | Highly Agree    | 47              | 20             | 36.45      | 63.50        | 4                      | 0.05                               | 9.488       | 63.5 > 9.488           | H1 : Satisfied |
|  | Agree           | 28              | 20             | 3.20       |              |                        |                                    |             |                        |                |
|  | Neutral         | 15              | 20             | 1.25       |              |                        |                                    |             |                        |                |
|  | Highly Disagree | 6               | 20             | 9.80       |              |                        |                                    |             |                        |                |
|  | Disagree        | 4               | 20             | 12.80      |              |                        |                                    |             |                        |                |
| Promotional Strategies                     | Social Media    | 42              | 25             | 11.56      | 35.76        | 3                      | 0.05                               | 7.815       | 35.76 > 7.815          | H1 : Satisfied |
|  | Newspaper Advt. | 37              | 25             | 5.76       |              |                        |                                    |             |                        |                |
|  | Hoardings       | 15              | 25             | 4.00       |              |                        |                                    |             |                        |                |
|  | Pamphlets       | 6               | 25             | 14.44      |              |                        |                                    |             |                        |                |

and inference made out of the data could be used by the decision makers.

#### IV. RESULT ANALYSIS

The fresh data collected through questionnaire is classified & tabulated into useful information by organizing and compiling the bits of data contained in each questionnaire i.e., responses from respondents and the observations are converted into easily understandable and orderly statistics, which are then used to organize and analyze the data. Basic analysis of the data involves testing of hypothesis. Further chi-square test is used as inferential statistics. The observation and responses are converted in to understandable and orderly statistics and further used to

organize and analyze the data.

#### V. RECOMMENDATIONS

To create a new generation of professionals; Urgent action is needed to upgrade local regional Universities, fund educational institutes, start research centers, and design affordable skill programs in skill development institutes providing excellence in teaching for youth. Effective marketing is essential to increase parents' knowledge and awareness about the significance of SDE & future opportunities. Advertisements of Skill Development training institutes motivate parents to send youngsters for training. Recommendations to overcome existing problems in SDE in Kandi and rural areas of Punjab are:

1. The defective curriculum, in our higher education system does not provide practical knowledge.
2. For technical courses, distance education should be avoided.
3. Colleges and Universities in rural areas of Punjab don't have adequate ICT facilities. It is the duty of NSDC to provide value education.
4. Private institutions are mostly commercial and are profit oriented. So the government institutions need to be opened.
5. The best marketing strategies can show signs of improvements.
6. Conductive research environment should be created.
7. Employability has to be ensured.
8. Highly qualified faculty and improved technology for delivery of education should be ensured.
9. International equivalency of certification should be ensured.
10. NSDC, PMKVY & PSDM may shoulder greater responsibilities to ensure quality education.
11. Political interference should be aborted.
12. Scholarship schemes for economically poor students of any category should be introduced.

## VI. CONCLUSION

For improvement of Kandi Zone of Punjab, SDE can play a crucial importance in relation to the development. Most of youth is educated but lack of skills and technical knowledge is found. Youth of Kandi zone is facing serious unemployment problem. This can be overcome by making perfect marketing strategies regarding quality SDE for the youth of these deprived areas. There has been growth in the number of educational institutes, but the gap in rural-urban disparities, regional disparities,

inadequate infrastructure etc. seem to be widening. Thus a number of problems are inflicting our system of education in this area. Resolving these issues is a Herculean but not an impossible task.

Even a large portion of youth are being instructed, yet it is investigated that, an absence of natural ability to do something and specialized information in the present situation is missing. This can be overwhelmed by:

- Providing quality Skill Development training to the young people of these denied zones by creating establishments and these organizations ought to have great promoting systems.
- National Skill Development Corporation (NSDC) needs to take more effective activities in semi-sloping territories of Punjab.
- Marketing techniques increase proficiency rate. The advertising for instruction can show signs of improvement. Decadal changes have been found in proficiency rate because of showcasing stunts. Presently we have increasingly computerized advertising approach to evacuate absence of education.
- On the planet, India has one of the most youthful populace profiles with more than three-fourth of its populace underneath the age of 35 years. It is an expect to prepare individuals living in sub-mountain territories of Punjab, various aptitudes by 2022 in India and is likewise ready to make new chances, space and extent of the abilities of Indian Youth for selfimprovement.



# YOGA-EDUCATION HELPFUL IN SUSTAINABLE DEVELOPMENT OF SOCIETY AT THE TIME OF COVID-19 AND AFTER

**Dr. Alok Tiwari**

Institute of Yogic Science, Dr. Rammanohar Lohia Avadh University, Ayodhya

Email Id: Alok12ram@gmail.com

## ABSTRACT

The Yoga-Education can contribute significantly to human society in achieving a healthy and powerful life and promoting the upliftment of all at a time when the world is struggling with severe catastrophe and the development goals of the Corona period and beyond. Is trying to achieve Yoga underscores a unity that is very close to the UN's values of stability and peace.

Yoga means that you can cross the boundaries of material nature and go beyond the form that we are. Once we experience it, then sharing and living together becomes a common experience everywhere. Then we remove the vision of discrimination and begin to understand our developmental insights in the development of all. We can easily experience those life values through the education of Yoga which are the core of personal and social development.

Sustainable development meets the needs of the present without compromising the ability of future generations to meet their own needs. Social-development, environmental protection and economic development are considered to be the interdependent and mutually reinforcing pillars of sustainable development. Sustainability, in fact, is found condensed in many traditional societies and is demonstrated through their belief systems and practices. Patanjali's Ashtanga Yoga is a system that is believed to lead to a person's spiritual progress. I argue that it consists of eight aspects (organs), it has not only personal and social, but also environmental and economic dimensions; And if seen today, it will lead to a sustainable society. If we look at the organs involved in its Yama and Niyam from a holistic

point of view, then we have the entire elements which are essential for the sustainable development of society today.

**Key Words:** Ashtanga Yoga, Sustainability, Yam, Niyam, Karmayog, Unity.

## INTRODUCTION

The world is currently standing in a situation where it was moving ahead with the rapid pace of development so far and suddenly a global disaster laid new dimensions of challenges before it. Which forced the world to think rightly about development. Corona came as a terrible disaster, but it made the world more aware of changing the ways of development during the time of Corona and after this period. Development is a continuous process which humans would have done since the early period of its emergence. Has come and as a result today is at the height of progress.

While this development process has provided many comforts to human beings, the environment has been continuously exploited and caused great harm to it. Urbanization, industrialization, population growth, the use of chemicals, etc. have not only polluted the water, land and air, but have also ended the existence of many organisms and flora and put many in the category of threatened.

Along with progress or development, today global environmental problems such as climate change, depletion of ozone layer, green house effect, biodiversity crisis, desertification, deforestation and many ecological changes at the local level are compelling to think that There is a need to give a new direction to development

which can only take concrete form from the concept of 'sustainable development'. Today all the countries of the world agree with the concept of sustainable development and are taking active steps in this direction. Therefore, its proper interpretation is required.

Before the present concept of sustainable development, the idea of protecting 'nature' and 'environment' is found in Indian ancient civilizations. Many elements of the environment like earth, water, sky, vegetation and many animals are placed in the category of God and worship them and save them from harm, it has been the ancient tradition of India.

In the ancient times, under Yoga, man was understood to have such basic things, so that he would awaken the same sentiment towards environment, society, animals and animals. Along with this, he also used to cooperate in their protection and promotion. Due to which there was never a threat of biodiversity and human beings were comfortable with basic needs for life. Elements like Santosh, Tapa, God-providence, Ahimsa, Astaya included in the Yama and Niyam of Yoga connect human beings with the development of self and also with the development of society and environment. Which is the greatest need in society today, which will provide a new vision and direction to the world. Based on which new dimensions of development will be presented.

#### **SUSTAINABLE DEVELOPMENT: MEANING, IMPORTANCE AND ATTRIBUTION**

According to the report of the World Commission on Environment and Development, sustainable or sustainable development is the development under which the needs of the current generation are met without compromising the ability to meet the needs of the future generations, hence sustainable development without environmental protection. Can not be created, that is, how to use natural resources in the present time keeping in mind the needs of future generations so that a desired balance can be established between economic development and environmental security. Sustainable development is the need of the present, so that the

productivity of the ecosystem can be maintained. The reality is that the basis of human life is ecosystem and environment.

#### **THE MAIN FEATURES OF SUSTAINABLE DEVELOPMENT**

##### **AREAS FOLLOWS**

The ability to develop the ecosystem through which it can produce and remain in a healthy and sustainable state for the future. Development that will make human life happy. Such use of natural resources so that the resources are available for future generations and make everyone's life happy.

In this way, the establishment of the protected environment for the coming generations and the development of the present, these two main points are under continuous development, which have been extended to ordinary people in India since ancient times through yoga and spiritual ideas.

#### **YOGA EDUCATION HELPFUL IN SUSTAINABLE DEVELOPMENT**

In order to keep the development of the society constant, what are the elements in Yoga-education, which are as useful today as before when they were given. To understand this, we have to first understand what yoga is, then from that we will be able to remove the elements of sustainable development.

##### **YOGA**

Yoga is the art and science of living life and it is related to the development of mind and body. In this way, yoga incorporates scientific steps to elevate the overall human being. This education of yoga starts with discipline. These yogic disciplines generally begin from the outer dimension of personality. But shanai-shanai: it is reflected in all classes of personality. The word yoga originated from the Sanskrit word 'yuj', which means to add.

According to the traditional founder of yoga, Maharishi Patanjali, yoga means attaining spiritual excellence

through control of body, senses and mind, which is also called holistic excellence.

In the everlasting stream of Indian eternal knowledge and philosophy, the stream of yoga knowledge is such a supernatural stream, by which a human being can achieve his all-round development by achieving the desired goal of his life. In fact, yoga is the process through which a person seeks, rather than seeks, the development of physical, mental, social and spiritual form.

Many disciplines of yoga have been separated into different parts, such as Ashtanga Yoga, Karmayoga, Bhakti Yoga, Jnana Yoga, Hatha Yoga, Laya Yoga, Mantri Yoga etc. In which each department is in itself the path to the overall development of man.

#### **ELEMENTS OF SUSTAINABLE DEVELOPMENT IN YOGA**

In the knowledge of yoga, the formulas of human development are hidden in every form, among them, what are the sources of continuous development in the traditions of yoga, we try to understand them-

#### **ELEMENTS OF SUSTAINABLE DEVELOPMENT IN ASHTANGA YOGA**

It is clear in the name of Ashtanga Yoga that it has eight limbs. In which comes Yama, Niyam, Asana, Pranayama, Pratyahara, Dharna, Meditation, Samadhi. In today's time, asana, pranayama and meditation have become more famous. But Ashtanga Yoga is a complete scientific method, which respectively leads man to holistic development and ultimately establishes himself in a fully developed form.

In Ashtanga Yoga, if we analyze Yama and Niyam organs carefully and analyze them in totality, then we will see that they are the main points of social morality, which show man the path of sustainable development. Which is as follows-

##### **AHIMSA**

The absence of any kind of violence is called non-

violence. It involves not only physically but also mentally and emotionally, indirectly and indirectly all the violence.

One major problem in sustainable development is global warming. A large part of which relies on the violence caused by carnivores. The production of methane in it is the main reason for increasing global warming. Along with this, misuse of water, destruction of forests is also becoming a reason, due to which the threat of bio-diversity is destroyed.

Patanjali Rishi told the secret of happiness and health of human life in the first part of the first part of Ashtanga Yoga. 'Plain life' is as much as human and society will be happy and developed. Ahimsa imparts knowledge of it. If we have compassion for all the creatures of nature and preserve nature, then the society and the nation will have sustainable development and the future generations will also get a healthy environment.

##### **TRUTH**

Truth means not telling lies. If the truth is adopted in today's time, then society can automatically eliminate all obstacles to sustainable development. If all the countries discharge their responsibilities with integrity, then the problem which is facing today can be easily eliminated. But not adopting the truth due to false arrogance or due to selfishness is increasing the world and human society is in danger today.

Ashtanga yoga shows the way to live human life along with following the truth and it is said that through this, real happiness can be achieved. Which will develop you and will not harm anyone else.

##### **ASTHEYA AND APARIGRAHA**

Astheya means not stealing and not collecting the meaning of Aparigraha.

Today the tendency of man has become a collection due to craving. The situation is such that whosoever gets it, he feels less and he keeps on collecting in the

desire of more than others. He gets a feeling of theft for excessive collection, because he is unable to decide right and wrong in getting more. He needs his own share, but with him, he should get it for him in any way. This has been said that whatever is more than his share is not his own. We have no authority over what is not. Even after this, if we keep it in our possession and collect it then it will be theft.

Today, one nation should be doing the same with another. Saving their resources, consuming others and forcing poor nations to become poorer. This inequality is increasing. In Ashtanga Yoga, Maharishi Patanjali shows the way to overcome it through these two routes, astheya and aparigraha. If the world adopts it, the curse of inequality can end.

#### **BRAHMACHARYA**

Brahmacharya can be understood as physical and mental restraint. Brahmacharya holds great importance for today's world. As the pressure of population on earth is increasing today, it is inviting destruction. Increasing population is the cause of more than half of the world's problems. If we find a solution to this problem by the celibacy of yoga, then the problem of poverty, inequality, destruction of nature, exploitation of natural resources can be mitigated.

#### **PURITY**

Purity means cleanliness. Cleanliness itself indicates the scale of development. Cleanliness in yoga has been considered not only on the physical but also mental and emotional level, so that positivity develops in the micro environment. The hatred, malice, anger etc. hidden in the mind should be eliminated and such an environment should be created which helps man to become a human being. Because the environment is what makes humans. This is how man will create a new world, which will come after this time.

#### **CONTENTMENT AND AUSTERITY**

Satisfaction and austerity provide the education to be happy in what one receives and to do good for others by

suffering himself. But today the opposite is the atmosphere. Santosh is not even more than meeting his needs. The matter of suffering for the good of others must be forgotten.

Yoga through these two mediums motivates each other to increase cooperation and cooperation. This cooperation and cooperation will take the world forward.

#### **ELEMENTS OF SUSTAINABLE DEVELOPMENT IN KARMAYOGA**

In the Srimad Bhagavad Gita, Shri Krishna has said that if a man has to achieve his life goal and reach the pinnacle of superiority, then he has to do his deeds with sincerity, that is, to get the fruits behind karma. It has to be eliminated.

Which will bring excellence in each of his actions. Because in such a state he will focus solely on his karma. Just as a scientist gets all his attention when he is in his research, he gets new inventions. In the same way, when the entire focus of a man is on his karma, then his same karma will be converted into yoga and every karma will become efficient.

To tell this, he has provided the inspiration to perform every karma like a yajna. Yajna means the cycle of exchange. The cycle of exchange between humans and nature is the basic basis of sustainable development. If this cycle is broken, then development turns into destruction.

It is said in Karmayoga through Yajna that life is created with the sacrifice. There is a cycle of exchange in it. The creation of nature, the creation of subjects, the creation of life through yajna, and the yajna of exchange, exchange is associated with it.

सहयज्ञाः प्रजा सृष्ट्वा पुरोवाच प्रजापतिः ॥ (Gita 3/10)

There is a clear indication by this yajna that life can develop only on the basis of exchange. If we take it from trees and plants, then we will have to give it to them and only they will receive it from us. When we are willing to



take something from nature, we have to learn to give it too. When nature is happy, we will also be happy. Its effect on our life development will be clear.

It has been clearly explained in Karmayoga that most of man's power should be spent in public welfare, which will also benefit him.

The education of Karmayoga guides the world in environmental crisis, population crisis and economic crisis etc. Sustainable development which is hidden in Karmayoga teachings is hardly in the current race for development.

### CONCLUSION

Sustainable development is a concept that can be derived as the basis of equality, protection and growth. This is also the real goal of development. We were overcome by selfishness and arrogance. The consequences of which we are currently seeing in the form of many disasters and disasters. Because we defied nature so much that it became unbalanced. We just learned to take from nature. We did not pay attention to its nutrition. The result of this is that there is an imbalance in nature and we all have to bear the consequences. An epidemic like corona, zika virus has emerged as a catastrophe on world humanity today. \

This is the result of our short-sightedness. In this situation, we can explain to man only through the teachings of yoga, how can he come out of the short-sightedness that he has put himself in trouble.

Yoga education is not only the basis of personal health, it is a great science of the overall development of human beings. Which can easily take man, the world on the path of sustainable development.

The world which is surrounded in the darkness of utter despair today, the teachings of Yoga have come out as a

ray of hope that the world can attain new dimensions of development. By the skill of Karmayoga and the scientific method of Ashtanga Yoga, human society will again recover from all these troubles and achieve sustainable development and will create a magnificent world.

### REFERENCES

1. Swami Satyanand Saraswati - Yoga Education for Children Part-1, Yoga Publication Trust, Munger, Bihar, Bharat
2. Swami Satyanand Saraswati - Yoga Education for Children Part-2, Yoga Publication Trust, Munger, Bihar, Bharat
3. Das Gupta, S.N.- Yoga as Philosophy & Religion, Motilal Banarasidas Publishers, Pvt,Ltd, Delhi-7,1995
4. Library India- sustainable development: meaning, history, and basic aspect
5. Essayinhindi.com/economics/ sustainable development: meaning, concept, importance
6. [www.project-syndicate.org/sustainable development:means,concept](http://www.project-syndicate.org/sustainable-development:means,concept)
7. Acharya Pt. Shriram Sharma - Nar se Narayan Banane ka Pragati Path, Yug Nirman Yojana-Publication, Gayatri Tapobhoomi, Mathura (U.P.)
8. Acharya Pt. Shriram Sharma - Bhavya Smaj ka Abhinav Nirman, Yug Nirman Yojana-Publication, Gayatri Tapobhoomi, Mathura (U.P.)
9. Acharya Pt. Shriram Sharma - Sankhya evm Yoga Darshan, Yug Nirman Yojana-Publication, Gayatri Tapobhoomi, Mathura (U.P.)
10. Acharya Pt. Shriram Sharma - Sanskriti-Sanjivani Shrimadbhagavat evm Geeta, Yug Nirman Yojana-Publication, Gayatri Tapobhoomi, Mathura (U.P.)
11. Jaydayal Goyandaka, Shrimadbhagavat Geeta Tatva Vivechani, Geeta Press, Gorakhpur (U.P)
12. Kalyan Yogank, Geeta Press, Gorakhpur (U.P)
13. Dr. Pranav Pandya, Geetamritam, Shri Vedmata Gaytri Trust, Gaytri Nagar, Shriram Puram, Shantikunj, Haridwar (U.K)

## AN OVERVIEW OF COVID-19 AND ITS IMPACT ON IT INDUSTRY

**Dr. R. Malathi Ravindran**

Associate Professor of Computer Applications, Nallamuthu Gounder Mahalingam College,  
Pollachi, Tamilnadu – 642 002, Malathiravindranr@gmail.com

### I INTRODUCTION

Corono Virus or COVID-19 is a family of viruses that cause a range of innocence in human including the common cough, cold and more severe forms like SARS and MERS which are life threatening. With the increase of COVID-19 cases and death rate worldwide, the WHO declare the virus outbreak a pandemic in the second week of March 2020. The Corono Virus outbreak and the subsequent county wide lockdown deeply impact the Indian Economy. Majority of the companies are expecting a significant declaim in revenue and job loses. The most severely impacted sectors are aviation, automotive and sea food etc. At the same time, many pharma companies are benefited due to huge demand for paracetomal and alike medicine. These companies become top priority due to the pandemic. This pandemic may also make people to realize the importance of life and medical insurance. A lot of apps have been built in the past few months to help the people.

### II IMPACT ON IT INDUSTRY

IT Industry is facing the significant weaknesses due to the fall in economy [2]. Most of the companies are urged to ask their employees to work from home (remotely) on account of the health concerns. Many companies are facing massive loss. For example due to the lack of market availability of iPhones, Apple Inc.'s share has faced 10% fall in its face value. The parts of the iPhones are imported from China. A lot of conferences which are planned to organize to build a partnership among the top companies are cancelled due to the spread of deadly virus. Few of them were arranged teleconferences but those meetings don't get the same reach. COVID-19 is impacting almost all industries & sectors worldwide. Most impacted sectors are manufacturing and travel &

transportation. Both sectors are set to be severely impacted by corona virus pandemic. During these crises, people came to realize the importance of the internet and technology and its major role in communication between the doctors and the public.

Sumeet Doshi, Sr. Director and Country Manager, Kronos India says "Work from home solutions have been a client demand for a long time. But now they have to become top priority. And for many of those businesses for whom WFH is not an option such as hospitality and retail, bringing in 10-30% employees and starting work in a staggered manner will have to be flawless. Social distancing norms, team functionality and operational requirements – everything will have to be catered to" [4].

### III POST-COVID-19 – THE WORLD WILL CHANGE

The cost of full damage due to COVID-19, both economic and non-economic, may not be predicted. It is only possible to identify the important lessons learnt from COVID-19 [3]. They are

- Public health security will be given more important like national security in the post-corona virus world.
- The economic impact of COVID-19 is expected to be big and ruinous. A social safety net like right to food, to shelter, to education can also be considered necessary for the poor.
- Our Country India has taken a quick decision to help the countries US, Brazil, Europe and Israel. The sound remembers the mantra 'The whole world is one family'.
- India fulfils the role of "net public health security provider" for the world by producing the 70% of production of global vaccines and the drugs like pharmaceutical ingredients and HCQ.

- Sustainable Development Goals (SDG) may have to be re-standardized. One of the goal is “ensuring healthy lives and promote well-being for all at all ages”. The impact of COVID-19 cannot be assumed. So it is very tough to predict the steps to be taken to fulfill the goal. Other SDG goals are “No Poverty” and “Zero Hunger”.

#### **IV THREATS AND BLOOMING OPPORTUNITIES IN IT INDUSTRY**

In the other side of the corontine, a lot of opportunities are opened in IT industry. 5th generation (5G) Technology is the best example for that. This will help to increase the remote interaction and also it leads to the further development of e-commerce. Consumers directly buy goods or services from the distributors with the help of internet via shopping search engine. Some of the developing online industries are Electronic Business, Digital distribution, Online action business model, Online shopping mals, Online pharmacy, Retail therapy, Tourist trop and Virtual Shopping mals.

#### **V TEN BOOMING INDUSTRIES DUE TO COVID 19**

This will give new perspectives and insights how people need to modify business models and how to start a business once COVID 19 is over or during the crisis.

##### **1. E-LEARNING**

New skills, new knowledge have to be upgraded in order to find a job due to mass lay-offs. CEO's and business owners are thinking of new insights and ideas for learning opportunities from home.

##### **2. MEDICAL PRODUCT**

This refers anything related to curing or preventing corona virus. Eg. Hand sanitizers, Masks. Even though these are in huge demand and shortage in the world.

##### **3. DELIVERY SERVICES**

People are ordering delivery. They buy more things on-line and the delivery services are huge. Companies related to this sector will be booming as well.

##### **4. IN-HOME ENTERTAINMENT INDUSTRY**

Some are Netflix, YouTube, Amazon Prime. Due to this, lot of content creator's revenue is down as advertisers using this platform which brings the industry a profitable business.

##### **5. ONLINE GAMING INDUSTRY**

People wants some kind of entertainment to escape from reality. Online casino's and multiplayer gamines are getting bigger and bigger user base.

##### **6. ONLINE DATING INDUSTRY**

People are really lonely and isolated than ever before. They carve for human connection. Not even the dating websites but particularly that serves the dating websites industry will be booming as well.

##### **7. SOFTWARE INDUSTRY**

Especially the software helps people to connect and work comfortably like skypee and zoom. That helps people to connect and communicate better. Some software helps people to start online business. That will be booming as well.

##### **8. SUPPLEMENT INDUSTRY**

People are getting more health conscious and more fearful. They want strong immune system. They want to take care of the body with more vitamin and supplement. People are not buying supplement for themselves but also for their family members too.

##### **9. SUPER MARKET**

Many people are stocking and over buying food and groceries. The super markets are getting more sales and running out of stock. They're buying more than what they require out of fear. 52% of consumers that won't go back to grocery shopping in store. Since March, online shopping for groceries has grown by 400%. In the coming months, 58% of online shoppers are expected to order more online. People are also turned to continue online shopping to reduce their exposure to others amid the outbreak.

### 10. CLEANING INDUSTRY

In Offices, hospitals and homes, the people want to have a cleaner and sanitize the places. They always hire a high quality group of professionals to clean their places.

### VI WORLD HEALTH ORGANIZATION (WHO) –

### GLOBAL STATISTICAL REPORT

This report gives a small flavor of current COVID-19 epidemiological situation, present official case and death counts at World Wide.

Globally, as of 10:30am CEST, 28 June 2020, there have been 9,825,539 confirmed cases of COVID-19,

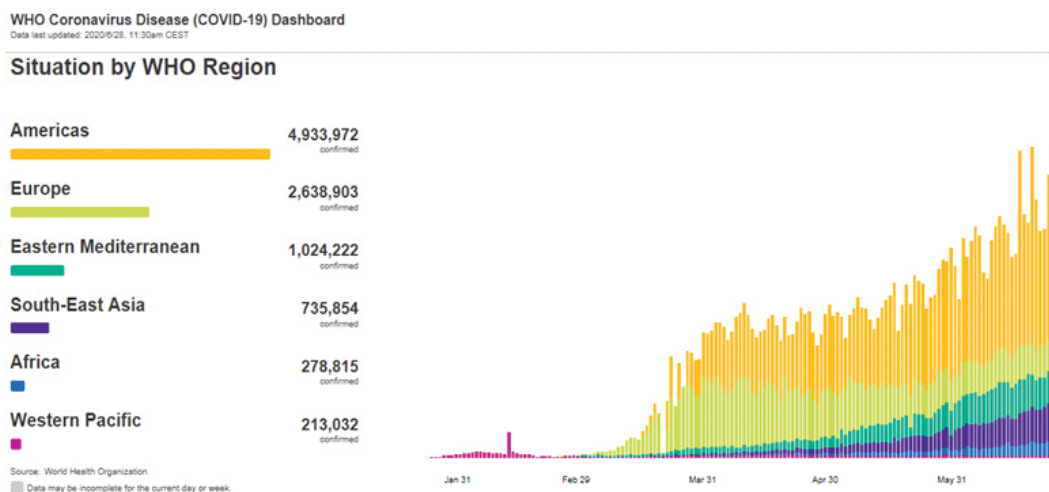


Figure 1 - Graphical Representation of Global Statistical Report

### WORLD HEALTH ORGANIZATION (WHO) – NATIONAL(INDIA) STATISTICAL REPORT

As of 10:30am CEST, 28 June 2020, confirmed statistics of COVID-19 in INDIA, reported by WHO. Month wise consolidated report is generated from the WHO surveillance data collection.

| Month_reported    | March'20 | April'20 | May '20 | June '20 |
|-------------------|----------|----------|---------|----------|
| New_cases         | 1161     | 31799    | 149093  | 346716   |
| Cumulative_cases  | 8440     | 413862   | 2939503 | 9443216  |
| New_deaths        | 31       | 1042     | 4090    | 10931    |
| Cumulative_deaths | 181      | 13061    | 89793   | 286322   |

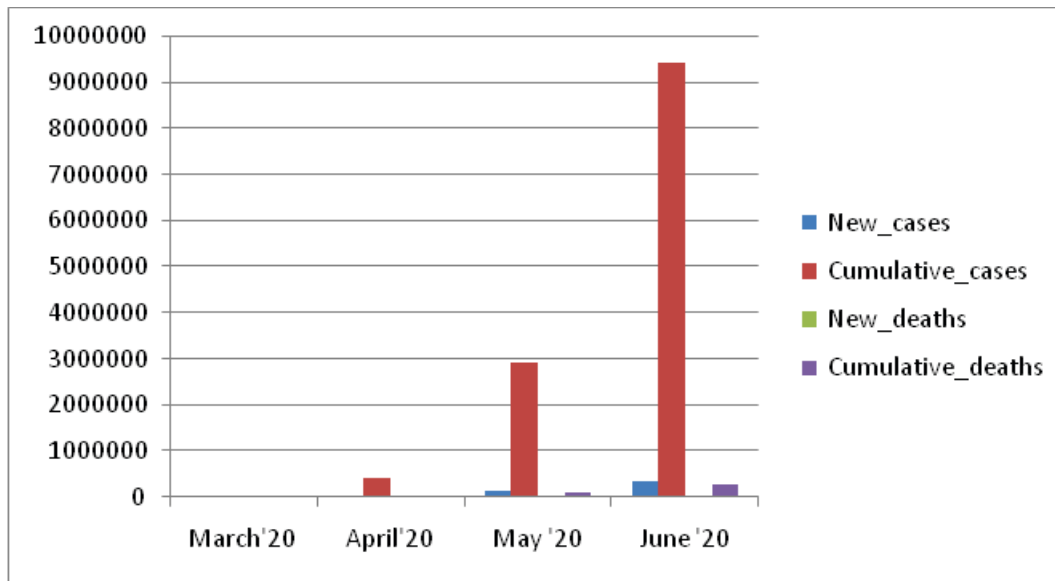


Figure 2 - Graphical representation of National(INDIA) Statistical Report

## VII CONCLUSION

The spread of novel coronavirus has changed the rhythm of the globe. People are intensely concerned about the denouncement of the World Health Organization (WHO). Everyone wants to turn the page on COVID-19 as soon as possible. But the chapter of COVID-19 is unpredictable. We the people start with the indivisibility of all aspects of security and we should stand ready to help the governments, whatever their policies may be. COVID-19 affects the collective economic architecture. Stagnation in business activity and

distraction in universal production chains have had a enormous impact on the world economy. To overcome the consequences caused by COVID-19, countries are urged to stay more united than even and to gather all strengths and resources.

## REFERENCES

1. <https://www.who.int>
2. [www.marketforecast.com](http://www.marketforecast.com)
3. [www.hindustantimes.com](http://www.hindustantimes.com)
4. [www.economictimes.indiatimes.com](http://www.economictimes.indiatimes.com)



## INSIGHTS ON VIRTUAL REALITY

Ms. Pushpa Tiwari<sup>1</sup>, Dr. S. Veenadhari<sup>2</sup>

1 & 2 Rabindranath Tagore University, Madhya Pradesh, Bhopal

### ABSTRACT

Virtual Reality (VR) is a technology which allows user to interact with computer-generated 3D environment. The impact is so immersive that the user feels like being transported to new world and starts living and feeling it. Scientists and programmers have been investigating the possibilities of VR since 1960s, it's only in the last few years, that the technology started, to gain mainstream grip, with VR applications ranging from games to treating various phobias. This paper is an effort to give some insight into technology required in working of virtual reality.

### I INTRODUCTION

VR is a computer interfaces which tries to mimic real world beyond the flat monitor to give an immersive three dimensional visual experiences. Fred Brooks in 1999 defined virtual reality as an experience in which the user is effectively immersed in a responsive virtual world. The fundamental concepts about virtual reality which we still use today were developed in the 1960s by Ivan Sutherland who wrote a machine code titled The Sword of Damocles. Jaron Lanier invented the term virtual reality in late 1980s. Morton Heilig, Douglas Engelbart, Myron Krueger, Ivan Sutherland, Thomas Furness, Frederick Brooks, Luckey Palmer and Jaron Lanier are some of the scientist, researchers and entrepreneurs who have made considerable contributions in the VR world. The first VR devices ever developed was the Sensorama patented in 1962 by Morton Heilig.[1]

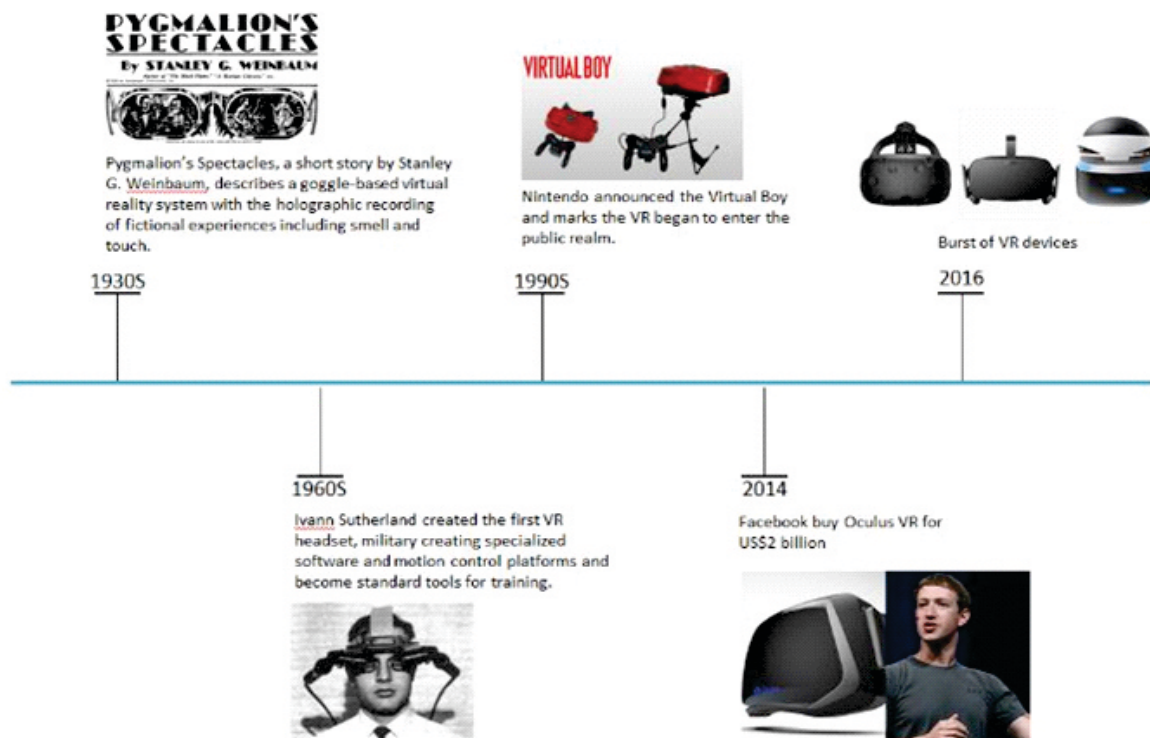


Figure 1 Changing faces of Virtual Reality

Today the Virtual reality (VR) technology is applied to advance fields of medicine, engineering, education, design, training, and entertainment. For example, the virtual university allows students to interact with course materials, instructors, and classmates via computer thus simulating a classroom experience. Likewise virtual banking allows individuals to carry out transactions on-line without the need to be physically present in the banking facility. VR “rides” at amusement theme parks employ dazzling visuals and other forms of sensory stimulation, but with little or no interactivity.

## II IMMERSIVE EFFECT IN VIRTUAL REALITY

According to John Walker, former CEO of AutoDesk, VR is ultimate in human-computer interaction[2] Virtual Reality has plenty of applications and is expanding as technology develops further. It generates mental and physical immersive effect in a virtual space that stimulates sensory organs. It is capable of generating an interactive environment too. The immersive effect of VR gives feeling of enjoyment or engagement or excitement either through place illusion, plausibility illusion or body ownership illusion Place illusion gives feeling of being in a virtual place, even though you know you are



Figure 2 Head Mounted Display used as VR Display

not there. Plausibility Illusion is an illusion which enables the user to participate in the events of virtual world. The body ownership illusion makes the user feel that virtual body say of fish, snake or anything is part of his or her body. This immersive quality of virtual reality makes it different from other types of media, for instance, TV, cinema, 3D TV or 3D cinema.

## III FRAMEWORK OF VIRTUAL REALITY

Virtual Reality system is made up of VR display, VR interaction And VR content. Any VR experience starts with a headset, or head-mounted display (HMD). Each of HMD, have two displays, one in front of each eye.

The image received from, each of the eyes, are fused by the brain to come up with a single three-dimensional stereo image. VR display gives dynamic control of the user's viewpoint. This means that the experience is more real than in a 3D cinema. In a 3D cinema, many viewers look at one big display. But in virtual reality, the display is updated according to the exact viewpoint of the specific user. This is achieved through a built-in head-tracking device in the head-mounted display. In VR technology full visual perception of the user is surrounded by the device. As the field of view is covered completely by the headsets, even though the screen size of the headsets is small but there is no escape. The user's vision is trapped in the headset. So when he looks around in these headsets, the user still carries the images from the virtual world rather than the real world. Therefore the experience with virtual reality is so overwhelming and persistent. It doesn't diminish over time. Thus these three things 3D Stereovision, user dynamic control of viewpoint, and a surrounding experience make VR more immersive than other types of media.

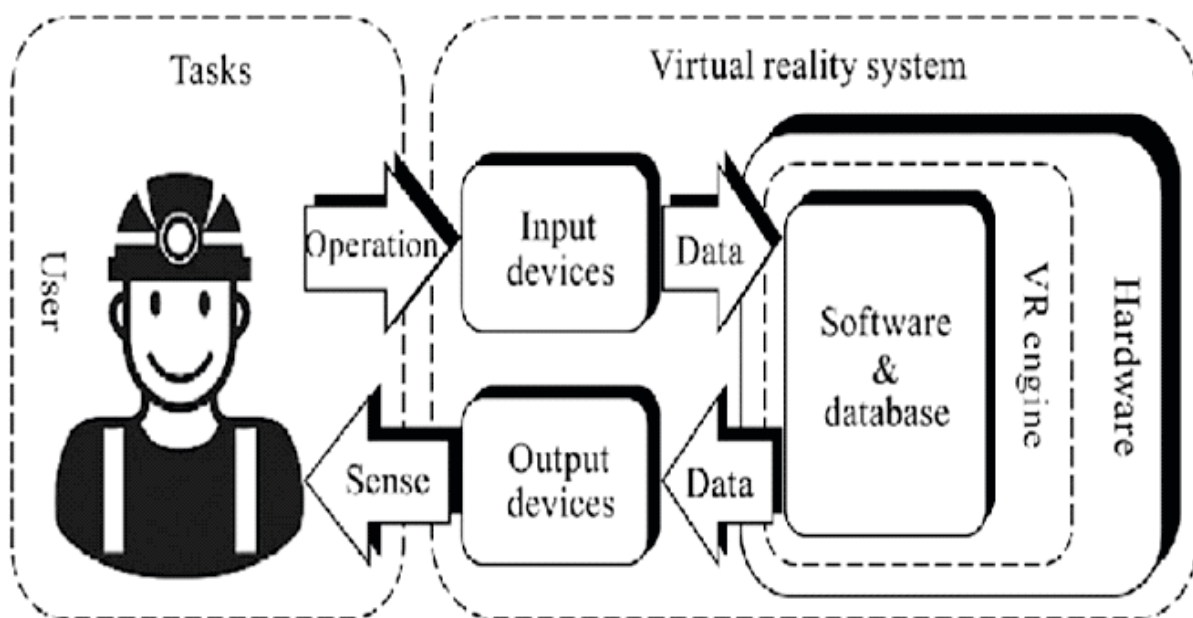


Figure 3 Architecture of Virtual Reality System

In virtual reality technology VR display provides surrounding 3D stereo vision and allows the user dynamic control of their view point, the precision and rotation tracking. VR interaction is supported by a pair of VR controllers. VR Content refers to the images that are on display with which the user can interact. It is the content which the users views inside and perceives a fantasy world. The content can be real-time 3D graphics, animation or 360 degree video or images. 3D models can be programmed to make the content interactive in real time. Model based VR uses computer generated 3D graphics. The VR participant, gains the control of virtual camera in real time.

This enables him to look from any point and in any direction. The user can even, chose to come closer to an object to observe it. 360-degree videos are also used, in creating VR content. These videos just provide place illusion. Interaction is not possible with content of 360-degree videos.[9] While creating the VR content factors like field of view, frame rate and latency should be considered and taken care.

Field of View (FOV) refers to how wide the picture is and is measured based on the degree of display. It also provides a realistic perception of the environment landscape. Frame rate refers to the frequency (rate) at which the display screen

shows consecutive images, which are also called frames". In VR, minimum frame rate required is, approximately 60 frames per second to avoid content stuttering or other side effects to users and to have a lifelike experience. Frame rates for VR headsets will increase inevitably in future providing more realistic experience. The immersive applications also depend on naturalness of the simulation. Latency refers to the amount of time it takes for an image displayed in a user's headset to catch up to their changing head position. Latency can also be thought of as a delay, and is measured in milliseconds (ms). In order for an experience to feel real, latency usually needs to be in the range of 20 milliseconds (ms) or less. Low latency is needed to make the human brain accept the virtual environment as real. Virtual Reality is a computer technology providing the ultimate out-of-body experience[5]

#### IV VR DEVICES

VR devices are the hardware products used for VR technology to happen.

The hardware produces stimuli that override the senses of the user based on human motions. The VR hardware accomplishes this by using sensors for tracking motions of user such as button presses, controller movements, eye, other body part movements and surrounding space. The sensors in VR hardware convert the energy into a signal which is received as stimuli by the user through various sense organs. Basic components needed for virtual technology to work are personal computer/console/smart phone. Computers are used to process input so as to get the desired output. For content of virtual reality graphics processing unit (GPU) are required. GPU is a specialized electronic circuit designed to,



Figure 4 VR Input Devices

rapidly manipulate and alter memory to accelerate the creation of images in a frame buffer intended for output to a display device. GPUs are used in embedded systems, mobile phones, personal computers, workstations and game consoles. The hardware that generates immersive impact in virtual reality are head mounted display are one of the most important hardware needed in virtual technology. Input devices provide users the sense of immersion and determines the way a user communicates with the computer.

It helps users to navigate and interact within a VR environment to make it intuitive and natural as possible. Data glove an input device used for human-computer interaction is also needed. For haptic feedback body-suit are used. They bring a sense of touch to virtual reality. The tracking device are intrinsic components in any VR systems. These devices

communicate with the systems processing unit telling it the orientation of user's of view. Wand and 3D mouse are also used as input devices. Output devices stimulate a sense organs of the user. They present the VR content or environment to the users to generate an immersive feeling. Audio is an equally important component to stimulate a user's senses and achieve immersion. The audio system provide three-dimensional sound effect. Most virtual reality headsets provide users with the option to use their own headphones in conjunction with a headset.

## V CONCLUSION

The study is an effort to acquaint with the technology needed in virtual reality. It is an architectural walkthrough. Basic framework of virtual reality technology is discussed. Virtual Reality (VR) is a new technology that alters the way individuals interact with computers. It has been defined as a set of computer technologies that, when combined, provide an inter-face to a computer-generated world. VR provides such a convincing interface that users believe they are actually present in a three-dimensional world, and navigate and interact with it in real time, where their actions and reactions are experienced in the present moment. The technology can be made more realistic with addition of perception based rendering and interaction. Finding new shortcuts in image rendering is a major concern for most graphics specialists. Wide area tracking and modeling will enable 3D interaction in larger spaces. Photorealistic rendering and relighting will blur the boundaries between real and virtual objects. 3D reconstruction, simulation and interaction with virtual avatars need to be improved to generate fulfilling shared immersive social experiences and successful virtual embodiments.

## VI REFERENCES

1. Ebersole S: A Brief history of virtual reality and its social applications In. Colorado: University of Southern Colorado; 1997.
2. Scateni EGaR: Virtual reality: Past, present, and Future. In: Virtual Environments in Clinical Psychology and Neuroscience: Methods and Techniques in Advanced Patient-Therapist Interaction. Edited by G. Riva BKW, and E. Molinari. Amsterdam, The Netherlands: IOS; 1998: 3-20.
3. Herndon KP, Zeleznik, R.C., Robbins, D.C., Conner, D.B., Snibbe, S.S. and van Dam, Interactive shadows. Proceedings of UIST '92, ACM SIGGRAPH 1992: 1-6.
4. Software and Virtual Reality [<http://edel518spring2011.wikispaces.com/Software+%26+Virtual+Reality>]
5. Naggie S: Management of hepatitis C virus infection: the basics. Topics in antiviral medicine 2012, 20(5):154-161.
6. Virtual Reality Past, Present, and Future: Part 1
7. Leston J, Ring, K., and Kyril, E: Virtual Reality: Business Applications, Markets and Opportunities. Ovum 1996.
8. Shiny Mathew, Importance of Virtual Reality in Current World, International Journal of Computer Science and Mobile Computing, Vol.3 Issue.3, March- 2014, pg. 894-899
9. Virtual Reality [<http://web.tecnico.ulisboa.pt/ist188480/cmul/devices.html>]
10. Components of VR systems, [<https://www.researchgate.net/publication/317244129>]



## ROLE OF DIGITAL INDIA IN ACHIEVING SUSTAINABLE DEVELOPMENT

**N. Pooja Shravan**

M.B.A, II Semester

Sree Vidyanikethan Institute of Management

Tirupati, A.P, India

**Mr. K. Saravanan**

Assistant Professor, Dept. of M.B.A

Sree Vidyanikethan Institute of Management

Tirupati, A.P, India

### ABSTRACT

India is one of the populous democratic countries in the world and is a developing Country in terms of Economic Growth, Rapid Urbanization, Advancing itself in Defence and other Modern Technologies, etc. To support this Developing Country, 'Digital India Programme' is a Visionary Programme launched in 2015 by Government of India to transform India into a Digitally Empowered Society. The main motto of the 'Digital India Programme' is to connect all the rural areas in India with Digital Networks thereby enhancing transparency in Governance. Totally, there are 107 Initiatives under this program that is helping India to transform to a Digital Country and many of the Initiatives are in the verge of completion. At this stage of COVID 19 Pandemic, this program is supporting Indian Government to reach citizens with ease thereby helping citizens to get benefits directly. Primarily, Digital India Program established the required 'Digital Infrastructure' to provide Digital Empowerment and required Services to Citizens and today, in this period of COVID 19 Pandemic; the established robust Digital Infrastructure is supporting several crores of citizens across India. With Digital India Initiative supporting Indian Government to reach the Citizens with ease, this paper focuses on highlighting the role of Digital India Program in Achieving Sustainable Development of India.

**Keywords:** Digital India, Digital Infrastructure, Sustainable Development

### I. INTRODUCTION

To facilitate Government Services reach common man without any hassle, Government of India introduced the 'Digital India' Program' (Digital India, n.d.). The focus of this program is to build the required Digital Infrastructure across India so that Government's benefits to the Citizen can be done electronically. In this regard, Ministry of Electronics and Information Technology has improved online Infrastructure of India drastically by increasing Internet connectivity. The Digital India Program was launched on 1 July 2015 and is facilitating other visionary Initiatives of Government of India like BharatNet, Make in India, Startup India and Standup India, Industrial Corridors, Bharatmala, Sagarmala, etc., It is one of the programs initiated to achieve Sustainable Development of India. Some of the Notable Digital India initiatives include Implementation of Aadhaar Digital Biometric Identity Cards, National Mission on Education using ICT, PAHAL (DBTL) to eradicate bogus LPG Connections, Pradhan Mantri Gramin Digital Saksharta Abhiyaan to enhance digital literacy in rural areas, Smart Cities, etc., In total, 107 Initiatives are initiated to empower India digitally, thereby achieving Sustainable Development.

### II. DIGITAL INDIA PROGRAM – A SNAPSHOT

Digital India Program is implemented through three broad areas as shown below. Digital Infrastructure having 29 Initiatives is the primary pillar that ensures the required Digital Infrastructure is kept ready for carrying out Digital Services and Empowering Citizens Digitally. The other two pillars include Digital Services and Digital Empowerment having 62 and 16 Initiatives respectively.



- Digital Infrastructure is the pre-requisite for enabling Digital way of working. Under this Pillar, 29 Initiatives are functioning to create the Digital Platform for India. Some of the notable and successful Digital Infrastructure Initiatives include Aadhaar to provide unique identity card to every Indian Citizen, Deen Dhayal Upadhyaya Gram Jyoti Yojana to provide continuous power supply to rural India, Digilocker to empower citizens digitally, Integrated Health Information Platform to create Electronic Health records of Citizens, Open Data to publish datasets for public use, Direct Benefit Transfer to facilitate delivery of government welfare schemes, E-Trade, etc.,

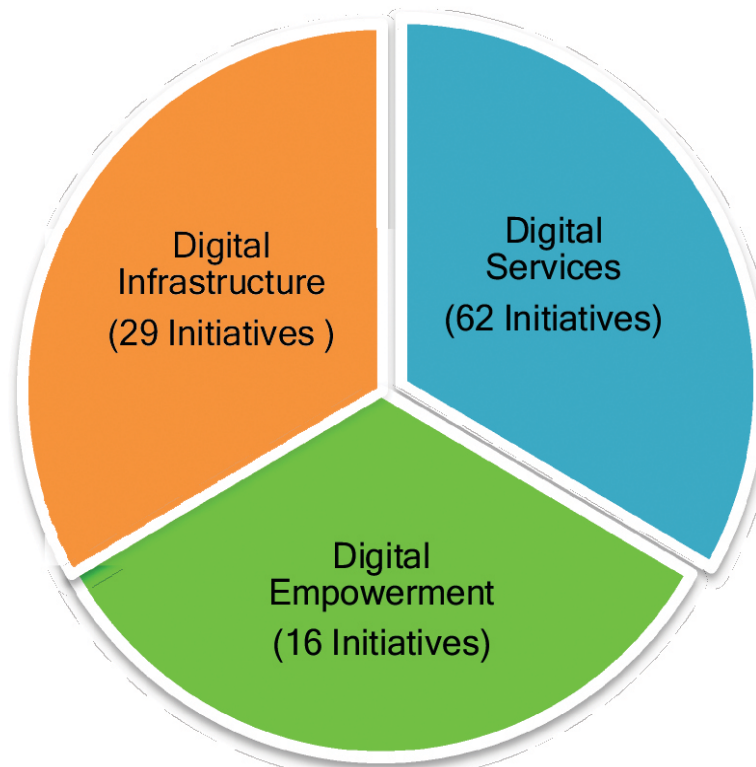


Figure 1- Digital India - Conceptual View prepared by Authors

- The basic purpose of Government of India to initiate the Digital India Program is to provide the Government Services to Citizens with ease. In order to ensure this objective is met, 62 Initiatives are functioning under Digital Services Initiatives. Some of the notable initiatives in this category include Accessible India Campaign to support specially challenged people to get equal opportunity, Beti Bachao Beti Padhao to support girl child education, Crop Insurance Mobile App to support farmers, e-Granthalaya supporting digital library, Startup India, Swatch Bhaarat, Farmer Portal, Goods & Service Tax Network, Himmat to support women during emergency, etc.
- Empowering Citizens digitally is yet another key aspect of Digital India Program. To achieve this objective, 16 Initiatives are functioning and some of the notable and successful Digital Empowerment Initiatives include Aadhaar Enabled Payment System, MyGov to promote participation of common citizen in governance, PAHAL to eliminate duplicate LPG Connections, Pradhan Mantri Kaushal Vikas Yojana to promote Skill Development, Smart Cities to promote sustainable and inclusive cities, Visvesvaraya PhD Scheme for Electronics and IT to encourage working professionals to pursue PhD, etc.,

### III. ROLE OF DIGITAL INDIA IN ACHIEVING SUSTAINABLE DEVELOPMENT

Sustainable Development aims at protecting the planet, end poverty and make this earth a pleasant place to live peacefully and prosperously. All the 17 Sustainable Development Goals (SDGs) of United Nations aims at sustainable development socially, economically and environmentally (United Nations Development Programme, n.d.). The 17 SDGs are integrated in such a way that the overall development is balanced. NITI Aayog of India has mapped the various initiatives of Digital India Program to achieve the various Sustainable Development Goals (NITI Aayog, August, 2018) as explained below.

| S.No | Sustainable Development Goal            | Digital India Initiative   | Role of Digital India Program in Achieving Sustainable Development   |
|------|---|--|--|
| 1.   | No Poverty                              | Pradhan Mantri Kaushal Vikas Yojana  | This DI Initiative focuses on developing Skill of citizens, thereby eradicating Poverty                                    |
| 2.   | Zero Hunger                             | Pradhan Mantri Jan Dhan Yojana   | This DI Initiative aims at financial inclusion and directing the Government benefits to the needy, thereby removing hunger |
| 3.   | Good Health and Well being              | <ul style="list-style-type: none"> <li>· NIKSHAY</li> <li>· Targeted Public Distribution System</li> <li>· Mother &amp; Child tracking system</li> </ul>                                     | These Initiatives are intended to distribute quality food grains to poorer and improve their health and well being         |
| 4.   | Quality Education                       | <ul style="list-style-type: none"> <li>· National Scholarship Portal</li> <li>· National mission on education using ICT, E-GRANTHALAYA, SWAYAM</li> <li>· Visvesvaraya PhD scheme</li> </ul> | These Initiatives intend to benefit learners and improve their quality of education  |
| 5.   | Gender Equality                         | <ul style="list-style-type: none"> <li>· Beti Bachao Beti Padhao</li> <li>· HIMMAT</li> </ul>  | Initiatives focusing on Womens   |
| 6.   | Clean Water and Sanitation              | Swach Bhaarat App  | Initiatives to make Clean and Green India  |
| 7.   | Affordable and Clean Energy             | National Ujala Dashboard   | Initiatives aimed at Efficient management of Energy  |
| 8.   | Decent Work and Economic Growth         | <ul style="list-style-type: none"> <li>· National Career Service portal</li> <li>· Crop Insurance mobile app</li> </ul>  | Initiatives helping Job Seekers  |
| 9.   | Industry, Innovation and Infrastructure | <ul style="list-style-type: none"> <li>· MCA21</li> <li>· Aadhaar Enabled Payment System</li> <li>· PayGov, BHIM</li> <li>· Passport Seva project</li> <li>· DIGILOCKER</li> </ul>           | Initiatives aiming to promote Industrial Growth and providing required Infrastructure to Citizens                          |

| S.No | Sustainable Development Goal           | Digital India Initiative   | Role of Digital India Program in Achieving Sustainable Development   |
|------|--|--|--|
| 10.  | Reduced Inequalities                   | Accessible India campaign and mobile app   | Initiatives to help specially Challenged Citizens  |
| 11.  | Sustainable Cities and Communities     | Smart Cities   | This Initiative focuses on developing Sustainable and Inclusive Cities   |
| 12.  | Responsible Consumption and Production | PAHAL (DBTL)   | This initiative aims to eliminate bogus LPG Connection such that the needy consumers will get the benefits                                       |
| 13.  | Climate Action                         | UJJWALA  | The goal aims to adapt to the climate change and invest in low-carbon development  |
| 14.  | Life Below Water                       | ESSO - Indian National Center for Ocean Information Services   | This aims to sustainably manage and protect marine and coastal ecosystems from pollution, as well as address the impacts of ocean acidification. |
| 15.  | Life on Land                           | <ul style="list-style-type: none"> <li>Heritage City Development and Augmentation Yojana (HRIDAY)</li> <li>ICDS Systems Strengthening and Nutrition Improvement Project</li> <li>Small Farmers Agribusiness Consortium</li> <li>Farmer Portal</li> </ul> | This aims to reduce the loss of natural habitats and biodiversity, Climate Change Mitigation and support global food and water security.         |
| 16.  | Peace, Justice and Strong Institutions | Crime and Criminal tracking network & systems  | Initiatives under Peace  |
| 17.  | Partnership for the Goals              | EGREETINGS   | Initiatives to promote partnerships  |

#### IV. CONCLUSION

With Google announcing to invest Rs. 75000 Crores into Digital India Program for the next 5-7 years, Digital Economy in India is not a vision but a reality (Financial Express, July 14, 2020) We believe that the Digital India initiative not only brings transparency in Governance and help the needy at the right time, it also helps in boosting nation's economy and provide large number of employment prospects to the youth. The mapping of the Digital India Initiatives to 17 SDG's by NITI Aayog helps India to achieve Sustainable Development at a much faster rate. Some of the Initiatives require some transformational process, reengineering, refinement and adjustment to the existing process and practices to achieve the

desired objectives. These objectives can take jet speed with the participation of Indian Citizens and other stake holders of our nation to create a sustainable future. There are still concerns on Data Security and Privacy and necessary steps are taken to ensure these concerns are resolved (Business Line, July 14, 2020). In Conclusion, Digital India is having a great impact on the future of Indian citizens and Economy of our nation. So, let's join our hands and move forward for the brighter and prosperous India.

## REFERENCES

1. Digital India (n.d.). DI Initiatives - <https://digitalindia.gov.in/>
2. United Nations Development Programme (n.d.) – Sustainable Development Goals <https://www.undp.org/content/undp/en/home/sustainable-development-goals.html>
3. NITI Aayog (August, 2018) – Sustainable Development Goals and Mapping of CSS and Ministries of Government of India, [https://niti.gov.in/writereaddata/files/SDGMapping-Document-NITI\\_0.pdf](https://niti.gov.in/writereaddata/files/SDGMapping-Document-NITI_0.pdf)
4. Financial Express (July 14, 2020) - Google to invest Rs 75,000 crore in India; India's digital journey is far from complete, says Sundar Pichai  
<https://www.financialexpress.com/industry/google-to-invest-rs-75000-crore-in-india-indias-digital-journey-is-far-from-complete-says-sundar-pichai/2022995/>
5. Business Line (July 14, 2020) - Google's investment plan 'shows lot of play still in IT/telecom'  
<https://www.thehindubusinessline.com/info-tech/googles-investment-plan-shows-lot-of-play-still-in->

## TECHNOLOGY BASED EDUCATION: A NOSTRUM DURING COVID 19 PANDEMIC

**Namrata Ganguly**

Assistant Professor, Career College, Bhopal  
email: namrataganguly26@gmail.com

**Dr. Pooja Chaturvedi**

Associate Professor, Rabindranath Tagore  
University, Bhopal, email : pooja23jan@gmail.com

### ABSTRACT

The objective of this paper is to understand the purpose of technology based education. The paper also discusses the problems associated with technology based learning. Educational institutions in India is primarily based only on traditional pedagogy of teaching and learning. They follow the traditional set up of face-to-face lectures in a classroom. But many academic institutions have initiated blended form of learning. If we observe the current status lot of them are still continuing with the old procedures. The sudden outbreak CORONA VIRUS has brought the entire world to a standstill situation. It has been declared as pandemic by the WHO. The education system is also adversely affected by this crises and is facing lot of challenges. This situation has forced the education platform to opt the online mode of teaching. Earlier the academic institutions who were rigid to change their traditional pattern of teaching are forced to make a shift to the online pattern of teaching. This paper deals with the relevance of technology based education and includes the suggestions on how to tackle the challenge.

**Key word-** Technology, Education, Teaching - Learning, Pedagogy.

### INTRODUCTION

The disastrous infectious disease Corona Virus is also popularly called as Covid-19. It has deeply affected the entire economy of the world. The pandemic disaster also not left education sector unaffected. The educational institutes have gone for a complete lockdown which also kept continued during the post lockdown phase. The academicians are in a fear as to how the academic session will be continued this pandemic year. Many

researchers have expressed their concern that it looks uncertain to get back the person to person teaching any time sooner. The constraint of social distancing is a hindrance and creating a negative impact on the entire teaching fraternity. All the educational institutions are trying to find alternatives to face this unusual circumstances. This makes us realize that there is an immediate requirement concrete planning to face this challenge.

Many arguments have been set forth with electronic learning. The Adoptability, affordability, learning pedagogy and policy are some of the arguments related to online methodology. It presumed that online learning platform is easily reachable and accessible to each and every one. It is considered to be flexible as the learner can plan the course completion time as per their own convenience. The online method of learning is cost friendly as it lowers the transportation cost and other institutional cost also. Moreover the blended form of learning raises the quality of teaching learning process. The Government is also now realizing the impact and effectiveness of technology based education in this fast changing scenario.

This lands us to the thought that due to COVID 19 can technology based learning provide us with some remedy so that we all can face this crisis with a new zeal and land up to new horizons even during this pandemic phase.

### OBJECTIVE

- To study the necessity of technology based education.
- To study the problems associated with technology

based education.

### REVIEW OF LITERATURE

Kasinathan, G. (2020) examined the potential impact of AI on educational processes and outcomes. It examines key concerns with respect to rights-based development that AI policy and programming frameworks should address to support ethical, inclusive and universal education in India.

V. J., & Srikanth, R. (2018) studied that the ubiquitous technologies have a great potential to enrich students' academic experience. Students are more interested in using interactive learning techniques apart from the traditional learning techniques. The study proposes a modified UTAUT2 (unified theory of acceptance and use of technology) model with nine core independent determinants predicting the tenth dependent variables construct. The study aimed at developing a new model that encompasses the factors affecting the utilization of ubiquitous technology among students in institutes of higher education, particularly in India.

Guma, A., Faruque, A. H., & Khushi, M. (2013) The role of ICT to make teaching-learning effective in higher institutions of learning in Uganda in their study analyzed. This empirical study aimed at finding out the factors influencing use of ICT to make teaching-learning effective in higher institutions of learning in Uganda and identifying the innovations that ICT has brought into teaching-learning process, particularly in higher institutions of learning in Uganda. A survey was employed and in order to empirically investigate the study. The findings of this study revealed that teaching staff and administrators had a strong desire to integrate ICT into teaching-learning processes.

Tutkun, O. F. (2011) did a study on Internet Access, Use and Sharing Levels among Students during the Teaching-Learning Process.

The purpose of this study was to determine the awareness among students and levels regarding student

access, use, and knowledge sharing during the teaching-learning process. The following results were obtained: 1. Instances of knowledge access, use and sharing by students during the teaching-learning process rank high. 2. Female students use the internet in a more functional sense than males. 3. The levels of students accessing, using, and sharing knowledge during the teaching-learning process differ. 4. Internet access, use, and knowledge sharing levels vary between academic departments. 5. Internet access, use and knowledge sharing levels differentiate according to type of education. 6. The opinions of faculty members and students overlap regarding the level of accessing knowledge via the internet, but differ on the subject of use and knowledge sharing.

### TECHNOLOGY DRIVEN TEACHING IS NECESSITY AND NOT AN ALTERNATIVE

People resist change without understanding the need and importance of it and when a situation arises all should adapt to change willingly and unwillingly. This was the situation which occurred to teaching fraternity too. Indian higher education institution has used various pedagogy for innovation, development, and engagement of students. Many faculties have resisted the change when they had been asked to take virtual classes for students (Shenoy, M. V., Mahendra, M. S., & Vijay, M. N. (2020)). The world has been going through a quarantine phase due to the outbreak of COVID 19. Therefore many places have become a hub and the impact of which can be very well seen in the educational institutes. Amongst all this blended learning and online learning has proved to be remedy during this pandemic. COVID 19 has made the shift from traditional learning to online mode of learning. It has also changed the rigid mindset of the educational institute who were otherwise reluctant to learn the modern form of technology. This transition will surely upgrade the standards of the Indian teaching learning process. The online platform gives us an edge over to connect with large number of students anytime anywhere. It is expected from all the educational institutes to use technology driven classes and also to access it more aptly. There is a sudden boom in the online



teaching learning platform and many universities have fully gone for automation. The technology based education has become the need of the hour even in this chaotic situation. Hence quality up gradation has become very important at this stage.

Change has become the necessity and this change will only help the educational institutes to grow and develop during this tough time. How the institutes are adopting the new change will become the judgment parameter for the educational institutes. This will also compel them to maintain high degree of quality and also to maintain this quality. The credibility of the educational institutes is on stake. Only time will decide this and also how well they are engrained in adopting the changes. Because at this moment of time a shift from traditional platform to online platform is the only available alternative for us. But yes it's going to be a big challenge for the educational institute as it would not be possible to transform their entire curriculum into technology driven curriculum overnight. As reach and imparting personalized education will be the biggest challenge. Adoptable and innovative solutions can only be the probable help to overcome this crisis situation.

### **TECHNOLOGY BASED LEARNING AND ITS IMPACTFUL PRACTICE**

There is no doubt that technology driven education was existent since very long but the COVID 19 pandemic has given it new dimensions to grow and flourish. The fact cannot be denied that conceptualizing online teaching and learning has become the need of the hour. There have been many studies done in the past few years and moreover in the past few months during this pandemic period. Students are more interested in using interactive learning techniques apart from the traditional learning techniques. Several research studies for m-learning has been done in the USA, UK concentrating on students undergoing a graduation degree, especially subjects like engineering, arts, maths, science, etc. Hence the need has arisen to conduct a separate research on m-learning in the Indian context (V. J., & Srikanth, R., 2018).

When thought upon as to why online education has

become so important in a study done by Moore and Kearsley (2012, page no.8) highlighted the following reasons:-

- Providing opportunities for upgrading the skills of the workforce.
- Increase the access to learning and training as a matter of equity.
- Improving the effectiveness of cost of the educational resources.
- Improving the quality of the existing educational structure.
- Balancing the inequalities between the age groups.
- Enhancing the capacity of the educational institutes.
- Expanding the new subject areas.
- Problems Associated With Online Teaching and Learning

There are numerous technologies available for online education but at times they create a lot of difficulties for us. These problems are related with modern technology ranging from errors in downloading, installation issue, login problems, audio and video problem, and so on. At times this teaching platform also becomes monotonous for the students. Because of too much flexibility the common excuse that we here form the students is that that they have time to do it. Lack of concentration and attention is also a major hindrance.

The teaching learning process is impactful only when there is direct two way communication which at time is difficult in online teaching. The teaching cannot reach to its fullest until the students practically practice what they have learnt. Because at times the content through online teaching is completely theoretical which does not let the students mind to create an impactful perception. An average course content is also a matter of concern in many parts of the country and in many universities. Lack of preparedness for the type of online platform being used is another major matter of concern that restricts to impart quality education in many parts of the country.

### **SUGGESTIONS FOR THE PROBLEM**

It is a known fact that lot many issues are associated in online teaching learning process but there also is another fact that its benefits cannot be overlooked especially during this pandemic time. If there is a problem there has to be a solution for it also we all know this. What is required is the effort to be put in. Examining the key concerns with respect to rights-based development that AI policy and programming frameworks should address to support ethical, inclusive and universal education in India, (Kasinathan, G., 2020). When teaching through online platform there should always be a backup plan ready so that the teaching learning process is uninterrupted. It is required that methods of online teaching should be more attractive and interactive. The effective integration of this technology into classroom practices poses a challenge to teachers and administrators that teaching staff and administrators had a strong desire to integrate ICT into teaching-learning processes. The innovations that ICT has brought in teaching learning process include: E-learning, e-communication, quick access to information, online student registration, online advertisement, reduced burden of keeping hardcopy, networking with resourceful persons, etc. However, the presence of all these factors increased the chance of excellent integration of ICT in teaching-learning process. Therefore, the training of teaching staff in the pedagogical issues and administrators in administration should be increased if teachers and administrators are to be convinced of the value of using ICT in their teaching-learning process and administration (Guma, A., Faruque, A. H., & Khushi, M. (2013).. The technical hindrances can be resolved by way of pretesting the class, prior recording of the lecture to be delivered can be done. As far as possible personalized contact should established with the students. Different social media platforms can be used for communication as the modern age students are very much acquainted to it. Because it is said that communication is the only remedy when things are tough to handle. The learning material provided by the teachers should have a practical approach so the students can do their own self-study and also improve their skills..

For all this the teaching fraternity is also required to

spend quality time in exploring the new avenues of technology based teaching. The use of technology in educational context would be effective only if content, pedagogy and technology are aligned carefully. It is strongly recommended for restructuring curriculum of teacher training programs should also be included (Padmavathi, M. (2017). It implies that for teachers to use technology in their teaching, they need to be competent in all three domains. The educationalists should also try to research new and modern forms of technology. They are not only required to find this but also are expected to think on how to redefine the educational practices so that ultimately the students can be benefited the most.

### CONCLUSION

COVID 19 has taught us that disasters can hit us anytime and that to a natural disaster like this completely changes all the dimensions of the mankind. But yes some disasters also give us a strong sense of motivation to bring some innovative changes in oneself. The same has happened this time. We all have moved a step ahead in adopting technological advancement. The educational sector has used this technological advancement hand to hand. Because of this we are able stay connected with our students through the various online platforms. In order to make the electronic means of learning more specific and effective there is a need to concentrate more on the adoptability and acceptability of technology. The implementation of any kind of technology based education there should be proper research done on its merits and demerits. The need and requirement of all educational institutes differ from each other. Hence, there should be a conceptual adoption of the right technology. Teaching through modern technology sounds very impressive but it has its own demerits. So there is a serious need to assess the pros and cons of technology based learning.

Natural calamity like COVID 19 popularly known as CORONA VIRUS has brought the entire nation to a standstill with lot of insecurities and uncertainties in everybody's mind. So it can be very well assessed that

there is an immediate need to accept technology, keeping and maintaining a balance between the uncertainties and certainties. I would like to conclude by saying that this paper is nowhere creating any hike in the online teaching platforms. My intension was only to set forth the drastic change which the entire education fraternity is going through in terms of imparting technology based education. A great job is being done by the teaching fraternity and we should be proud to be a part of this noble profession which is surely a selfless service to mankind.

### REFERENCES

1. Shenoy, M. V., Mahendra, M. S., & Vijay, M. N. (2020). COVID 19–Lockdown: Technology Adaption, Teaching, Learning, Students Engagement and Faculty Experience. *Mukt Shabd Journal*, 9.
2. Kasinathan, G. (2020). Making AI work in Indian. *Friedrich Ebert Stiftung*.
3. V. J., & Srikanth, R. (2018). Modified UTAUT2 model for m-learning among students in India. *International Journal of Learning and Change*, 10(1), 5-20.
4. Uerz, D., Volman, M., & Kral, M. (2018). Teacher educators' competences in fostering student teachers' proficiency in teaching and learning with technology: An overview of relevant research literature. *Teaching and Teacher Education*, 70, 12-23.
5. Padmavathi, M. (2017). Preparing Teachers for Technology Based Teaching-Learning Using TPACK. *Journal on School Educational Technology*, 12(3), 19.
6. Guma, A., Faruque, A. H., & Khushi, M. (2013). The role of ICT to make teaching-learning effective in higher institutions of learning in Uganda.
7. Tutkun, O. F. (2011). Internet Access, Use and Sharing Levels among Students during the Teaching-Learning Process. *Turkish Online Journal of Educational Technology-TOJET*, 10(3), 152-160.
8. Bates, T., & Poole, G. (2003). Effective teaching with technology in higher education: Foundations for success.
9. Gilbert, S. W., Aiken, B., Bartelt, D., & Hoffman, N. (1995). Teaching, learning, & technology--The need for campuswide planning and faculty support services. *Change*, 27(2), 46.

# IMPACT OF DIFFERENT ACCELERATED CURING CONDITIONS ON STRENGTH OF CONCRETE- A Review

Sanjeet Kumar<sup>1</sup>, Amit Kumar<sup>2</sup>, Kapil Soni<sup>3</sup>

<sup>1</sup>M.Tech Scholar, <sup>2</sup>Assistant Professor, <sup>3</sup>HOD

Department of Civil Engineering, Rabindranath Tagore University, Bhopal  
Email: sk603057@gmail.com, er\_kumaramit@rediffmail.com, [cerkapil@gmail.com](mailto:cerkapil@gmail.com)

## ABSTRACT

Concrete designed for buildings, bridges, dams, highways and other structures is intended of the of highest quality, it should consist of the materials that are correctly proportional and mixed and then carefully transported to the job and placed in practice however the concrete ordered for the job may not be the concrete that actually placed. Verification of quality of concrete is performed by conventional controlled test performed on the field, but these tests do not confirm the compressive strength the concrete will gain, which is very important property for designing any structure. Hence, the focus of this investigation is on strength gain in initial 1 day, 3 days, 7 days and then at 28 days of curing. In this paper various studies carried out for the accelerated curing like different admixtures used, warm water curing, boiling water curing has been studied.

**Keywords;** Accelerated curing, boiling water, concrete, compressive strength, grade and warm water curing

## 1.0 INTRODUCTION

For growth of any nation primary requirement is of infrastructure development. All over world in 21st century large infrastructure development is taking place. In infrastructure development, construction industry plays a vital role for fast and speedy construction. In construction industry most widely used building material is concrete it is a composite man-made material. It consist of a rationally chosen mixture of binding material such as cement, well graded fine aggregate, coarse aggregates and water. In India, large number of multipurpose development projects in Industry , Mining , Transport, Power etc have been launched . Large construction of

roads, bridges, dams, industries, docks and harbours , power houses , nuclear power plants , aerodromes , educational buildings , residential buildings are being constructed through out the country . All these constructions require optimum and efficient use of construction resources.

All structure constructed with cement concrete are considered to be constructed for their life span of about 50 to 100 years , but there are many reasons structures fails before giving complete service period . The main causes of failures of concrete is due to its poor quality of ingredients and / or poor concrete practices. Both these reasons are caused due to ignorance and negligence on the parts of supervisors and engineers or the contractors.

The following are the major causes or factors listed below mainly responsible for failure of concrete construction -:

- 1 ) Use of poor quality and deteriorated cement .
- 2 ) Use of poor quality aggregates .
- 3 ) Use of poor quality and contaminated mixing water.
- 4 ) Using too much quantity of mixing water for ease of compaction .

The building construction technology is as old as human civilization. With advent of concrete technology use of concrete in-situ is widely increased across the world. Concrete designed for buildings, bridges, dams, highways and other structures is intended of the of highest quality, it should consist of the materials that are correctly proportional and mixed and then carefully transported to the job and placed .in practice however the concrete ordered for the job may not be the concrete that

actually placed. At critical points during production , transport or handling on site the concretes quality may be depredated . batch mixes may not always guarantee that you have the right concrete loaded in the truck, that was required, for example, if wash water was left before the concrete was loaded, the mix may be too wet or the truck driver may decide to add water if the mix begun to stiffen, so its important and its required that the quality of the concrete be verified before the concrete is cast. Verification of quality of concrete is performed by conventional controlled test performed on the field , but these test do not confirm the compressive strength the concrete will gain , which is very important property for designing any structure. Hence, the focus of this investigation is on strength gain in initial 1 day , 3 days , 7 days and then at 28 days of curing. The mechanical properties studied in this research are compressive strength at the both early and later ages. The compressive strengths throughout the study were tested for the specimens ( concrete cubes ) at 1, 3, 7, 28 days.

Concrete is mixture of cement , fine aggregates , coarse aggregates and water, cement is very important ingredient, it plays very important role, it acts as binding material in concrete, when it comes in contact with water, chemical reaction takes place and hardening of cement paste takes place along with fine aggregates and coarse aggregates. Hardening process is fast in initial stages but it becomes slow as the time passes and it continues for very long time, i.e 100% strength gain in concrete takes a period of 1-3 years. but in general practice compressive strength can be known after 7 days and 28 days of curing of concrete according to IS Codes. But this waiting duration after concrete casting of 7 days and 28 days is too long period for determining quality of concrete and its compressive strength. Hence there is need of new technique which can used to predict strength of concrete as soon as concrete mix is formed and it is casred. The technique can give results fast, it should be easy with least instrument requirements and can be performed at site with least skill and supervision, because it has been seen there is very much difficultly in transporting test samples from site to testing laboratory, because in India

much focus is being given on development of villages.

For civil engineering construction, concrete that is formed has major proportion of coarse aggregates. Generally, fresh quarried lime stone is used as coarse aggregates in concrete because of its high compressive strength and due to its easy availability, but due to continuous construction in past, and demand of heavy construction in future, the demand of lime stone as coarse aggregate is in rise. This rise in demand of lime stone can affect the global environment as it is to be extracted from earth surface. Hence to conserve the environment, alternative sources of coarse aggregates are to be determined, which can fulfil the requirement of coarse aggregates, without hampering the pace of development. Replacement of lime stone with locally available demolished concrete waste from old demolished buildings can be tried for economical reasons and green concrete can be made, under the provision of 3 R's: Reduce, Recycle and Reuse. The objective of this research is also to replace coarse aggregate with locally available demolished waste concrete without any reduction in mechanical properties such as compressive strength.

Roads are the lifeline of a country and are basic infrastructure requirement for economic, industrial, commercial, social and cultural development. Transport plays an important role in the economy. Therefore, efficient means of transport are pre-requisites for fast development. India has one of the largest road networks in the world, aggregating to about 2.3 million km at present. Uptill now many roads that are constructed are flexible pavements. But due to its requirements of continuous maintenance and environmental problems, such as harmful gases sulphur-di-oxide and nitrogen oxides emitted during the manufacture of bitumen are major contributors of acid rain formation. Rigid concrete pavements are preferred even though its initial cost of construction is high. Durability of rigid concrete pavements mostly depend on quality of concrete used in construction of pavements. Rigid concrete pavement results in less fuel consumption, and

a decrease in associated emissions. Any reduction of the lifetime energy use associated with roading, even if only by a small percentage, will have significantly positive implications for sustainable development. Uptill now there is no test available which can be used to determine 28th day flexural strength of concrete pavement earlier, every time it is required to wait for 7 days and 28 days.

## 2.0 LITERATURE SURVEY

### **ZARINAYAHYA, ET. AL., (2015) IN HIS PAPER CONCLUDED THAT**

This paper researches the impact of the solids-to-fluids (S/L) and  $\text{Na}_2\text{SiO}_3/\text{NaOH}$  proportions on the creation of palm oil kettle fiery debris (POBA) based geopolymer. Sodium silicate and sodium hydroxide (NaOH) arrangement were utilized as basic activator with a NaOH grouping of 14 M. The geopolymer tests were set up with various S/L ratios (0.5, 1.0, 1.25, 1.5, and 1.75) and  $\text{Na}_2\text{SiO}_3/\text{NaOH}$  proportions (0.5, 1.0, 1.5, 2.0, 2.5, and 3.0). The primary assessment systems in this investigation were compressive quality, X-Ray Diffraction (XRD), Fourier Transform Infrared Spectroscopy (FTIR), and Scanning Electron Microscope (SEM). The outcomes demonstrated that the greatest compressive quality (11.9 MPa) was obtained at a S/L proportion and  $\text{Na}_2\text{SiO}_3/\text{NaOH}$  proportion of 1.5 and 2.5 at seven days of testing.

### **P.KATHIRVEL, ET. AL., (2014) IN HIS PAPER CONCLUDED THAT**

This paper researches the impact of the solids-to-fluids (S/L) and  $\text{Na}_2\text{SiO}_3/\text{NaOH}$  proportions on the generation of palm oil heater powder (POBA) based geopolymer. The present trial work clarifies the consolidated impact of a business non-chloride hardening quickening agent and technique for restoring in the quality improvement of cement. Customary Portland cement (OPC) was utilized to deliver solid blends. Solid blends were planned according to the rules of IS 10262:2009. Compressive quality of standard solid shape examples (150 mm) at ahead of schedule and later-age, restored with water were considered. Execution of quickening agent at a given time of cement

was surveyed dependent on the maximum rate increment in the compressive quality. The quality of control blend restored with water is taken as reference. Among different sorts of concoction admixtures, Non Chloride Accelerator Admixture (NCA) is picked. The non chloride quickening agent admixture is included with typical blend of the solid in the nominal dosage and the impacts are considered. 0.8%, 1.0%, 1.2% of non chloride quickening agents were blended with various grades of cement, for example, M20 & M25.

The ideal degree of high early improvement quality was analyzed. Average proficiency of the relieving compound for the given age was determined as the proportion of normal compressive strength of cement restored with NCA to that restored with water. The test outcomes uncovered that, the sort of curing influenced the ideal execution of quickening agent in solid blends. Normal effectiveness of the curing compound was observed to be more at early-age of the solid mixtures. Sodium silicate and sodium hydroxide (NaOH) arrangement were utilized as soluble activator with a NaOH grouping of 14 M. The geopolymer tests were set up with various S/L ratios (0.5, 1.0, 1.25, 1.5, and 1.75) and  $\text{Na}_2\text{SiO}_3/\text{NaOH}$  proportions (0.5, 1.0, 1.5, 2.0, 2.5, and 3.0). The fundamental assessment strategies in this investigation were compressive quality, X-Ray Diffraction (XRD), Fourier Transform Infrared Spectroscopy (FTIR), and Scanning Electron Microscope (SEM). The outcomes demonstrated that the most extreme compressive quality (11.9 MPa) was obtained at a S/L proportion and  $\text{Na}_2\text{SiO}_3/\text{NaOH}$  proportion of 1.5 and 2.5.

### **TOUMA, ET. AL., (2005) IN HIS PAPER CONCLUDED THAT**

An investigation was led on draining of fly slag blended with NaOH arrangement and on blending strategy for planning geopolymer. Filtering of  $\text{SiO}_2$  and  $\text{Al}_2\text{O}_3$  was explored by blending fly cinder with NaOH answer for various time interims and leachates were examined regarding silica and alumina substance. To make geopolymer glue, separate blending and typical



blending were utilized. For independent blending, NaOH arrangement was blended with fly powder for the initial 10 min; in this way sodium silicate arrangement was included into the blend.

For typical blending, fly fiery debris, sodium hydroxide and sodium silicate arrangement were consolidated and blended in the meantime. Geopolymers were relieved at 65°C for 48 h. Microstructure of glue and compressive quality of mortar were examined. Results uncovered that solvency of fly fiery remains relied upon grouping of NaOH and term of blending with NaOH. For blending methodology, separate blending gave somewhat preferred quality mortar over typical blending. High quality geopolymer mortar up to 70.0 MPa was gotten when the blend was figured with 10 M NaOH and sodium silicate to NaOH proportion of 1.0, and the different blending grouping was used without limestone filler.

#### **BRENT VOLLENWEIDER, ET. AL., (2004) IN HIS PAPER CONCLUDED THAT**

Precast concrete is advantageous for several reasons: shrinkage and creep can be reduced, dead-load deflections can be controlled, quality control is improved, material availability can be improved and erection methods are similar to that for steel and thus total construction time is significantly reduced. One of the key properties of concrete that makes precasting economically feasible is its ability, under the proper conditions, to gain compressive strength extremely rapidly. The focus of this paper is a description of the various methods currently available for accelerating the curing of concrete, particularly for precast concrete applications.

#### **ESSAM A. KISHAR, ET. AL., (2003) IN HIS PAPER CONCLUDED THAT**

Effect of CaCl<sub>2</sub> on the hydration characteristics of the different cement pastes using ordinary Portland cement (OPC) and blended Portland cement with ground clay bricks (GCB) was studied. Various mixes were prepared using a water/solid ratio (W/S) of 0.25 (by weight). Three percentages of CaCl<sub>2</sub> (0.25, 0.5 and 0.75%) are used; the CaCl<sub>2</sub> used was dissolved in the mixing water. The

hydration characteristics were tested via the determination of the combined water content, phase composition, compressive strength, total porosity (P%) and X-ray diffraction analysis (XRD) at different time intervals up to 180 days. The results showed that calcium chloride accelerates cement hydration in all systems studied. Ten % GCB in the presence of 0.50% CaCl<sub>2</sub> is the optimum ratio which has the higher compressive strength.

#### **V. BONAVENTI, ET. AL., (2000) IN HIS PAPER CONCLUDED THAT**

This paper describes the effect of duration of initial curing on the mechanical properties (compressive strength, tensile strength, and modulus of elasticity) and the chloride penetration of concretes containing limestone blended cements. Three concrete mixtures (water/cementitious=0.5) containing a portland and two limestone blended cements were subjected to three different initial curing regimens (full, wet, and air curing).

Results show that mechanical properties of concrete containing limestone blended cement are less affected by the cessation of moist curing at early ages. This is attributed to the hydration acceleration owing to limestone presence and the increase of fineness in the clinker fraction of the blended cement. A prolonged initial moist curing reduces this advantage of limestone blended cements and the dilution effect produced by limestone addition impairs the potential mechanical properties. For concretes cured for an initial 7 days, there was no substantial difference in mechanical properties and chloride penetration resistance of cements with and without limestone filler.

### **3.0 CONCLUSIONS**

The produced data is definitely useful for the fast production of precast RCC members, and optimise the time finally cost of the project. Both boiling method of curing and warm water curing method is very useful for generating result at very fast result of curing.

### **4.0 REFERENCES**

1. Zarina Yahya<sup>1,\*</sup>, Mohd Mustafa A' Bakri Abdullah<sup>2,3,\*</sup>,

- KamarudinHussin<sup>1,2</sup>, KhairulNizar Ismail<sup>4</sup>, RafizaAbd Razak<sup>1</sup> and Andrei Victor Sandu<sup>5</sup>, (2015), "Effect of Solids-To-Liquids, Na<sub>2</sub>SiO<sub>3</sub>-To-NaOH and Curing Temperature on the Palm Oil Boiler Ash (Si + Ca) Geopolymerisation System", Volume 8, pp. 2227-2242.
2. P.Kathirvel<sup>1</sup>, (2014), "Influence of Non Chloride Accelerator in Cement Concrete", IRJES Journal, Volume 3, Issue 12, pp. 24-32, ISSN (Online) 2319-183X, (Print) 2319-1821.
3. TanakornPhoo-ngernkhama, Prinya Chindaprasirta, Vanchai Sataa, SakonwanHanjitsuwanb, and Shigemitsu Hatanakac, (2014), "The effect of adding nano-SiO<sub>2</sub> and nano-Al<sub>2</sub>O<sub>3</sub> on properties of high calcium fly ash geopolymer cured at ambient temperature", Materials & Design, Volume 55, pp. 58–65.
4. Cheng HsinChen, Ran Huang & Jiann Kuo Wu, (2011), "Preparation and properties of polymer impregnated concrete", pp. 163-168.
5. AlirezaNaji Givi<sup>1</sup>, Suraya Abdul Rashid<sup>2</sup>, Farah Nora A. Aziz<sup>3</sup>, and MohamadAmranMohd Salleh<sup>2</sup>, (2010), "Contribution of Rice Husk Ash to the Properties of Mortar and Concrete: A Review", Journal of American Science, Volume 6, Issue 3, pp. 157-165, ISSN: 1545-1003.
6. UbollukRattanasaka, and PrinyaChindaprasirtb, (2009), "Influence of NaOH solution on the synthesis of fly ash geopolymer", Volume 22, Issue 12, pp. 1073–1078.
7. Yi Chen, Julio F. Davalos, Indrajit Ray, and Hyeong-YeolKim, (2005), "Accelerated aging tests for evaluations of durability performance of FRP reinforcing bars for concrete structures".
8. Touma, Wissam Fowler, David W. Carrasquillo, and Ramón L., (2005), "Alkali-Silica Reaction in Portland Cement Concrete: Testing Methods and Mitigation Alternatives".
9. Brent Vollenweider, (2004), "Various Methods of Accelerated Curing for Precast Concrete Applications, and Their Impact on Short and Long Term Compressive Strength", CE 241: Concrete Technology.
10. V. Bonavetti, H. Donza, V. Rahhal, and E. Irassar, (2000), "Influence of initial curing on the properties of concrete containing limestone blended cement", Volume 30, Issue 5, pp. 703–708.
11. A. Palomo, M.W. Grutzeck, and M.T. Blanco, (1999), "Alkali-activated fly ashes: A cement for the future", Cement and Concrete Research, Volume 29, Issue 8, pp. 1323-1329.
12. "Some Generalizations in Theory and Technology of Acceleration of Concrete Hardening", Accession Number: 00212459.
13. Natt Makul<sup>1</sup>, Burachat Chatveera<sup>1</sup> and Phadungsak Ratanadecho "Use of microwave energy for accelerated curing of concrete: a review". "Water Bath Accelerated Curing of Concrete", Accession Number: 00213840.

# IMPACT OF ENVIRONMENTAL EDUCATION DURING COVID-19 PANDEMIC AMONG HIGHER SECONDARY SCHOOL STUDENTS IN SOUTH 24 PARGANAS DISTRICT, WEST BENGAL: A CASE STUDY

**Jayanta Basu, Dr. Kiran Mishra**

Research Scholar, Department of Education  
Rabindranath Tagore University, Bhopal, MP

**Dr. Kiran Mishra**

HOD, Department of Education  
Rabindranath Tagore University, Bhopal, MP

## ABSTRACT

Everything is connected to everything else. It means Human and other species are connected (dependent) in such a way that their survival depends on this connectivity. Environment is getting worse day by day. So, Environmental education is the very need of this hour. Environmental education plays an important role towards sustainability. It also has an important impact to prepare the future generation for green planet. Student's perception on sustainability means the awareness, understanding, view, attitude and conceptualization. The purpose of this research is to find out the impact of Environmental Education during Covid-19 pandemic among Higher Secondary school students.

**Key words:** Environment, sustainability, connectivity, students

## INTRODUCTION

Covid-19 pandemic has given a challenge in the education system all over the world. It has found that all the schools are closed and over 290 million students are out of the classroom. In the discipline of education Environmental Education has become a new area of study. For the educators, teachers, and students it is a new source of concern. It has a wide area of interdisciplinary nature. The area of Environmental Education has been discussed in various national and international seminars and conferences. People recognised the urgent need of Environmental education but only a few have concepts about the meaning, purpose and need of this education. But it should be added to the syllabus in all the classes both schools and colleges. It

has a very wide area of organisms, community, viz. planets, animals and men. Different environmental factors affected the human mind differently in their age level. Students' lives are run mainly by information from various perspectives including psychology, biology, history, political, economic, social etc. The mental and physical development of the child is accelerated by the heredity and environment. So, Environmental education is very important for the students.

## SIGNIFICANCE OF THE STUDY

Natural disasters have no social or economic considerations. They have no boundaries as they affect both developing and developed countries. They are also ruthless towards everything. So Environmental education is helpful for making appropriate decisions concerning the solution and prevention of environmental problems. Environmental education is a process in which students get awareness of the environment and acquire knowledge, skills, values and experiences which will enable them to act individually and collectively to solve present and future environmental problems. Environmental studies should be made compulsory in school and colleges.

As a result, education is forming desirable attitudes, values, skills, understanding and interest about the environment so as to preserve it and improve it for survival of the present and future mankind. That is why the present researcher intends to know the impact of Environmental Education during covid-19 pandemic among Higher Secondary school students in South 24 Parganas district of West Bengal.

**OBJECTIVES**

1. To study the thoughtfulness among boys and girls students of Higher Secondary schools towards environmental education during covid-19 pandemic in South 24 Parganas district of West Bengal.
2. To study the scientific temper among boys and girls students of Higher Secondary schools towards environmental education during covid-19 pandemic in South 24 Parganas district of West Bengal.
3. To study the open mindedness among boys and girls students of Higher Secondary schools towards environmental education during covid-19 pandemic in South 24 Parganas district of West Bengal.
4. To study the awareness among boys and girls students of Higher Secondary schools towards environmental education during covid-19 pandemic in South 24 Parganas district of West Bengal.

**HYPOTHESIS**

- H1. There is no significance difference on thoughtfulness among boys and girls students towards environmental education.
- H2. There is no significance difference on the scientific temper among boys and girls students towards environmental education.
- H3. There is no significance difference on the open mindedness among boys and girls students towards environmental education.
- H4. There is no significance difference on awareness among boys and girls students towards environmental education.

**DELIMITATION**

The present study is delimited to students of Higher Secondary schools of South 24 Parganas district, West Bengal

**METHOD**

Descriptive survey method of research and stratified random sampling has been used. Primary and secondary sources have been adopted to collect the data.

**POPULATION AND SAMPLE**

The researcher has selected for the study 650 boys and 590 girls students from Higher Secondary Schools of South 24 Parganas district affiliated to West Bengal Board. Among the population 20% students have taken as sample.

**TOOL USED**

The research tool is one of the instruments of the research through which the researcher gathers information for his goal. For the present study the researcher has used self-developed tool which has four subscales like Thoughtfulness(T), Scientific Temper(ST), Open Mindedness(OM), Awareness(A) on Environmental education during Covid-19 pandemic and each subscale has 5 items. In each item either Yes/ No responses have been given against the items. Scoring has been done on the basis of responses like Yes answer for 2 marks and No answer for 0 marks.

**ANALYSIS AND INTERPRETATION**

All the collected data has been analyzed in descriptive statistics like Mean, Standard Deviation and t/z - test in the following table

Table-1: Level of impact towards Environmental Education during Covid -19 pandemic

| Level for Impact of EE during Covid-19 | Ranges of Scores | Boys | %     | Girls | %     |
|--|------------------|------|-------|-------|-------|
| Higher level                           | 25-40            | 52   | 40.00 | 48    | 40.58 |
| Moderate level                         | 12-24            | 78   | 60.00 | 70    | 59.42 |
| Poor level                             | 0-11             | 0    | 00    | 0     | 00    |

It is observed from the above table that 40% boys and 40.58% girls students have highly impact towards environmental education and 60% boys and 59.42% girls students have moderate level of impact towards environmental education. Again, it is also found that there is no poor level of impact towards environmental education among boys and girls students in South 24 Parganas district of West Bengal.

**H0-1. THERE IS NO SIGNIFICANCE DIFFERENCE ON THOUGHTFULNESS AMONG BOYS AND GIRLS STUDENTS TOWARDS ENVIRONMENTAL EDUCATION.**

Table- 2: Comparison on thoughtfulness among boys and girls students towards environmental education.

| Group | N   | Mean | SD   | z/t value | Level of Significant (0.05% level) |
|-------|-----|------|------|-----------|------------------------------------|
| Boys  | 130 | 6.02 | 1.47 | 0.29      | Not Significant                    |
| Girls | 118 | 6.48 | 1.49 |           |                                    |

It is observed from the above table that Z value 0.29 which is less than critical value at 0.05% level, so that calculate value is not significant and it's appeared that there is no exist significant difference amount boys and girls students on the thoughtfulness towards environmental education. Hence the null hypothesis is accepted.

**H0-2. THERE IS NO SIGNIFICANCE DIFFERENCE ON THE SCIENTIFIC TEMPER AMONG BOYS AND GIRLS STUDENTS TOWARDS ENVIRONMENTAL EDUCATION.**

Table - 3: Comparison of scientific temper among boys and girls students towards environmental education.

| Group | N   | Mean | SD   | z/t value | Level of Significant<br>(0.05% level) |
|-------|-----|------|------|-----------|---------------------------------------|
| Boys  | 130 | 6.38 | 1.66 | 0.52      | Not Significant                       |
| Girls | 118 | 6.27 | 1.48 |           |                                       |

It is observed from the above table that Z value 0.52 which is less than critical value at 0.05% level, so the calculate value is not significant and it's appeared that there is no exist significant difference on scientific temper towards environmental education. Hence the null hypothesis is accepted.

**H0-3. THERE IS NO SIGNIFICANCE DIFFERENCE ON THE OPEN MINDEDNESS AMONG BOYS AND GIRLS STUDENTS TOWARDS ENVIRONMENTAL EDUCATION.**

Table- 4: Comparison of open mindedness among boys and girls students towards environmental education.

| Group | N   | Mean | SD   | z/t value | Level of Significant<br>(0.05% level) |
|-------|-----|------|------|-----------|---------------------------------------|
| Boys  | 130 | 6.49 | 1.49 | 1.88      | Not Significant                       |
| Girls | 118 | 6.18 | 1.66 |           |                                       |

It is observed from the above table that obtain Z value 1.88 which is less than critical value at 0.05% level, so the calculate value at 0.05% level is not significant and it's appeared that there is no exist significant difference on open mindedness towards environmental education. Hence the null hypothesis is accepted.

**H0-4. THERE IS NO SIGNIFICANCE DIFFERENCE ON AWARENESS AMONG BOYS AND GIRLS STUDENTS TOWARDS ENVIRONMENTAL EDUCATION.**

Table- 5: Comparison of awareness among boys and girls students towards environmental education.

| Group | N   | Mean | SD   | z/t value | Level of Significant<br>(0.05% level) |
|-------|-----|------|------|-----------|---------------------------------------|
| Boys  | 130 | 6.89 | 1.52 | 2.55      | Significant                           |
| Girls | 118 | 6.39 | 1.57 |           |                                       |



It is observed from the above table that obtain Z value 2.55 which is more than table value at 0.05% level, so the calculate value at 0.05% level is significant. There is significant difference on awareness among boys and girls students towards environmental education. Hence the null hypothesis is rejected.

### FINDINGS

1. It is found that 40% boys and 40.58 girls students are having higher level of impact towards environmental education and 60% boys and 59.42% girls students are having moderate level of impact towards environmental education. Again it is also found that there is no poor level of impact towards environmental education among boys and girls students in South 24 Parganas district of West Bengal.
2. It is found that that obtain "Z" value 0.29 which is less than critical value at 0.05% level, so the calculate value is not significant and it's appeared that there is no exist significant difference among boys and girls students thoughtfulness towards environmental education during covid-19 pandemic. Hence the null hypothesis is accepted.
3. It is also observed that "Z" value 0.52 which is less than critical value at 0.05% level, so the calculate value is not significant and it's appeared that there is no exist significant difference among boys and girls students scientific temper towards environmental education during covid-19 pandemic. Hence the null hypothesis is accepted.
4. It is also observed that "Z" value 1.88 which is less than critical value at 0.05% level, so the calculate value is not significant and it's appeared that there is no exist significant difference among boys and girls students open mindedness towards environmental education during covid-19 pandemic. Hence the null hypothesis is accepted.
5. It is found that obtain "Z" value 2.55 which is more than table value at 0.05% level, so the calculate value at

0.05% level is significant. So, there is significance difference among boys and girls students awareness towards environmental education during covid-19 pandemic. Hence the null hypothesis is rejected.

6. It has also found through the conversation that the students are facing mental agony in this distress condition.

### SUGGESTIONS

1. Short term activity like field study should be arranged after this pandemic is over.
2. Schools should organise discussions, seminars, workshops, demonstrations, film shows etc.
3. Teachers, parents etc. should also be motivated for understanding the importance of saving this environment.
4. Counselling sessions should be arranged for the students as they have been undergoing tremendous stress due to confinement to their home.
5. Environmental studies should be included in the syllabus of all levels both schools and colleges.
6. Parents should stand mentally by their children in this distress condition as they are facing different psychological problems.

### CONCLUSION

Through the present study the researcher has attempted to find out the impact of Environmental Education during Covid-19 pandemic among boys and girls students of Higher Secondary schools in South 24 Parganas district of West Bengal. Environmental education established a lifelong education. It should prepare the students for life through an understanding of major problems of the contemporary world. To impart effective Environmental Education, it is required to give environmental studies as a mandatory subject to all level of educational fields. Students are facing different types

of problems resulting stress in their mind. This covid-19 situation accelerates them more in terms of stress level. As stress is a serious issue so all the stakeholders (including government also) related to educational field should extend their helping hand to cope up with this unnatural happenings.

### REFERENCES

1. Bharucha, E. (n.d.). Environmental Studies For Undergraduate Courses.
2. Casey, M. B., Nuttall, R. L., & Pezaris, E. (1999). Evidence in support of a model that predicts how biological and environmental factors interact to influence spatial skills. *Developmental Psychology*, 35(5), 1237–1247. <https://doi.org/10.1037/0012-1649.35.5.1237>
3. Feldman, R., & Eidelman, A. I. (2009). Biological and environmental initial conditions shape the trajectories of cognitive and social-emotional development across the first years of life. *Developmental Science*, 12(1), 194–200. <https://doi.org/10.1111/j.1467-7687.2008.00761.x>
4. Gupta, S. P. (1976). *Statistical Methods ...* Sultan Chand & Sons.
5. <https://plus.google.com/+UNESCO>. (2020). 290 million students out of school due to COVID-19:
6. UNESCO releases first global numbers and mobilizes response. In UNESCO. <https://en.unesco.org/news/290-million-students-out-school-due-covid-19-unesco-releases-first-global-numbers-and-mobilizes>
7. Kothari, C. R. (2004). *Research methodology*, New delhi. New age international publishers, 2.
8. Pathak, R. P. (2008). *Methodology of educational research*. Atlantic Publishers & Dist.

## ADVANTAGES AND DRAWBACKS OF ONLINE EDUCATION ON THE STUDENTS DURING COVID-19 LOCKDOWN

**Mahima Chaudhary**  
Amity School of Economics Noida

### ABSTRACT

One of the major consequences of the Covid-19 pandemic and the resultant government induced lockdown has been institutionalised education. Educational institutions have been prevented to open to control the spread of the virus and this has lead us to online classrooms, a new educational culture in India also for the tier I institutions. It is applaudable how smoothly almost all educational institutions have switched to virtual classrooms, it was only possible because of the applications like Zoom, Google Hangouts and Microsoft Teams. But there are still some obstacles in online learning..

**KEYWORDS** : online learning, educational institutions, students, pandemic, covid-19, lockdown

### INTRODUCTION

During this lockdown period, students have enough time for everything they want to learn or wanted to learn but never had time before. So, this lockdown itself would be a testing phase for them to see who are willing to work towards their academic and personal goals with all the dedication required. The students need to be patient enough with online learning in these tough situations and they can choose to educate themselves by the best faculties at the minimal cost involved in the programs. On the downside, there are some drawbacks of the e-learning culture.

### OBJECTIVES

1. To know the advantages of online education.
2. To know the drawbacks of online education on the students.
3. To understand the effects of covid- 19 pandemic lockdown

4. To observe the changes in the education system
5. To know the effects on the mental and physical health of students .

### LITERATURE REVIEW

Educational institutions are getting their way to educate students through video conferencing applications such as Zoom, Google Hangouts and Microsoft Teams. Some of the faculty members see this medium really useful to provide the students with interactive learning even through online classrooms while others are still facing troubles.

As today's generation is already adapted with electronic consumables it is not much of a challenge to make them use these devices. Even though making them use these devices is not a problem, but the guardians and faculty members need to prevent the students from getting addicted to the technology.

### ADVANTAGES OF ONLINE EDUCATION

There are multiple causes why e-learning have gained a lot of attention as span learning in higher education. The e-learning platform provides unmatched opportunities for students who had short access to education, and a new pattern for teachers/professors where many programs of the topmost grade can be evolved. Here are some advantages of e-learning

Anytime, Any Place...

The e-learning is reachable anytime, anywhere. The e-learning platform also improves the time effectiveness. There are no time limitations to learn and evolve, you can do it anytime of the day, month or year. Students can obtain their course material twenty four seven. They too

have undisturbed allowance to lecture videos, programme material, and group discussion. This is helpful to the students who need to access the content multiple times to prepare for examinations or require more time to learn.

1. Student centred
2. Level Playing Field

### **WEAKNESS OF E-LEARNING**

- Technology
- Equity and Accessibility to Technological Advancement
- Computer Literacy
- Hindrance of Technological

### **CONCLUSION**

This is very important time for technology and education both. The e-learning platforms that are available provides technology-built educational environments that enlarges schooling opportunities and can come up with exceptional learning through a variety of plans and procedures. There are some requirements of adult learners who require or demand to carry on with their learning, the e-learning programs provide an

appropriate suspension to squabbles with jobs, ménage and learning schedules. Coaching-institutions of higher learning has discovered that the e-learning programmes are necessary in offering reach to education for the students/learners they want to work for. For an e-learning programme to be effective, the modules, the coordinator, the technological advancement and the learners must-strictly be thoroughly contemplated, also in addition to stabilized in requirement to gain complete advantage of the toughness of the planning and in this mean time, steer clear of hazards which could occur from its weak points.

### **REFERENCES**

1. Strength and weakness of online learning – ION Professional elearning
2. Advantages and disadvantages of online courses – Montgomery College
3. Covid-19 : why is online classes important
4. Online classes and Covid-19
5. Importance of online education during Covid-19 crisis- BW Education
6. Breaking down of pros and cons of online learning- BW Education
7. Covid-19 virus – changes in education

## LEAN IMPLEMENTATION – THE NEED FOR MANUFACTURING INDUSTRY

Ravikumar Purohit<sup>1</sup>, Ashish Hulle<sup>2</sup>

<sup>1,2</sup>Assistant Professor, D.K.T.E. Society's Textile and Engineering Institute, Ichalkaranji (Maharashtra), INDIA.

<sup>1</sup>Email: rnpurohit@dkte.ac.in

### ABSTRACT

With time manufacturing industries are shifting to the places where labor charges are less but once the industry is set up the manufacturing cost starts increasing as with time there will be hike in charges of labors, raw material, transport, power, fuel, maintenance etc. these all will contribute in higher manufacturing cost. Manufacturing cost per unit will see continuous uptrend and that to sustain in this competitive market manufacturer cannot increase the selling cost, this results in reduction of the profit margin (percentage). Profit can be increased by two ways either by increasing selling price or by reducing manufacturing cost. The first option is not feasible therefore; to sustain in the competitive market the only option remain to work on manufacturing cost reduction. The big question arises how one can reduce manufacturing cost? The answer is by implementing lean manufacturing. Lean manufacturing and their tools is a perfect way to reduce wastages. Lean manufacturing works on elimination of non-value activities. Once non-value added activities get reduce automatically there will be increase in value added activities. Customer pays only for value added activities so keeping in this mind implementing lean manufacturing may become need for manufacturing industries. This paper includes information about lean manufacturing and lean tools, benefits of implementing lean manufacturing and steps involved in implementation

**Keywords:** Lean manufacturing, tools, 7 types of wastages, benefits of lean implementation.

### I. INTRODUCTION

Toyota manufacturing started Lean implementation long back. Also Henry Ford is the person who had been using parts of Lean as early as the 1920's he believed and

proved that Shortening of the production cycle time reduces manufacturing cost and longer the process of manufacturing leads to high manufacturing cost. The dictionary meaning of word lean means "Thin" in English. National Institute of Standards and Technology Manufacturing Extension Partnership's Lean Network: defined lean as "A systematic approach to identifying and eliminating waste through continuous improvement, flowing the product at the pull of the customer in pursuit of perfection."

Most organization decides selling price of product as follow

Selling price = Manufacturing costs + Profit

In this competitive world one cannot increase-selling price, instead of this organization should work on the following formula

Profit = Selling price – Manufacturing Costs

Lean works to reduce manufacturing costs. Companies that implement Lean typically make significant cost savings so there is direct improvement in profitability.

To become best manufacturing organizations or Lean Enterprises the first step in achieving that goal is to identify and try to eliminate the all type's wastes. As Toyota and other excellent organizations have come to realize that customers are only pays for value added work, but never for waste

In simple words Lean manufacturing works on 3 'M' which is related to waste reduction.

- Muda :- Systematic approach for waste elimination
- Mura :- Waste generated by uneven work load.
- Muri :- Waste created by overburden.

Lean manufacturing is also about conversion of push system to pull system.

## II. THE SEVEN WASTES

### 2.1. TRANSPORTING

Transportation does not add any value to the product also it increases material movement and handling which cause damage deteriorates quality of the product. Transportation waste is very difficult to reduce due to the costs of moving equipment and processes closer together also it is difficult to determine which processes should be next to each other. Material handling equipment and Mapping product flows can make this easier to visualize.

### 2.2 UNNECESSARY INVENTORY

This waste is result of other wastage like overproduction and waiting. Work in progress (WIP) should be an optimum inventory to work continuously but if it is more than requirement then it is an excess inventory. Identification of problems gets delay this is the biggest problem with the excess inventory. This causes more rework, less productivity, increase in lead-time. In addition, Inventory blocks cash flow for organization.

### 2.3 UNNECESSARY / EXCESS MOTION

Motion doesn't add any value to the product or service. "To move and add value is called work. To move and not add value is called motion. Motion means moving without working, moving and adding cost". This waste is related to ergonomics in terms of walking, bending, lifting, stretching and reaching. Also repetitive motion causes health and safety issues, which in today's society are becoming more of a problem for organizations. An analysis should be done to the Jobs with excessive motion and it should be re-designed for betterment.

### 2.4 WAITING

Traditional batch-and-queue manufacturing contains maximum waiting time. Poor material flow, too long production run and improper work balancing between two

operation these are the major reasons that causes waiting type of waste. Waiting for man, material and Machine leads to lesser productivity. Waiting time is directly proportional to the lead-time. Linking processes together and balancing proper work content in two subsequent reduces waiting.

### 2.5 OVERPRODUCTION

Overproduction is about manufacturing too much or too early. Even some companies makes more production in some excess percentage so that if any problem comes in the process they can utilize that excess production but Overproduction is highly costly to a manufacturing plant because it actually degrades quality and productivity.

Just in time (JIT) is the system implemented by Toyota manufacturing to reduce this waste. In JIT product is made just as it is needed. In addition, Overproduction leads to, excessive lead-time, high storage cost and it makes process difficult to identify defects.

### 2.6 OVER PROCESSING

The waste over processing is the cause of extra operation, inappropriate techniques, handling, oversize equipment, storage, working on tolerances that are very tight also adding extra processes, which are not required by the customer and so forth. These all adds cost, time and money. Low cost automation and doing right for first time is the solution for this waste.

### 2.7 DEFECTS

Defects are products or services that do not confirm to the specification or Customer's expectation and which causing Customer dissatisfaction. Defects in a process causes rework or scrap which increases cost to organizations. Through employee, involvement and Continuous Process Improvement both can contribute to reduce defects at many facilities.

The two more types of additional wastages are :

1. Energy wastage.
2. Less utilization of talent.



### III. STEPS FOR LEAN IMPLEMENTATION

**Management Commitment**

**Formulate The Proper Team**

**Provide Lean Training**

**Involve Each And Everyone**

**Impliment**

**Celebrate The Success**

**Sustain**

### IV. LEAN TRAINING

To get the best result, involvement of everyone is important. This involvement can be achieved with proper training. Top down approach can be followed for training. Top down means starting from the top management it goes bottom to operator level so that everyone is on the same page. Everyone should understand what lean manufacturing is and what benefits industry will get with lean implementation.

### V. LEAN TOOLS

5 'S' and Kaizen are the best lean tools to start for any organization. 5 S means - Sort, Set in order, shine, Standardize and sustain while Kaizen means change for better. Both tools are actually Japanese business philosophy of continuous improvement of working practices, personal efficiency, etc. Few expert says only proper 5's' and kaizen implementation is enough to improve organization. The list of other tools and their short meaning is given below.

| Lean Tool            | Meaning  |
|----------------------|--|
| 5 S                  | Sort, Set in Order, Shine, Standardize, Sustain. In short 5 'S' works to have "place for everything and everything on its place".              |
| KAIZEN               | Kaizen is an approach to create continuous improvement in industry based on the idea generated by anyone from the industry.                    |
| SMED                 | SMED (Single-Minute Exchange of Dies) is a system to reducing the change over time drastically.  |
| ANDON                | Andon means Light. It is used to generate an alarm to workers. This alarm can be used to highlight the problems within the production process. |
| KANBAN               | Kanban means a signboard, it help to visualize your work, maximize efficiency and become agile.  |
| ROOT-CAUSE ANALYSIS  | It is a popular and widely technique that helps people to get the answer of why the problem occurred in the first place.                       |
| POKA-YOKE            | Poka-yoke means "mistake -proofing". In process, by mistake also mistake should not happen.  |
| OEE                  | OEE (Overall Equipment Effectiveness) is an measures to show percentage of planned production time that is truly productive.                   |
| PDCA                 | PDCA (plan –do–check–act) is four step management method used in industry to improve processes and products.                                   |
| JUST IN TIME         | JIT is a management tool to control inventory that calls for the production of what, when, how much and where customer wants.                  |
| VALUE STREAM MAPPING | VSM is defined as a lean tool that employs a flowchart documenting every step in the process.  |
| GEMBA                | The Gemba Walk means walk the floor of their actual workplace to identify wasteful activities.   |
| CONTINEOUS FLOW      | Continuous flow work on work-in-process to have smooth flows through production with minimal buffers between processes.                        |
| TPM                  | Total Productive Maintenance creates a shared responsibility for equipment that encourages greater involvement by operators                    |
| BOTTLENECK ANALYSIS  | It identify which part of the manufacturing process limits the overall throughput and improve the performance of the process.                  |

Other lean tools are Jidoka, Hoshin Kanri, Heijunka, Key Performance Indicators, Six Big Losses, SMART Goals, Standardized Work, Takt Time and many more are there.

Organization can implement any lean tool as per the requirement.

## VII. ADVANTAGES OF LEAN IMPLIMENTATION

- Increase in value added activities
- Reduction in wastages
- Higher Profits.
- Better Quality
- Reduction in Over Time
- Greater Customer Satisfaction.
- Reduction in Machine Breakdowns.
- Reduction in Inventory.
- Improvement in cashflow
- Reduced Lead Time
- Betterment in Space Utilization
- Higher efficiency
- More output per person-hour.
- Improved Visual Management
- Helps to reduce Manpower
- Improved Visibility to Stakeholders
- Improved on time delivery percentage
- Improved employee morale and involvement.
- Safer Work Environment

## VII. DISADVANTAGES OF LEAN IMPLIMENTATION

- Low inventory.
- Difcult to change over
- Little margin for error
- Lack of Acceptance by Employees

## VIII. CONCLUSION

Visionary management can think of Lean implementation in their business to sustain in competitive world and to improve profit. Lean is fully focusing on elimination of non-value added activities and it add value to the product. Lean is applicable to any business but Lean implementation is becoming a need for a manufacturing organization. Being lean gives lot of advantages to organizations. Organization become more productive and responsive to market than other organization in all aspects.

## REFERENCES

1. R.Sundar, A.N.Balaji, R.M.SatheeshKumar, A Review on Lean Manufacturing Implementation Techniques 12th Global Congress on Manufacturing and Management, Gcmm (2014)
2. David Losonci, Krisztina, Demeter,Istvan Jenei, Factors influencing employee perceptions in lean transformations, Int. J. Production Economics (2011)
3. Wilson, L. How To Implemen Lean Manufacturing. New York: McGraw-Hill (2010).
4. Womak, J.P. & Jones, D.T. Lean Thinking: Banish waste and create wealth in your co/poration. New York: Simon and Schuster (1996)..
5. Shamim, Benefits of Lean Manufacturing | Why Implement Lean? <http://leanmanufacturingtools.org/63/benefits-of-lean-manufacturing/> accessed on:8th July 2019.
6. George, M.L. Lean Six Sigma: Combining six sigma quality with lean speed. New York: McGraw-Hill ISBN-9780071501903 (2002).
7. Seven Types of Deadly Waste [http://www.leaninnovations.ca/seven\\_types.html#:~:text=Motion](http://www.leaninnovations.ca/seven_types.html#:~:text=Motion) accessed on:8th July 2019

## IMPACT OF LOCKDOWN ON SMALL BUSINESSES IN INDIA

**Kartik Jain**

Amity University, Noida  
E-mail – kartikjainin43@gmail.com

**Dr. Manisha Raj**

Assistant Professor, Amity University, Noida  
E-mail – mraj@amity.edu

### ABSTRACT

Out of all the economic crises occurred in the last decades, Coronavirus is one of the most harmful incidents. The report represents all the possible evaluations of the impact of lockdown on local businesses. The condition during this pandemic is obvious to be substandard and the ambition to grow and develop is become pointless, then what will be the outcome of this research? And even why does such a report is constructing whose result is already known? The simple answer is "expectations", the report will evaluate comparative conditions of local business and will provide the different expectations regarding the new strategies, new growth pattern, new business models, innovations and many more things which will help the businesses to revitalize their economic as well as social conditions. It is become important for businesses to revise their strategies for sustainable growth. The report will show all possible impact in a proper structure, importance of businesses in the economy and different influences of lockdown. Comparing the before lockdown and after lockdown conditions. All possible and related data are Analyzed with structured outcomes and results. Analyzing the data results and the business strategies concerning expectations to form the picture which will help in formulating the future prediction regarding economic growth as the most important component of the economy is "business". Therefore the future growth supposition is paramount.

### INTRODUCTION

Out of all the economic crises occurred in the last decades, coronavirus is one of the most harmful incidents. It not only affects the demand side of the

economy but also the supply side of the economy. Covid-19 is the biggest challenge face since World War 2. coronavirus causes distress to the global economy. For the country like India which is still developing, this pandemic situation may result in scandalous outcomes. Local businesses are one of the important pillars of the economy. With the pandemic, local businesses are affected adversely. To bring back the growth in the economy it is necessary to sustain the small business in the economy especially for a developing country like India. The lockdown attempted in India is the largest of its kind and this lockdown result in chaos and suffering among Indian citizens. Majority of the day to day needs and requirements of people is fulfilled by the local small businesses. Due to the lockdown customers, as well as sellers, are not ready to facilitate exchange, and with the government restrictions, the majority of the shops remains closed for a long while. Now, it is very important to understand the problems faced by local businesses in India. It's foremost to see what is the situation before and after the coronavirus crisis.

So the first objective of the study is to determine the comparative condition of local businesses before and after lockdown.

Small scale businesses are facing harmful impacts due to

- Covid-19
- social distancing
- Nationwide lockdown.

No one is ready to go outside and facilitate exchange because of the fear of coronavirus. Neither customers are

ready to buy product physically nor producers ready to sell physically. And if the producers are ready to sell online, customers are not ready to buy it. The government allows the essential products to sell in the market but keeping in mind the physical distancing. Customers are standing in rows with 2 feet gap. Sellers are not able to sell things properly. The nationwide lockdown causes small scale, day to day businesses to shut down. They are daily wage earners, their livelihood depends upon the money they earn daily. With the limited concession given by the government, small businesses can start again. They have to rebuild the business plans and strategies because the economic condition is not the same as before and it will change frequently with time. They have to focus on how they will manage and operate their business and how and where they will invest the money provided by the Indian government. Hence the next objective for the study is to identify the common business plan and strategies adopted by the small scale businesses.

The more adverse effect is faced by startups they are already low on cash and employees and now the lockdown put them in huge losses. Not only startups but also the daily wage earners like auto drivers, car drivers etc, are facing miserable problems. India's startups are facing a constant decline in the growth path due to business disturbance caused by the pandemic. Almost 90% of startups are resulting in a decline in their revenue. Around 30-40% are either temporarily halting their operations or thinking to close down. B2C startups are the one who is adversely affected and around 60% facing close because their revenue came down to zero. This is the time for all such businesses to review their plans and strategy for growth and find as much as possible factors which helps them to restructure and regenerate. Hence, the next objective of the study is to assess the factors which help the startups to rebuild and restructure their business. Continue lockdown is constantly affecting the consumer consumption pattern. Except for the necessities, the consumption cycle is broken. Consumers in the country could not able to buy different products. consumption is the most important pillar of the

economy and the most important variable for growth, but unfortunately with nationwide lockdown consumption cycle is stopped hence investments stopped which affect the capital of the country, production halt which directly reduce the income of the workers and wages of the Labors, therefore, growth stagnated and the economy turns into the depression. Hence the next objective for my study is to assess the strategies which restart the consumption cycle in the economy. Indian local businesses are the key to the growth or we can say they are the fertilizer for plants. As fertilizers help the plant to grow and develop fast and effectively similarly local businesses help the different states of a country to grow and develop effectively, as mentioned before, all the necessities are exchanged by local businesses. But with nationwide lockdown, it becomes impossible.

### **RATIONALE BEHIND THE TOPIC**

businesses are the most primary need for the economy during this pandemic and to know the situation and expectations about the condition it will become necessary to do research. I choose my research topic about impact of lockdown on local businesses in india because I'm interested to know the situation of businesses during this pandemic. indian economy is continuously declining and will run down soon. to rebuild the economy foremost thing needed is money (capital) and the only way to get more and more capital is to sustain the businesses

### **OBJECTIVES FOR THE STUDY**

1. To determine the comparative condition of local businesses before and after lockdown.
2. To identify the common business plan and strategies adopted by the small scale businesses.
3. To assess the factors which help the startups to rebuild and restructure their business.
4. To assess the strategies which restart the consumption cycle in the economy.

### **RESEARCH METHODOLOGY**

In order to gain a better insight into the possibilities to know the actual influences of lockdown on local

businesses, secondary data is collected from various legitimate databases and accordingly the results and findings prepared. the method used for the research is both quantitative and qualitative as both of them are equally important for research like this. to compare the conditions of businesses at two different periods the identical data is used but based on two distinct intervals. moreover, graphs, pictures and other figures all are secondary sources.

### LITERATURE REVIEW

Khusgboo Mishra, "the impact of the lockdown on India's informal sector", this research paper shows the changes in revenue pattern and the income structure among many businesses during the lockdown. Specifically, the informal sector as the study also mentions about the importance and the position of this sector in the Indian economy .study shows that there is no cash in the economy reason being halting all kind of markets. Nationwide lockdown resulted in ceasing the sort of exchange in the market which directly end the supply of money in the economy or market. the main objective of the research is to conclude and analyse all kind of effect of lockdown on small vendors or on daily wage earners.

Amit Mudgill, "how will Indian lockdown payout for economy and market", the study represents 4 different scenarios for the situation of the domestic economy and market after lockdown. Also, the study shows that the local businesses are the most important to observe as the flow of cash in the market will tend to increase or decrease is based on the position and condition of the small businesses. the four different scenarios are bad, worse, better and the rise respectively. the main object of the study is to predict the economic and market situation on the bases of data and analysis.

Vikram Bahlekar, "Novel coronavirus pandemic-impact on the Indian economy, E-commerce, education and employment", the study shows the reasons for the

birth of coronavirus in india, reasons for implementing lockdown in india. The study represents major sectors of the economy and the effects. this study also gave importance to the local businesses and small e-commerce sites. not only the market review but also the non-marketing sector such as education and all. The study also focuses on the employment rate and their earning which is constantly declining. The main objective of the study is to study the impact on economy, market, e-commerce, education and employment.

Prasanna Mohanty, "coronavirus lockdown- how serious could the impact be on Indian economy and GDP", the study analyses both the supply and demand side of the economy and represents many situations which may or may not occur. The study is quite biased towards the bad impact of lockdown and it shows that the GDP will decline at a very high rate. This decline will directly or indirectly impact the indian market both internationally and domestically. The main objective is to show the impact and the effect of lockdown on GDP and market.

Divya Monga, "impact of covid-19 lockdown in india, managing workplace challenges", the study is based on the challenges faced by the employee as they have to work from home due to the lockdown. This study also focuses on the challenges faced by unemployed people and those who are fired. The financial and social status of a firm is the most important because employees stability will depend on the same. The main object for the study is to find out the challenges faced by the employed, unemployed and fired people in india during the lockdown.

### DATA ANALYSIS AND INTERPRETATION

It is quite clear that the growth declined and there is no doubt this will continue for long. To show the situation of india during this pandemic lets see the indian GDP growth rate.



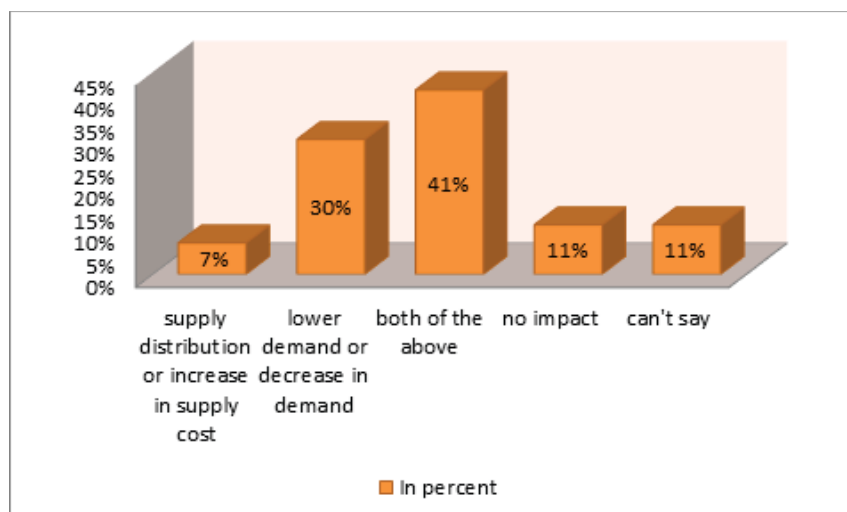
GDP is the gross domestic product which is one of the most common factor to determine the growth in the economy. It is visible in the graph that the growth rate of Indian GDP is too low. In 2017 the GDP growth rate was nearly 1.9 which is quite impressive and secondly the rate was stable. But in 2020 is nearly 1. The current GDP is 4.9 per cent as against 6.8 per cent in 2018-19. On the other hand, the stability of GDP is totally uncertain.

India does not have any specific plan or strategy to overcome this damage and if they have, it is not officially revealed. Lockdown actually has a more adverse effect on the economy than coronavirus. Hence the decline in the GDP is more due to lockdown and as lockdown removed it will again start healing.

#### IMPACT ON INDIAN START-UPS AND MSMES

Start-ups are the inauspicious one, they are already out of cash and employees and now the lockdown making it worse. MSMEs are the medium and small scale enterprises which need a good amount of investment to sustain. But the pandemic halted the money flow in the market and become trouble.

Opinion on the coronavirus (covid-19) impacting Indian start-ups and SMEs in March 2020





The graph represents five different kinds of impact that has great influence. Supply distribution or increase in supply cost means fluctuation in the supply chain. Supply of products are available or not, the cost of distribution is high or low, all such factors will take into consideration. Impact on startups and SMEs with respect to supply distribution or an increase in supply cost is around 7% which is quite high.

The second factor is the lower demand or decrease in demand for product and services. Similar to the supply case this represents the fluctuations on the demand side. Demand for the products are high or low, the prices for the products are rising or decreasing, consumers expectation and all. Impact on startups and SMEs with respect to lower demand or decrease in demand for product and services is 30% and staying around this level is very unhealthy.

The third-factor cover both the sides demand as well as supply. And the impact is 41% and at this rate economic conditions for startups and SMEs will be threatening. Fourth and last factors are no impact and can't say. Both of them are 11% and these factors are the one which is not defined yet.

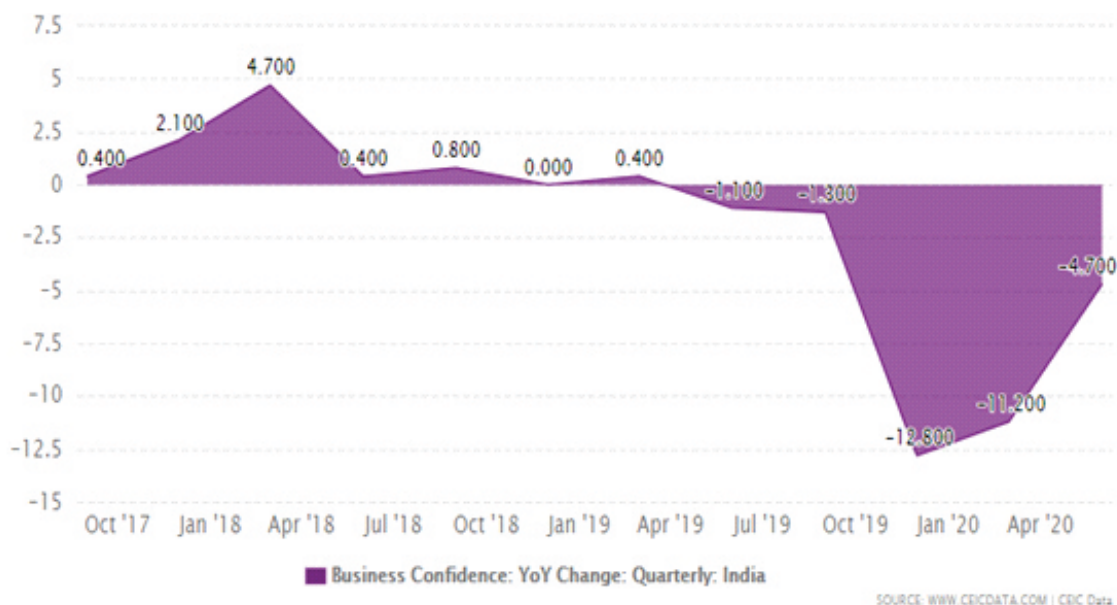


Figure 1 - India business confidence growth

Taking nine indicators into consideration to find the BEI (India businesses expectation index) are:

1. overall business situation
2. production
3. inventory in raw material
4. order books
5. inventory of finished goods
6. profit margin
7. employment
8. export
9. capacity utilisation

These are the main nine factors which help in calculating the business confidence growth. It is clear that, from the

starting of 2020 the confidence growth drops down to negative at -12.800 and the growth is still negative. The main reason is the lockdown because businesses are forced to halt their activities which result in the negative growth.

The country like India (developing country) this pandemic becomes a big trouble. To grow again, capital is the primary need but with the poor condition, it is not achievable.

### UNEMPLOYMENT RATES

The unemployment rate describes the frequency of the people getting unemployed and it is shocking to know that the unemployment rate spick in one month to a great extend.

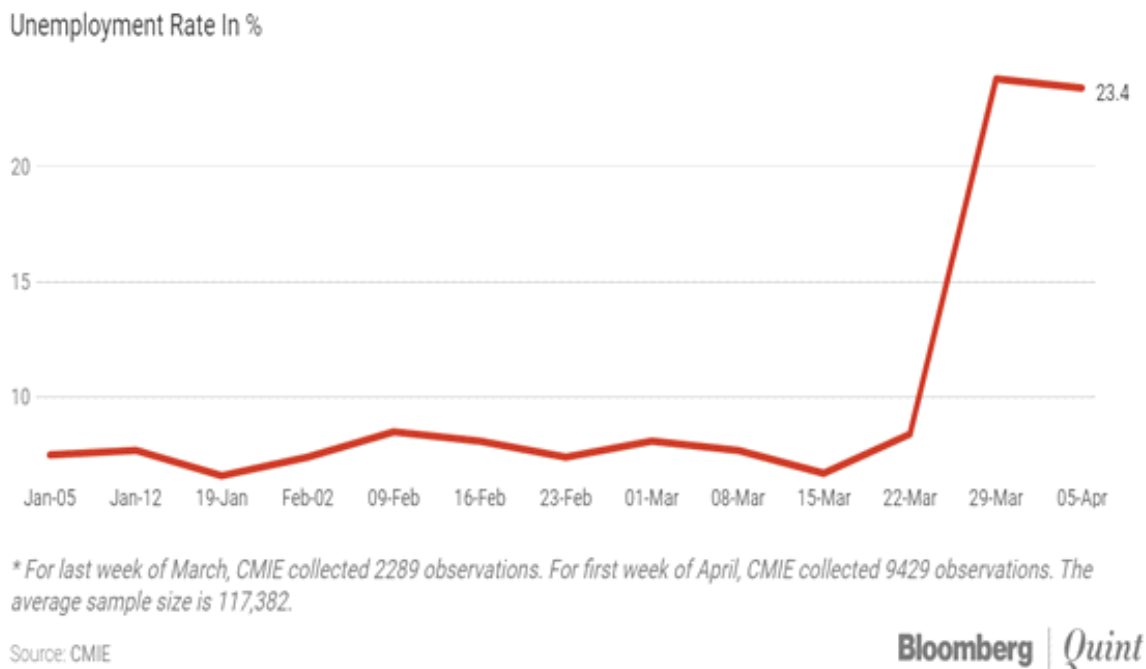


Figure 2 - CMIE Data Shows Spike In Unemployment

Till the mid-march they are below 4-5 but at the end of March and at the starting of April the rate increased to 23.4 and this sudden jump is appalling. it is visible in the graph that the rate before the march is low and stable but with halting the businesses the unemployment starts rising at a tremendous rate because businesses don't have enough capital to pay their employees hence they start firing them. on the other hand, the number of unemployed people increased in the economy and now they become a burden to the government.

Lockdown impacted on the Indian economy as:

1. increased unemployment
2. increased interest rates
3. increasing budget deficit

This will result in difficulties in the trade market as well. To increase the growth it will become important to provide the work for those who are unemployed and help them to sustain their lives.

“8.466 per cent”

The MSMEs in the india is growing at a rate of 8.466%. MSMEs are one of the most important divisions of the economy. MSMEs contributes 6.11% of manufacturing GDP, from service activities 25% to GDP and 36% of Indian manufacturing output. With the lockdown and of course pandemic the growth of MSMEs decline and this decline has a great impact on the overall economy.

### FINDING OF THE STUDY

SMEs are the enterprises who are facing great service losses. industrial sales decline which directly decline the investments.

Majority of the companies are not able to meet their basic needs like salaries and different bills. Their savings vanished and many companies are in the condition to borrow different sort of loans to facilitate their basic requirements.

Concerning the employees' salaries, many companies are able to pay the wages but many are unable. For example, companies have left stock and the supply chain is broken therefore they are neither able to sell remaining stock nor able to pay wages.

SMEs are in the absence of capital, investments, HR, physical assets, innovative ideas, market support and consumption pattern are lacking. The superior foundation is declined and major plan and sStrategies becoming irrelevant.

SMEs are the most significant part of the Indian economy. The investments are done in many states by SMEs but the pandemic results differently.

The Indian economy includes major sectors like railways, agriculture, service, manufacturing, technology, etc. but the growth of each sector is constantly declining both at macro and micro level.

The growth rate of GDP in India is declining continuously and the current rate is 4.6% which is very less.

The impact of lockdown on startups and MSMEs is severe and both supply-side and demand-side is affected adversely. Taking together the impact is at 41% fall.

The confidence growth of businesses in India is at negative, the recent data shows that the confidence growth of Indian businesses is -12.800 and unfortunately the negative growth is still maintained.

CMIE data shows that the unemployment rate in India gets a sudden jump in the last week of March. The previous rates are always below 5 and stable but the unemployment rate in the first week of April was 23.4 which is extremely high.

MSMEs are one of the major contributors to GDP but the growth rate of MSMEs in India is 8.466% and this will have an unfortunate effect on the economy for sure.

### GOVERNMENT SCHEMES

Looking toward the current situation of businesses (especially in terms of small scale businesses) the government of India came up with many schemes to provide loans for restart the business activities. SMEs contribute almost 41% of total GDP and provide employment to the huge number of people. india is the only market place which is emerging in the world at this movement. To support the small scale businesses the top five schemes of government to provide loans are:

#### MSMEs BUSINESS LOAN IN 59 MINUTES

- This is the most famous scheme nowadays in small scale enterprises.
- The loan is provided for the growth of MSMEs in the economy.
- This loan can be taken by both new and existing business concerning the terms and conditions.
- The loan can be taken up to the limit of rupees 1 crore.
- Information regarding the loan is approved or not approved can be given within 59 minutes.
- The interest rates will depend on the essence of the business.

**CREDIT LINK CAPITAL SUBSIDY SCHEME FOR TECHNOLOGY UPGRADATIONS**

- This scheme grants finance for technology upgradation.
- The loan can be used for both within the organization for example manufacturing or outside the organisation like marketing.
- The government provides this loan with the main aim of reducing the cost of production.
- 15% of capital subsidies for applied businesses.
- The maximum limit for this loan is set to 15 lacks.

**MUDRA LOAN**

- Micro-unit development and refinance Agency (MUDRA) LOANS.
- Low-cost credit is the concept applied in this loan.
- All kinds of the bank can provide this loan.
- The structure is :
- Sishu Loans up to Rs. 50,000/-
- Kishor Loans up to Rs. 5,00,000/-
- Tarun Loans up to Rs. 10,00,000/-

**NATIONAL SMALL INDUSTRY CORPORATION SUBSIDY**

- This is the loan provided by the government for small and medium scale enterprises.
- The loan is provided in two different ways financial benefit and market support.



• START UP INDIA INITIATIVE



• ASPIRE



• MUDRA Bank



• Ministry of Skill Development and Enterprise



• ATAL Innovation Mission



• Ebiz Portal



• Dairy process and infrastructure development fund

Figure 3 - There Are Many More Schemes to Support Start-UPS in India

## CONCLUSION

Country like India which is still developing, lockdown impacted more adversely than coronavirus. Economic and social growth is stagnated and all the policies and plans are suspended. Not only the supply side but also the demand side is no more effective. Due to lack of planning, strategy and vision, the loss will take more time to recover. The world health organisation said that the suffering of people and businesses had lead to unsuitable market conditions. World bank and FICO said that the Indian businesses are facing declining financial progress. With this pandemic, both domestic and international market is disturbed. Covid-19 is the biggest challenge face since world war 2. coronavirus causes distress to the global economy. For the country like India which is still developing, this pandemic situation may result in scandalous outcomes. Local businesses are one of the important pillars of the economy. With the pandemic, local businesses are affected adversely. To bring back the growth in the economy it is necessary to sustain the small business in the economy especially for a developing country like India. The lockdown attempted in India is the largest of its kind and this lockdown result in chaos and suffering among Indian citizens. Majority of the day to day needs and requirements of people is fulfilled by the local small businesses. Due to the lockdown customers, as well as sellers, are not ready to facilitate exchange, and with the government restrictions, the majority of the shops remains closed for a long while. Lockdown result in the unfavourable conditions for Indian businesses. Neither fiscal nor monetary policy can help in this pandemic. Government need funds and the only way to increase capital is non disturbed market functioning both domestically and internationally. The world is in the condition where the two-fold effect is taking place: monetary deficiency and ineffective working due to illness. Both of them together causing such a terrible and critical effect on the economy which is never seen before. India with its huge population can not survive this pandemic. India needs a strong policy and planning with the new scenario.

## REFERENCING

1. <https://archives.tpsindia.org/index.php/sipn/article/view/8809>
2. <http://www.igidr.ac.in/pdf/publication/WP-2020-013.pdf>

3. <https://www.sciencedirect.com/science/article/pii/S0048969720324311>
4. <https://www.cliojournal.org/index.php/0976-075x/article/view/618>
5. <https://www.purakala.com/index.php/0971-2143/article/view/1536>
6. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3599102](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3599102)
7. <https://www.purakala.com/index.php/0971-2143/article/view/2967>
8. <https://www.purakala.com/index.php/0971-2143/article/view/2967>
9. <https://www.jhsss.org/wp-content/uploads/2020/06/Paper-6-2020.2.3-Tentacles-of-COVID-19-in-India-Impact-on-Indian-Economy-Society-Polity-and-Geopolitics.pdf>
10. <https://archives.tpnsindia.org/index.php/sipn/article/view/8791>
11. <https://www.purakala.com/index.php/0971-2143/article/view/2173>
12. <https://www.purakala.com/index.php/0971-2143/article/view/2967>
13. <https://www.purakala.com/index.php/0971-2143/article/view/2967>
14. <http://shabdbooks.com/gallery/151-june2020.pdf>



## शीर्षक:-प्रधानमंत्री जन-धन-योजना के अंतर्गत इन्दौर जिले में खोले गए खातों का समीक्षात्मक अध्ययन

ललित चौहान  
शोधार्थी  
रविन्द्रनाथ विश्वविद्यालय, भोपाल

डॉ. बासन्ती मैथिल्य मारलीन  
वाणिज्य प्रभारी  
रविन्द्रनाथ विश्वविद्यालय, भोपाल

### 1. शोध का उद्देश्य

वर्तमान सरकार ने गरीबों एवं मध्यम वर्गों की मनोदशा को समझते हुए एक नई योजना की शुरुवात की जिसका उद्देश्य गरीबों एवं मध्यम वर्गों को समान अधिकार दिलाते हुए उनकी स्थिति को सद्दृढ़ करना है। इस योजना का नाम “प्रधानमंत्री जन धन योजना” रखा गया है, जिसके अंतर्गत बैंक खाता खोला जाएगा जिसके साथ विभिन्न सुविधाएँ भी दी जाएगी।

माननीय प्रधानमंत्रीजी ने प्रधानमंत्री जन-धन योजना का आरम्भ अगस्त 2014 को किया है। यह योजना गरीबी और कर्ज के दुष्चक्र से बाहर निकालने में यह योजना कारगर सिद्ध होगी। गरीबों का विश्वास और गर्व बढ़ेगा। भारतीयों में बचत करने की आदत है और वे अपने बच्चों के भविष्य को लेकर चिन्तित रहते हैं। बैंक से नहीं जुड़े परिवारों को बैंकिंग के लिए प्रेरित किया जाएगा। यह महज एक बैंक खाता नहीं है क्योंकि इसमें अन्य लाभ भी हैं। प्रधानमंत्री जन-धन योजना गरीब जनता को आर्थिक रूप से शसक्त बनाने हेतु चलाई जा रही है। इसके अंतर्गत जिस भी देशवासी का एक भी बैंक खाता नहीं है उनसे इस योजना के तहत खाता खोलने की अपील की गई है। इसके अलावा अगर कोई भारतीय नागरिक अपने पहले से बने खाते को योजना में शामिल करना चाहता है तो वह ऐसा कर सकता है। उसे वे सभी सुविधाएँ मिलेगी जो इस योजना के तहत दी जा रही हैं जो इस प्रकार हैं—

1. जीवन बीमा सुविधा
2. ऋण सुविधा
3. जीरो बैलेंस सुविधा
4. रुपये कार्ड सुविधा।

### 2. शोध का उद्देश्य

प्रस्तुत शोध के सम्बन्ध में निम्न उद्देश्य रहेंगे—

1. इन्दौर जिले के जन-धन योजना के अंतर्गत खोले जाने वाले खातों की स्थिति का अध्ययन करना।
2. इस योजना के अंतर्गत इन्दौर जिले के गरीब एवं मध्यमवर्गीय परिवार को प्राप्त लाभ का अध्ययन करना।
3. प्रधानमंत्री जन-धन योजना अपने लक्ष्य को प्राप्त करने में कितनी सार्थक हुई है, उसकी सार्थकता का अध्ययन करना।

### 3. शोध अध्ययन की परिकल्पना

शोध की सफलता का आधार सही शोध प्रबंध का चयन व सही उद्देश्य का निर्धारण है। शोध प्रबंध के चयन व उद्देश्य निर्धारित हो जाने के पश्चात इस विषय पर विचार करना आवश्यक है कि विषय के चयन के पीछे कौन-कौन सी अवधारणाएँ हैं जिन्हें इस शोध का आधार बनाया जाए। अतः इस शोध प्रबंध की मुख्य परिकल्पनाएँ इस प्रकार हैं—

1. प्रधानमंत्री जन-धन योजना के अंतर्गत प्रत्येक पात्र व्यक्ति को प्रधानमंत्री जन-धन योजना का लाभ प्राप्त हो रहा है।
2. प्रधानमंत्री जन-धन योजना का निर्वहन पूर्णरूप से हो रहा है

### 4. शोध विधि

1. प्रस्तावित शोध प्रबंध प्राथमिक व द्वितीयक समकों पर आधारित है।
  - (i) योजना से संबंधित रिपोर्ट।
  - (ii) प्रकाशित पत्र-पत्रिकाएँ।
2. प्रस्तावित शोध का क्षेत्र मध्य प्रदेश का इन्दौर जिला है।

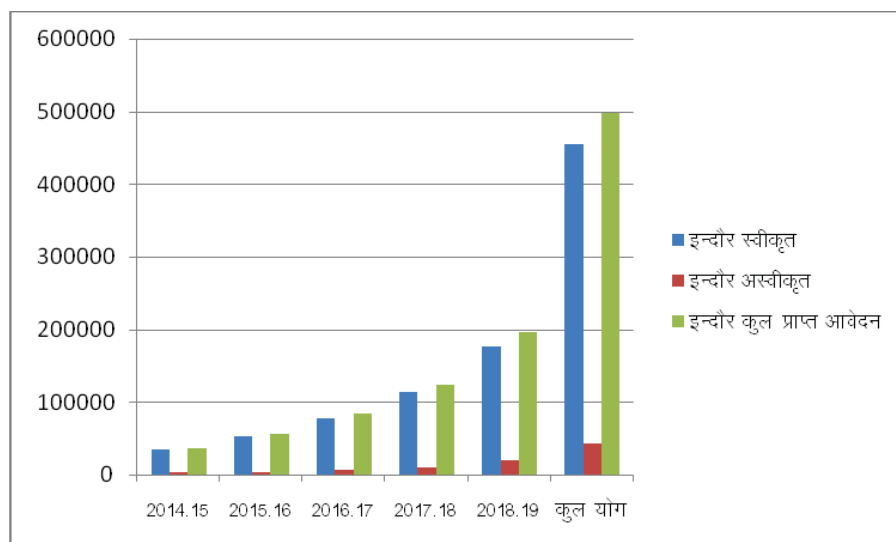
## तालिका क्रमांक 01

## प्रधानमंत्री जन-धन योजना के अंतर्गत खाता खुलवाने हेतु प्राप्त आवेदन स्वीकृत एवं अस्वीकृत आवेदन संबंधी

(राशि लाखों रुपये में)

| वर्ष           | इन्दौर        |              |                   |
|----------------|---------------|--------------|-------------------|
|                | स्वीकृत       | अस्वीकृत     | कुल प्राप्त आवेदन |
| 2014-15        | 34354         | 2586         | 36940             |
| 2015-16        | 52811         | 3569         | 56380             |
| 2016-17        | 77180         | 6940         | 84120             |
| 2017-18        | 114004        | 10374        | 124378            |
| 2018-19        | 176508        | 19134        | 195642            |
| <b>कुल योग</b> | <b>454857</b> | <b>42603</b> | <b>497460</b>     |

स्त्रोत : इन्दौर की अग्रणी बैंक – बैंक ऑफ इण्डिया से प्राप्त जानकारी एवं वार्षिक पत्रिका के अनुसार।



उपरोक्त तालिका के अध्ययन करने से ज्ञात होता है कि, वर्ष 2014-15 में प्रधानमंत्री जन-धन योजना के अंतर्गत खाता खुलवाने हेतु इन्दौर जिले के अंतर्गत कुल 36940 आवेदनपत्र प्राप्त हुए थे, जिसमें से 2586 आवेदनपत्र तकनीकी त्रुटियों के कारण अस्वीकृत कर दिये गये। वहीं 34354 आवेदनपत्र स्वीकृत किये गये। वर्ष 2015-16 में इन्दौर जिले के अंतर्गत 52811 आवेदनपत्रों को स्वीकृत किया गया, जबकि 3569 आवेदनपत्रों को अस्वीकृत किया गया। प्रधानमंत्री जन-धन योजना के अंतर्गत खाता खुलवाने हेतु कुल 56380 आवेदनपत्र प्राप्त हुए थे। वर्ष 2016-17 में इन्दौर जिले में 77180 आवेदनपत्रों को स्वीकृत करते हुए खाता खोलने की प्रक्रिया की गयी, जबकि 6940 आवेदनपत्रों को अस्वीकृत कर दिया गया।

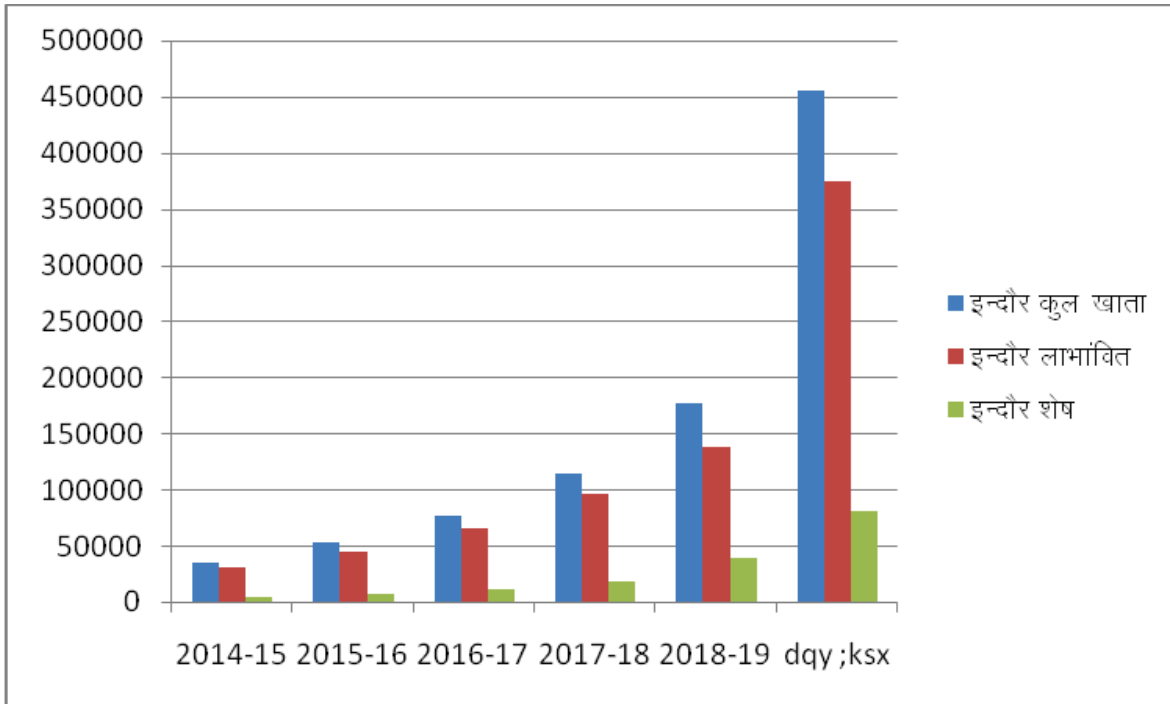
वर्ष 2016-17 में प्रधानमंत्री जन-धन योजना के अंतर्गत इन्दौर जिले में कुल 84120 आवेदनपत्र प्राप्त हुए थे। वर्ष 2017-18 में इन्दौर जिले में कुल 124378 आवेदनपत्र प्रधानमंत्री जन-धन योजना के अंतर्गत खाता खुलवाने हेतु आवेदनपत्र प्राप्त किये गये, जिसमें से 114004 आवेदनपत्रों को प्रधानमंत्री जन-धन योजना के अंतर्गत खाता खोलने हेतु स्वीकृत किया गया वहीं 10374 आवेदनपत्रों को अस्वीकृत कर दिया गया। वर्ष 2018-19 में 176508 आवेदनपत्रों को स्वीकृत किया गया, जबकि 19134 आवेदनपत्रों को अस्वीकृत कर दिया गया। कुल आवेदनपत्र 195642 थे।

तालिका क्रमांक 02  
योजना के अंतर्गत कुल लाभान्वित खाताधारको संबंधी

(राशि लाखों रुपये में)

| वर्ष           | इन्दौर        |               |              |
|----------------|---------------|---------------|--------------|
|                | कुल खाता      | लाभान्वित     | शेष          |
| 2014-15        | 34354         | 30077         | 4277         |
| 2015-16        | 52811         | 45154         | 7657         |
| 2016-17        | 77180         | 65912         | 11268        |
| 2017-18        | 114004        | 96049         | 17955        |
| 2018-19        | 176508        | 137412        | 39096        |
| <b>कुल योग</b> | <b>454857</b> | <b>374604</b> | <b>80253</b> |

स्त्रोत : इन्दौर की अग्रणी बैंक – बैंक ऑफ इण्डिया से प्राप्त जानकारी एवं वार्षिक पत्रिका के अनुसार।



तालिका क्रमांक 2 के अध्ययन करने से ज्ञात होता है कि वर्ष 2014-15 में प्रधानमंत्री जन-धन योजना के अंतर्गत कुल 34354 खाताधारकों में से 30077 खाताधारकों को प्रधानमंत्री जन-धन योजना के अंतर्गत लाभ प्राप्त हुआ था वहीं 4277 खाताधारकों को प्रधानमंत्री जन-धन योजना के अंतर्गत अन्य तकनीकी कारणों के कारण लाभ प्राप्त नहीं हुआ। वर्ष 2015-16 में इन्दौर जिले में कुल 52811 खाताधारकों में से 45154 खाताधारकों को लाभ प्राप्त हुआ था, जबकि 7657 खाताधारकों को प्रधानमंत्री जन-धन योजना के अंतर्गत लाभ प्राप्त नहीं हो सका। वर्ष 2016-17 में इन्दौर जिले में 77180 खाताधारकों में से 11268 खाताधारकों को प्रधानमंत्री जन-धन योजना के अंतर्गत लाभ प्राप्त नहीं हो सका, जबकि 65912 आवेदकों को प्रधानमंत्री जन-धन योजना के अंतर्गत लाभ प्राप्त हुआ था। वर्ष 2017-18 में इन्दौर जिले में 114004 खाताधारकों में से 96049 खाताधारकों को प्रधानमंत्री जन-धन योजना के अंतर्गत लाभ प्राप्त हुआ था वहीं 17955 खाताधारकों को प्रधानमंत्री जन-धन योजना का लाभ प्राप्त नहीं हो सका। वर्ष 2018-19 में प्रधानमंत्री जन-धन योजना के अंतर्गत कुल 176508 खाताधारकों में से 137412 खाताधारकों को प्रधानमंत्री जन-धन योजना के अंतर्गत प्रदान किये जाने वाले लाभों को प्रदान किया गया। वहीं 39096 खाताधारकों को तकनीकी कारणों से यह लाभ प्राप्त नहीं हो पाया।

### समीक्षा

समीक्षात्मक रूप से कहा जा सकता है कि इन्दौर जिले में लाभान्वित खाताधारकों की संख्या 374604 है। किंतु इन्दौर जिले में लाभान्वित खाताधारकों का प्रतिशत कम है।

### समस्याएँ

इस अध्याय में शोध की समस्याएँ, सुझाव को प्रस्तुत किया गया है। साथ ही भविष्य में योजना के समक्ष जो चुनौतियाँ हैं योजना के अध्ययन के आधार पर यह विश्लेषण किया गया है।

योजना सम्बन्धी कमियाँ, समस्याएँ तथा कठिनाईयाँ कई प्रकार की हो सकती है। इनमें से कुछ का सम्बन्ध स्वरूप, संरचना, प्रावधान, क्रियान्वयन के तरीके, क्रियान्वयन एजेंसियों, उनके संगठन आदि एवं कुछ का सम्बन्ध गाँव-शहर की जनसंख्या, वहाँ का रहन-सहन, शिक्षा एवं शिक्षा की गुणवत्ता, वहाँ के लोगों की मानसिकता, संस्कृति एवं विचारधारा आदि हो सकते हैं। ये समस्याएँ एवं कठिनाईयाँ एक प्रकार से किसी भी योजना से जुड़ी चुनौतियाँ हैं। जो किसी भी योजना को ओर अधिक उपयुक्त बनाने के रास्ते सुझाती है। इन्दौर एवं उज्जैन जिले के हितग्राहियों की समस्याएँ सामने आई हैं। जो इस प्रकार हैं—

योजना के लाभकारी पक्ष के साथ इनका नकारात्मक पक्ष भी सामने आया है। इस योजना के अन्तर्गत हितग्राहियों को अनेक समस्याओं का सामना करना पड़ता है। ये समस्याएँ इस प्रकार हैं :—

1. योजना के अन्तर्गत खाताधारी छह महीने के अंतराल में 5000 तक

की राशि ऋण के तौर पर सीधे बैंक से ले सकता है किन्तु योजना के अन्तर्गत दी जाने वाली ऋण राशि पर्याप्त नहीं है। पर्याप्त पूँजी के अभाव में लिये जाने वाली ऋण राशि का कोई औचित्य नहीं है।

2. खाते खुलवाने के आवेदन के लिए हितग्राही को बार-बार बैंक के चक्कर लगाना पड़ते हैं जिसमें अनावश्यक रूप से श्रम एवं समय का अपव्यय होता है, जो एक हितग्राही के लिये ओर अधिक कठिनाईयाँ पैदा करने वाला कारक होता है।
3. योजना के अन्तर्गत खाते खुलवाने की प्रक्रिया जटिल है जिसमें कई प्रकार के प्रमाण-पत्र लगाने पड़ते हैं।
4. हितग्राही के कम पढ़ा-लिखे होने के कारण व्यावहारिक कठिनाईयों का सामना करना पड़ता है। ये व्यक्ति बैंक की कार्य विधियों को नहीं समझ पाते हैं। बैंक के प्रति इनका ज्ञान भी कम होता है। जिसके कारण कुछ लोग अपने स्वार्थ के लिये गलत जानकारी देकर भ्रमित करते हैं जिससे इनका बैंक के प्रति अविश्वास उत्पन्न होता है।
5. वर्तमान में भी नवीन तकनीकी ग्रामीण क्षेत्र तक नहीं पहुँच पा रही हैं जिससे ग्रामीण नवीन तकनीकी का उपयोग करने में असमर्थ हैं एवं इस योजना के अंतर्गत खाताधारी को रुपये कार्ड की सुविधा दी जा रही है। रुपये कार्ड के जरिये खाताधारक किसी भी बैंक के एटीएम मशीन से रुपये निकाल सकते हैं। जिसके लिए शिक्षित होने के साथ-साथ उन नवीन तकनीकियों से अवगत होना भी आवश्यक है अन्यथा दी गई सुविधाओं का लाभ हितग्राही तक नहीं पहुँच सकता है।
6. योजना में खाता खुलवाने में बैंकों के अधिकारियों का व्यवहार हितग्राहियों के प्रति ठीक नहीं है। बैंक के कई दिनों तक चक्कर लगाने के बाद खाता खोलने के लिए स्वीकृति मिलती है।
7. योजना के अंतर्गत बैंक खाता खुलवाने की प्रक्रिया में बैंक अधिकारी व कर्मचारी द्वारा आवश्यक सहयोग एवं मार्गदर्शन प्रदान नहीं किया जाता है।
8. योजना के अन्तर्गत पात्र हितग्राहियों को दिये जाने वाले प्रशिक्षण में व्यावहारिकता पर कम ध्यान दिया जाता है। तथा प्रशिक्षण की अवधि बहुत कम है। जिससे हितग्राहियों को योजना का पर्याप्त एवं विस्तृत ज्ञान नहीं हो पाता है।

### सुझाव

शोध कार्य एवं अध्ययन के आधार पर उक्त समस्याओं व कठिनाईयों के समाधान हेतु कुछ सुझाव प्रस्तुत किये जा सकते हैं —

1. प्रशिक्षण में सैद्धान्तिक ज्ञान पर अधिक जोर दिया जाता है जबकि इसके

- विपरीत प्रशिक्षण की उपयोगिता को बढ़ाने के लिये व्यवसाय के व्यावहारिक पक्ष पर अधिक ध्यान दिया जाना चाहिये।
2. योजना के अन्तर्गत ऋण प्राप्ति हेतु की जाने वाली कागजी कार्यवाही एक कम पढ़े-लिखे व्यक्ति के लिए कठिन होती है अतः उनमें से कुछ औपचारिकताओं को गुण-दोष के आधार पर कम किया जाना चाहिये। ऋण स्वीकृति की प्रक्रिया को सरल बनाया जाना चाहिये।
  3. योजना से जुड़ी प्रक्रियाओं को पूरा करने के लिए एक निश्चित दिनांक तय किया जाना चाहिये व सारी औपचारिकताओं से सम्बन्धित कार्यवाही को पूर्ण करने के लिये शिविरों का आयोजन किया जाना चाहिये।
  4. योजना के क्रियान्वयन से सम्बन्धित एजेंसियों के अधिकारियों का व्यवहार आवेदकों के लिये सहयोगात्मक व सहानुभूतिपूर्ण होना चाहिये।
  5. हितग्राहियों को समय-समय पर एजेंसियों व बैंक अधिकारियों की ओर से आवश्यक मार्गदर्शन दिया जाना चाहिये।
  6. अधिकारियों द्वारा आवेदनकर्ता को सम्पूर्ण जानकारी एक ही बार में समझा दी जानी चाहिये। अनावश्यक रूप से आवेदनकर्ता को बैंक के चक्कर नहीं लगवाना चाहिये।
  7. हितग्राहियों को सम्मानित किया जाना चाहिये ताकि अन्य हितग्राही उत्साहित हो और अधिक रुचि लें।
  8. योजना के प्रचार-प्रसार की व्यवस्था की जानी चाहिये। विशेष रूप से ग्रामीण क्षेत्रों में शिविर लगाकर लोगों को खाता खुलवाने के लिए प्रेरित करना चाहिये।
  9. बैंकों की शाखाओं के रूप में दूरस्थ ग्रामीण अंचलों में केन्द्र स्थापित किये जाने चाहिये।
  10. रिश्वत लेकर ऋण स्वीकृत करने वाले बैंक अधिकारियों/कर्मचारियों के खिलाफ सख्त कार्यवाही की जानी चाहिये।

## "COVID -19 pandemic and online Education: An Empirical study With reference to student & employees"

<sup>1</sup>Ayushi Tiwari, <sup>2</sup>Nikhil Tiwari, <sup>3</sup>Dr. Pooja Chaturvedi

<sup>1,2</sup>Student of Master of Business Administration, <sup>3</sup>Associate Professor

<sup>1, 2, 3</sup> Faculty of Management, Rabindranath Tagore University

### ABSTRACT

Electronic learning offers many methods which decreases the limitations of traditional education. E-learning appeals to organizations that a strong need or desire to deliver consistent training across multiple locations. Today's new economy is characterized by industrial change, globalization, knowledge sharing and information technology revolution thus, traditional classrooms do not satisfy the needs of new world of lifelong learning. This paper aims to provide a discussion about the satisfaction level of students among E-learning and employees among work from home by online mechanism. This study examines the evidence of the effectiveness of online learning by organizing and summarizing the findings and challenges of online learning into positive, negative, mixed and null findings. The research was Descriptive in nature and both primary and secondary data has been collected for this purpose. Taken as a whole, there is robust evidence to suggest online learning is generally at least as effective as the traditional format.

**Keywords:-** E-learning, online learning, web-enhanced, blended learning, hybrid learning, significant learning, technology-mediated instruction.

### INTRODUCTION

Technology, communication & ICT applications have presented our generation with numerous opportunities. Technology has touched each and every field in some or the other way. Education through e-learning applications have opened up horizons of e-learning from distance, efficient method of learning and added quality to knowledge sharing activities & some technology experts had developed application for e-meeting for working people too. There has been a significant amount of research by scholars, academicians & technology experts with technology at its prime focus but the effectiveness of e-learning and e-meeting in extensively shaping the future of students and employees & adding quality to their thinking & values has not been discussed much. This study therefore reviews the literature that is available on online & offline sources in the form of books, scholarly articles and research writings from peer reviewed journals. The aim of the literature review is to understand the scholarly works on the topic of e-learning and e-meeting both from the technological point of view and for its effect on the students as well as on employees during covid-19 pandemic. This research will help us to know the effect of e-learning as well as e-meeting on students and working people as to know how they cope up with the continuity of knowledge during corona virus pandemic.

### LITERATURE REVIEW

This research includes a review of literature relating to e-learning as against traditional forms of classroom teaching attitudes and perception of faculty and students towards e-learning. The following is a brief description on the literature review that has been undertaken.

Jakobsone & Cakula (2015) aimed to go a new perspective on knowledge sharing process & better understand the future of automated learnings support system involving the use of new technological opportunities. The major study question was how the automated learning support system could develop the efficiency & quality of further knowledge flow



& other sustainable cooperation between educational institutions & entrepreneurs. The researchers found that the analysis of the information system as an online learning, support platform, improved quality of knowledge flow & recommendations for advancing work-based learning besides the encouragement of efficient management technologies.

E-learning can deliver the following substantial positive effects. (1) Students are more engaged & able to develop 21st century skills. (2) Teachers have a positive attitude towards their work & are able to provide more personalized learning. (3) Family interaction and parental involvement may increase. (4) Economic progress can result from direct job creation in the technology industry as well as from developing a better educated workforce. (The Positive Impact of E-learning-2012 UPDATE, White Paper on Education Transformation).

Sangeeta Kakoty, et.al. (2011) analyses the current e-learning procedure and showed the new dimension of research work on the area that follows the importance e-education system and recent market of e-learning procedure. This study showed that globalization of education, cross-culture aspects and culturally complex student support system in distance as well as e-learning environment is a prospective research area.

Internet education is soon to be the dominant form of education in the world. It emphasized that a lot of efforts is being dominated into furthering the work methods and communication among students & professors aimed at bettering the quality of this kind of studying. (Mirjana Radovic-Markovi, 2010).

E-learning has been extensively not just for academic purposes for students but also for business and corporate employees training on various upcoming industrial revisions (Judith B. Strother, 2002).

This literature review suggested that despite the enormous growth of e-learning in the education & its perceived benefits, the efficiency of such tools will not be fully utilized if the users inclined to not accept and use the system. Therefore, the successful implementation of e-learning tools depends on whether or not the people are willing to adopt & accept the technology.

## OBJECTIVES

The following were the objectives for conducting the study;

- 1) To measure the level of satisfaction among students on online learning mechanism during covid-19 pandemic
- 2) To measure the key challenges faced by learning in an e-learning program via meeting apps during covid-19 pandemic.
- 3) To measure the level of satisfaction on work from home employees via meeting apps during covid-19 pandemic.

## HYPOTHESIS

The research is based on the situation that over a period during COVID 19 which in turn have helped them to get the online education. For the purpose of testing the hypothesis, has developed null hypothesis as;

H0= There is no significant difference in the satisfaction level towards online learning on the basis of age.

H1= There is a significant difference in the satisfaction level towards online learning on the basis of age.

## METHODOLOGY

The research methodology was then formulated considering the area of research. The criteria used for selecting studies reviewed were; both primary and secondary focus on e-learning and issues faced by students and employees

during covid-19 pandemic. This research was supplemented by a questionnaire survey of learners & employers to ensure the data identified from the literature were grounded in reality. The research was descriptive in nature and the sample size taken was of 200 respondents. The type of sampling used in this paper was convenience sampling. The paper draws on in-depth qualitative comments from students and employees evaluation of e-learning module during covid-19 pandemic situation, to develop a picture of their perspective on the experience. Questionnaire that yields some basic qualitative data were administered. General questions on satisfaction and dissatisfaction identified the criteria that students used in evaluation, while specific questions of aspects of module generated some insights into the students learning process during covid-19 pandemic.

### INTERPRETATION

Data has been interpreted by using statistical tools like, percentage and ANOVA test.

### LIMITATIONS OF THE STUDY

1. The study is restricted to the selected sample of Madhya Pradesh. Therefore the results of the study cannot be generalized.
2. The statistical tools used to analyze the data have their own limitations.
3. All the limitations are applicable in primary data to this study.

### DATA ANALYSIS & INTERPRETATIONS

#### QUESTION- WISE ANALYSIS MENTIONED HERE:-

##### Q.1 WHAT IS YOUR PROFESSION?

| Choices  | Percentage | Count |
|----------|------------|-------|
| Student  | 81.87%     | 149   |
| Teacher  | 3.85%      | 7     |
| Employee | 14.29%     | 26    |

TABLE 2

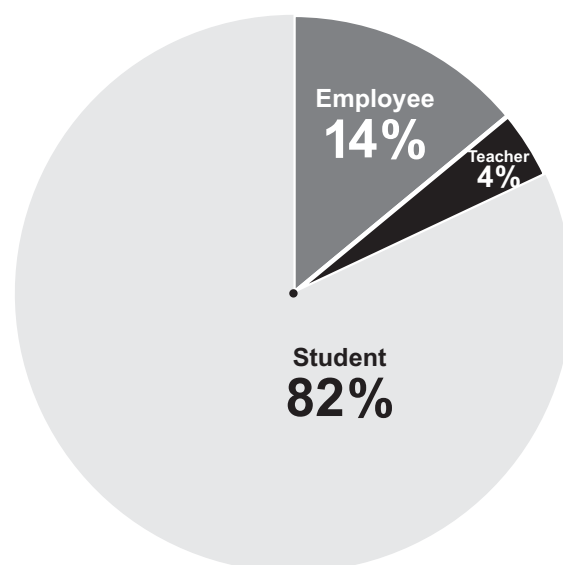


Figure - 1

Fig.1 illustrates that out of our total sample size i.e 184 respondents collected from the survey ,majority are the students i.e (81.87%) followed by employees i.e (14.29%) & (3.85%) are teachers who are using online learning mechanism.

As we belongs to the students fraternity, so there is a wide majority of students out of 184 respondents other than employees and teachers in our survey who use online learning mechanism during covid-19 pandemic.

#### Q.2 WHICH APPLICATION ARE YOU USING FOR ONLINE EDUCATION/ONLINE MEETING?

| 7. Which Application are you using for Online Education/Online Meeting |        |       |
|--|--------|-------|
| Results  |        |       |
| Choices  | %      | Count |
| Zoom App   | 79.88% | 131   |
| Google Hangouts Meet   | 15.85% | 26    |
| Cisco Webex Meeting  | 4.27%  | 7     |

TABLE 2

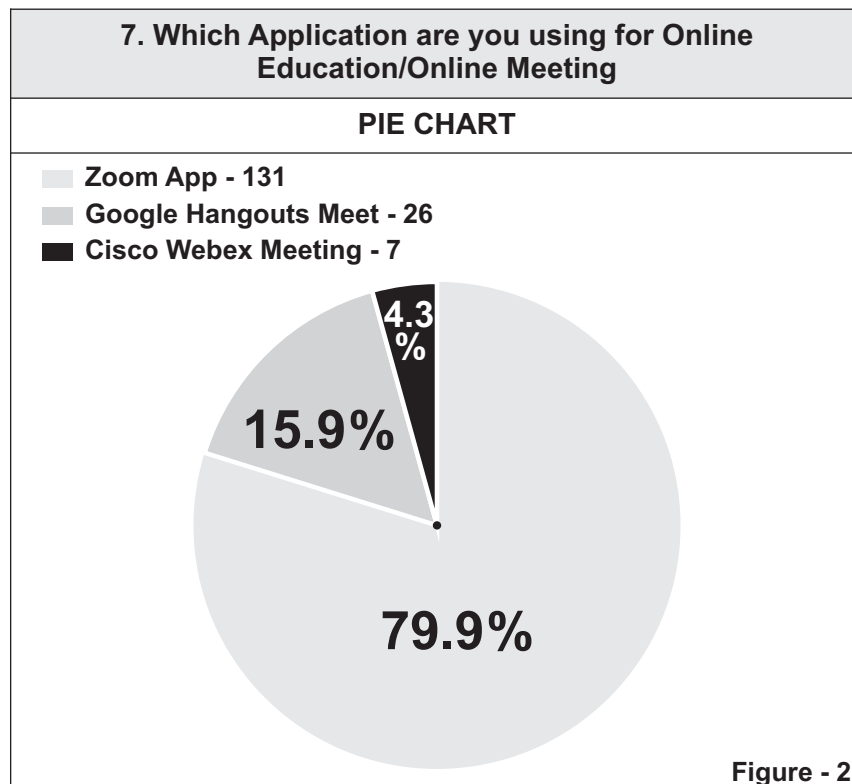


Figure - 2

Fig.2 illustrates that (79.88%) respondents are using Zoom App , (15.85%) are using Google Hangouts & (4.27%) are using Cisco Webex Meeting App.

Majority of people are using Zoom App because it is easy and free and have much higher quality than Hangouts, it has better call quality, ability to record meetings and allows multiple people within meetings to share their screens at once.

### Q.3 WHAT IS YOUR LEVEL OF SATISFACTION IN ONLINE MODE

| 8. What is your level of Satisfaction in Online Mode |       |       |
|--|-------|-------|
| Results  |       |       |
| Choices  | %     | Count |
| Highly Satisfied                                     | 11.89 | 22    |
| Satisfied  | 71.89 | 133   |
| Dissatisfied   | 12.43 | 23    |
| Strongly Dissatisfied                                | 3.78  | 7     |

TABLE 3

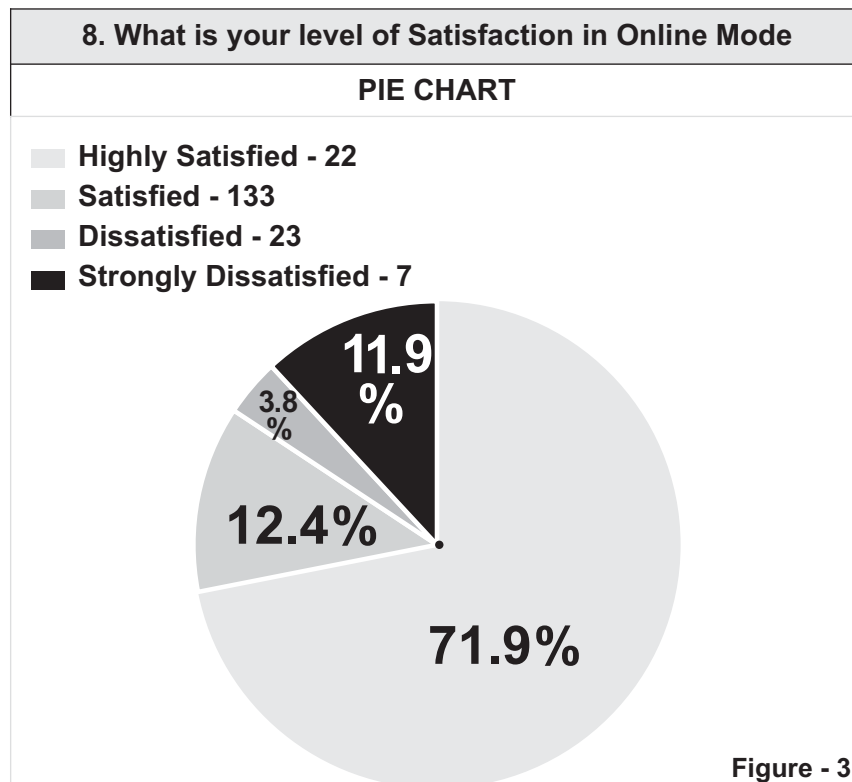


Fig.3 illustrates that (71.89%) respondents are satisfied with online mechanism & (12.43%) respondents are dissatisfied but (11.89%) respondents are highly satisfied & rest (3.78%) respondents are those who are strongly dissatisfied with the online learning mechanism.

According to the survey, majority of respondents are satisfied with online learning mechanism because it is easily available , saves money, saves time, flexible time schedule and environment.

#### Q.4 IS WORK FROM HOME/CLASSES IN HOME EASY?

| 9. Is work from home/Classes in home easy? |        |       |
|--|--------|-------|
| Results                                    |        |       |
| Choices                                    | %      | Count |
| Yes  | 62.98% | 114   |
| No   | 37.02% | 67    |

TABLE 4

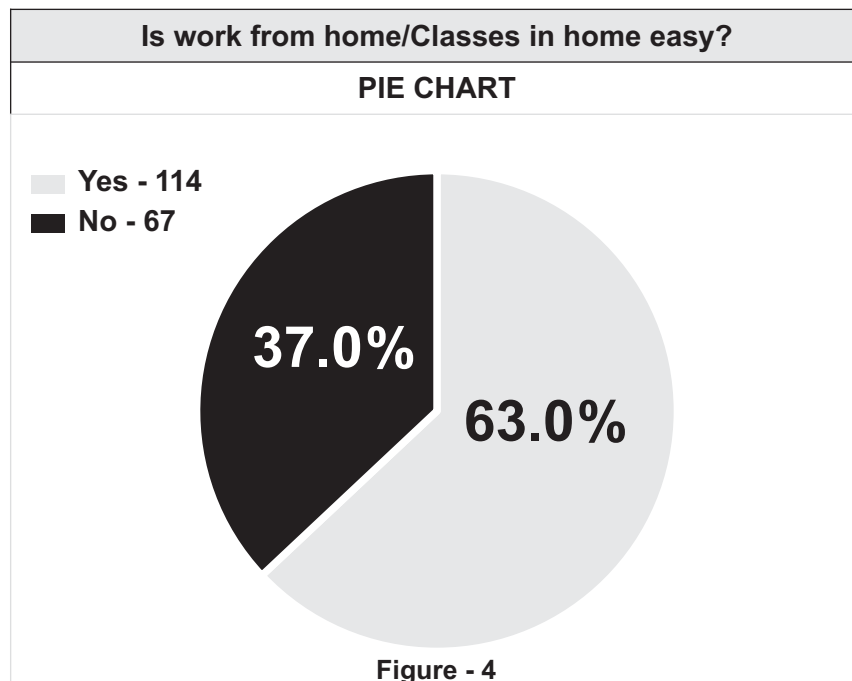


Fig.4 illustrates that out of 184 respondents ( 62.98%) employees/students said that work from home/ classes from home are easy & (37.02%) students/employees said that it is not easy to work from home/classes from home.

Because of its flexible time schedule and comfortable working environment, majority of respondents found it easy to do classes / work from home.

Q.5 DO YOU HAVE ANY BENEFIT FROM ONLINE MODE, PLEASE SUGGEST-

| Benifits                          | Count | Percentage |
|-----------------------------------|-------|------------|
| Saves time                        | 121   | 29%        |
| Saves Money                       | 80    | 19%        |
| Easy                              | 94    | 22%        |
| Flexible Schedule and environment | 75    | 18%        |
| Insturcor availabilty             | 53    | 12%        |

TABLE 5

Q.10 Do you have any benefit from online mode please state -

- Saves time
- Saves Money
- Easy
- Flexible Schedule and environment
- Insturcor availabilty

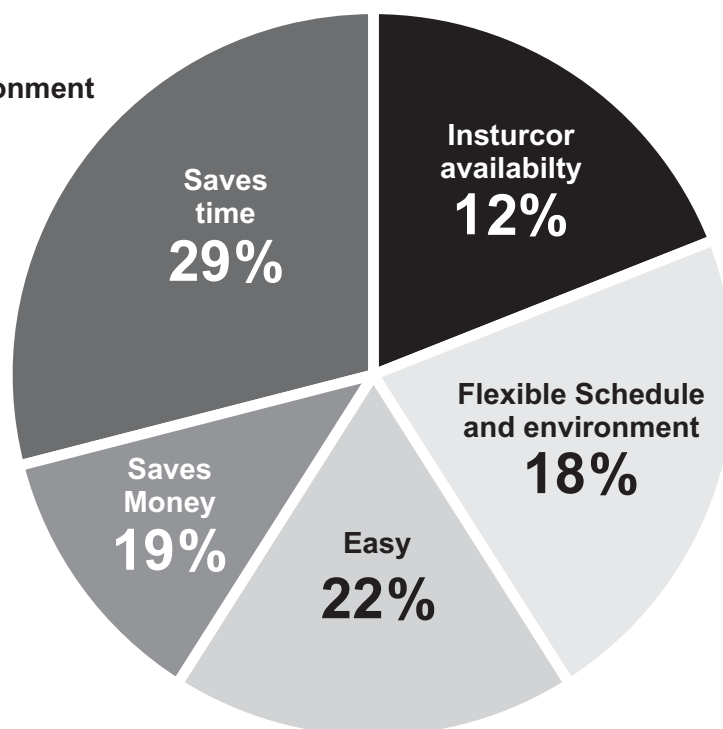


Figure - 5



Fig.5 illustrates that out of 184 respondents (29%) respondents said that the benefit of online mode is it saves times, (19%) said it saves money, (22%) found it easy, (18%) said that it has flexible time schedule and environment and rest (12%) said that it has good availability of instructors.

According to the survey, there are some benefits of online learning mode that it saves time, saves money, it has flexible time schedule and environment and it is easy to access. Instructor's availability is also good.

| 11. Can you share notes/files by the means of application? |        |       |
|--|--------|-------|
| Results  |        |       |
| Choices  | %      | Count |
| Yes  | 65.93% | 120   |
| No   | 34.07% | 62    |

TABLE 6

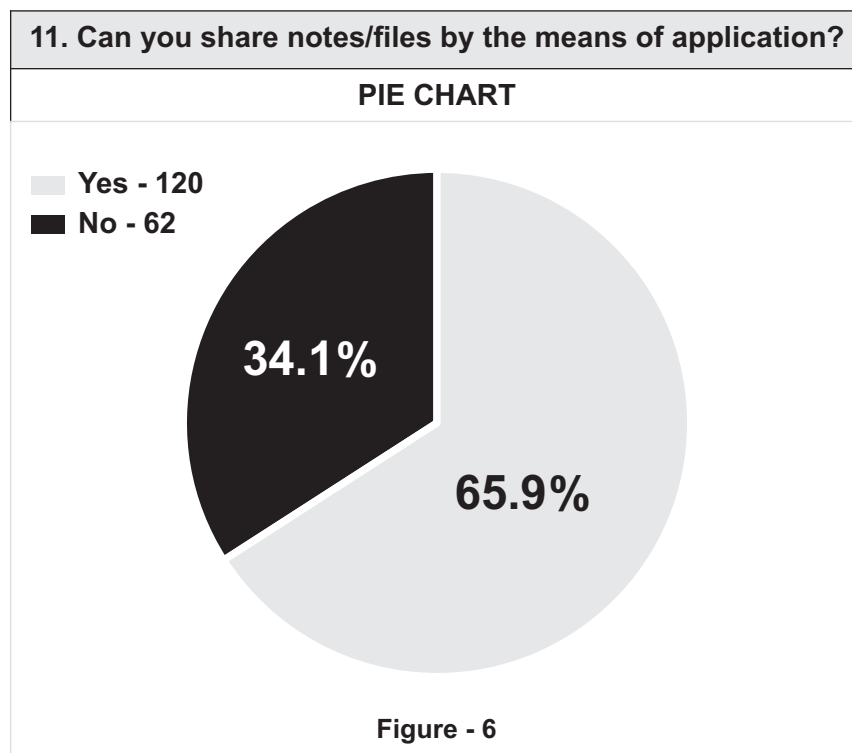


Fig.6 showed that (65.93%) students and employees shares notes/ files by means of application during online learning mechanism & (34.07%) said that they does not share any file/notes via application.

Majority of repondants said that they shares files/notes via screen sharing and recording by means of application.

Q.7 IS THERE ANY NEGATIVE POINT OF THIS MODE?

| 12. Is there any negative point of this mode |        |       |
|--|--------|-------|
| Results                                      |        |       |
| Choices                                      | %      | Count |
| Not having proper connecting                 | 55.61% | 109   |
| Device getting not, because of...            | 24.49  | 48    |
| Any other device problem                     | 19.90  | 39    |

TABLE 7

- Not having proper connecting
- Device getting not, because of
- Any other device problem

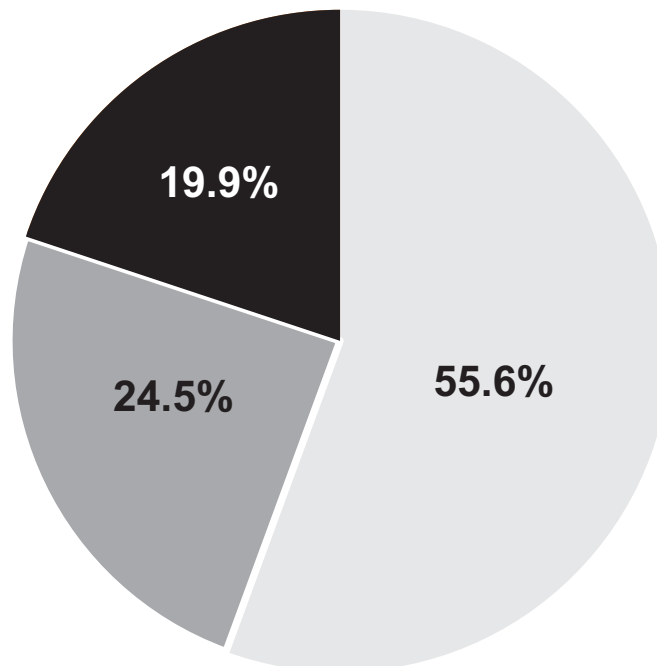


Figure - 7

Fig.7 illustrates that (55.61%) students/employees said that not having proper connectivity is the most significant negative point of online mode, (24.49%) students/employees said that device heating due to back to back classes is also an issue. Rest (19.9%) said that other than these, any other device problem is also the negative point of this mechanism.

Out of 184 respondents, majority of respondents found that it has improper connectivity which delays work and they also get half knowledge. Heating up of device is also an issue because it makes battery low faster which is the negative point of online learning mechanism

#### Q.8 DO YOU WANT ONLINE MODE SHOULD BE USED AFTER LOCKDOWN AL

| 13. Do you want Online mode should be used after Lockdown also..? |        |       |
|---|--------|-------|
| Results   |        |       |
| Choices   | %      | Count |
| Yes   | 55.43% | 97    |
| No  | 44.57% | 78    |

TABLE 8

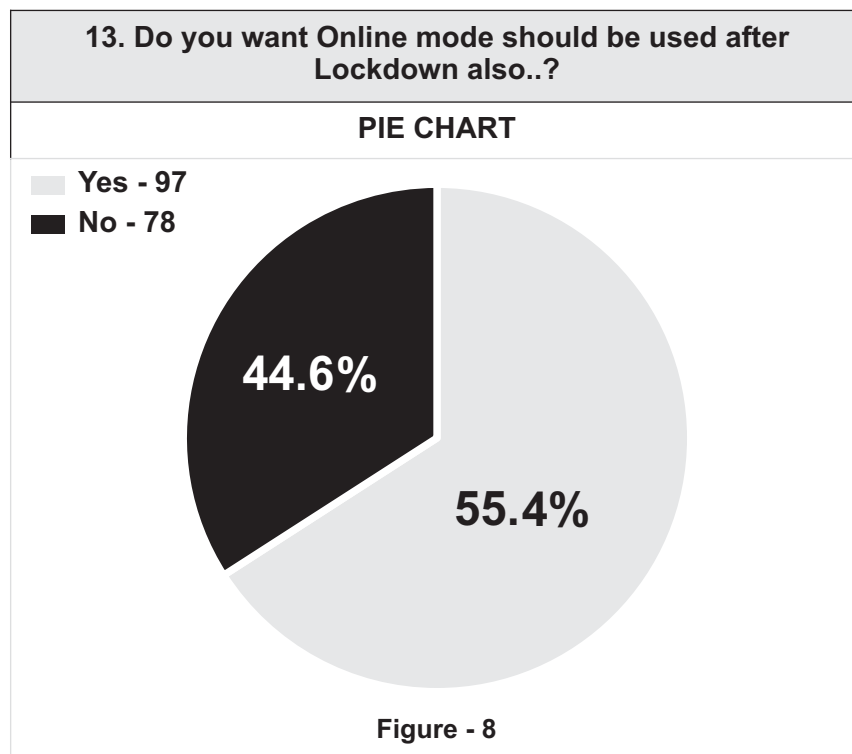


Fig.8 illustrates that (55.4%) respondents said that online mode should be used after the lockdown also and (44.57%) respondents said that it should not be continue after lockdown also.

According to the survey, out of 184 respondents, majority of respondents want this online learning mechanism to be continued after lockdown also due to its comfortable working environment, money saving and flexible time schedule. Minority of the respondents founds that it doesnot provides the taste of traditional form of learning, also due to the missing effect of face to face interaction which provides huge motivation.

Further to test the hypothesis, one-way anova test have been applied, assuming that data is normally distributed and the F value comes to be 2.031 and P value is 0.005 which is less than 0.05 indicates that there is a significance difference in the satisfaction level towards online learning mechanism on the basis of age.

|                | ANOVA          |     |             |       |       |
|----------------|----------------|-----|-------------|-------|-------|
|                | VAR00002       |     |             |       | Sig.  |
|                | Sum of Squares | df  | Mean Square | F     |       |
| Between Groups | 17.590         | 24  | 0.733       | 2.031 | 0.005 |
| Within Groups  | 57.011         | 158 | 0.361       |       |       |
| Total          | 74.601         | 182 |             |       |       |

### CONCLUSION

Online education is here and is likely to stay and grow. The review of its history clearly showed online education has developed rapidly and fueled by Internet connectivity, advanced technologies and a massive market.

Throughout this study, the primary focus was to measure the level of satisfaction among students and employees during online learning mechanism/ during work from home. Also to find out the key challenges they are facing during covid-19 pandemic. It started with a basic overview of online education as studied and perceived by Mirjana radovic markoviic, (2010), which served as the theoretical framework for this study. We then examined how presented theories have applied to various aspects of effectiveness of online learning mechanism and development. We first examined the profession of employees and online environment over time, its evolvment and the technological impacts on online learning mechanism also their preferences of online applications. In online learning mechanism, we focused our attention on the key challenges like poor internet connectivity, heating of device and other problem faced by the students and employees during online learning mechanism to determine the best and most desirable practices and strategies for online learning. Within the realm of online learning, we directed our attention onto the flexibility and instructor's availability and other benefits of online learning mechanism promoting social presence, interactions and collaborations among students, employees and instructors.

### SUGGESTIONS

- 1) Online learning is a very efficient and latest process of learning but it requires proper connectivity. If internet

connectivity will be good, then only E Learning will be favourable.

2) There can be a little doubt that online education is destined to continue to grow, possibly at ever fast speed. That being the likely case, more research should be conducted to investigate the effectiveness, efficiency and improvement of Online teaching and learning.

### **FUTURE SCOPE FOR RESEARCH**

This research was conducted considering the whole Madhya Pradesh as a sample. Similar researches could be conducted to focus on every state of the country and streamline the most preferred applications. The research findings could be compared with other states and countries to determine the effectiveness of e-Learning and the growing economy. This would help in obtaining the emphasis on various factors such as technology, study materials and availabilities, etc.

### **REFERENCES**

1. **Dongsong Zhang. (2003)** Powering e-learning in the New Millennium: An Overview of e-learning and Enabling Technology.
2. **Garrison, D.R., Anderson, T. & Archer, W. (2000).** Critical inquiry in a text-based environment: Computer conferencing in higher education. *The Internet and Higher Education*, 2(2-3),87-105.
3. **Garrison, D.R., Anderson, T. & Archer, W. (2009).** Critical thinking, cognitive presence, and computer conferencing in distance education. *American Journal of Distance Education*, 15,(1), 7-23.
4. **Intel. (2012),**The Positive Impact of e-learning-2012 UPDATE. USA: Intel.
5. **Jakobone, A., and Cakula, S. (2015).** Automated Learning Support System to provide Sustainable Cooperation between Adult Educational Institutions and Enterprises. *Procedia Computer Science*, 43, 127-133.
6. **Markovic, M.R.(2010).** Advantages and disadvantages of e-learning in comparison to traditional forms of learning. *Annals of the university of Petrosani, Economics*, 10(2), 2010, 289-298.
7. **Sangeeta Kakoty, M.L. (2011).** e-learning as a Research Area: Analytical Approach, *International Journal of Advanced Computer Science & Applications*.

## ECOLOGICAL CRISIS- AN UNTOLD PANDEMIC: ECOCRITICAL READING OF COLIN THOMAS JOHNSON'S MASTER OF THE GHOST DREAMING

**S.A.Aswin**

Ph. D. Research Scholar  
Department of English  
S. T. Hindu College, Nagercoil  
Tamil Nadu, India

**Dr. M. Saji**

Associate Professor and Head  
Department of English  
S. T. Hindu College, Nagercoil  
Tamil Nadu, India

### ABSTRACT

The paper entitled “Ecological Crisis- An Untold Pandemic: Ecocritical Reading of Colin Thomas Johnson's Master of the Ghost Dreaming” analyzes the pandemic caused due to the ecological crisis. Moreover, the paper concentrates on bringing the effects of ecological crisis because of European colonisation. Before colonisation, the indigenous people of Australia called as 'Aborigines' maintained harmony with nature. It is uneasy to separate them from nature. But after colonisation, the Aboriginal land and nature underwent a drastic change in all aspects. In this regard, the Aboriginal writer Colin Thomas Johnson in the Master of the Ghost Dreaming brings out the changes that happened in the ecology because of colonisation. He has also concentrated on the problems faced by the Aborigines due to the ecological crisis. Thus, the paper aims at bringing an untold pandemic that happened so far in the Aboriginal land in particular and throughout the world in general.

**Keywords:** Aborigines, pandemic, ecology, nature, human

The continent of Australia is enriched with ecological stability before colonisation. The Europeans explored the continent of Australia in the year 1660. On exploring the continent, they concluded that peoples have been living in Australia from time immemorial and these peoples are called Aborigines. They have been living as different clans or groups by moving around the continent. They have been maintaining a peaceful harmony with nature.

The Noongar is one of the Aboriginal groups living in Australia according to the language they speak. In this regard, Colin Thomas Johnson who is a Noongar Aborigine by himself tries to analyse the pandemic caused in the life of Aborigines due to the ecological crisis.

In this present era, environmental degradation has occurred worldwide. Still, an individual has the habit of questioning oneself regarding the relationship between human beings and nature. There is a central belief in all religions that nature was created by God. Religion teaches that nature should be protected. It is a known fact that the earth is in danger because of the usage of human activity and it is necessary to apply some changes to sustain on the earth. Because of carelessness and greed, humans are facing environmental problems today.

With this in mind, one can interpret the life of Aborigines with nature. The Aborigines believe and they hold a large degree of responsibility to their surroundings. Ecocritic Lynn Whites in the book, The Historical Roots of our Ecologic Crisis suggests it as “a link between religion and the environment”. The opening line of the novel says-

Once, Morning Star had shifted from its course and had drifted far from the dawn. It continued to shine, continued to be a beacon, but became not the harbinger of the morning, of the light, but a marker of the density of the night which has overtaken us. It illuminates our misery and tugs our souls far from day. Our spirits roam the realm



of the ghosts – an unfriendly land where trees and plants, insects and serpents, animals, and humans wither and suffer. (1)

Johnson is of the view that the Aborigines have been worshipping nature as their God. For them, everything is sacred. Even the mountains, hill, and rocks are claimed as having some spiritual essence in it. But some of the Europeans have destroyed it to a great extent. Because they considered nature as an object. In the case of Aborigines, nature is something that gives life to them every day.

Johnson singled out the European's attitudes as a reason for the environmental crisis. He proposed that the attitudes of individuals who do not regard nature as central importance need to be changed. The earth needs to be respected and used in a manner that will help to preserve it for future generations rather than exploit it for the present.

Johnson interpreted the Europeans as presenting human dominance over nature. He proclaims that it leads individuals to care about themselves and industrial progress rather than about environmental matters and the ultimate effect of their actions on the earth. According to some Europeans' interpretation, there are many other suggested explanations for how Aborigines viewed the world. Fada says- "God, those savages were melodious compared to his bestial snorting. And how healthy they were. Not a sickness among them. (6).

According to some Europeans, the universe was seen as a machine. It was from this time that economic progress was a priority for the Europeans and the long-term effects of the development and use of nature were not regarded as an issue.

For individuals following indigenous religions, there is an understanding of their place in the local environment. The Aborigines believe that there are spirits in nature and the environment needs to be taken care of. The narrator of the novel, George says,

"Jangamuttuk still believed that that the old ways could be saved from the hands of the ghosts. Most of his people on his being exiled had fallen into despair, their minds fixed on their faraway homelands" (16). In this regard, Eco critic John A. Grim writes in "Indigenous Lifeways and knowing the World" that-

In indigenous beliefs, to analyze religion as a separate system of beliefs and ritual practices apart from subsistence, the landscape is to misunderstand indigenous religion. The respect for nature and the environment is still present amongst the indigenous peoples. What is evident, however, is wherever indigenous peoples have endured, they have maintained a loving experience of place and an understanding that spiritual forces capable of leading humans into both utilitarian and self-understandings abide in all of these places. (4)

The Noongar Aborigines prefer to stay in the forest. They often prove successful in living with nature by maintaining a peaceful harmony with nature. The Noongar survive by hunting and gathering communities in the vast continent. They have a detailed understanding of nature and natural phenomena. When Ludjee speaks about her husband Jangamuttuk's willingness to stay in the forest. She says-

I sent to take some food to that Jangamuttuk. He persists in staying in the bush, on that hill, and I can't just leave him there to starve. Apart from being a faithful companion, he occupies a position of influence among the natives. The last of the old chiefs. In the old days, he was always by my side. (31)

The Noongar started dying due to hunger but the old tribal leader Jangamuttuk is found resting in the bush. While all the settlers stay outside the forest, Jangamuttuk feels comfortable staying in the forest. The Noongar tribes easily get adapted to the climatic condition of the forest.

Johnson is of the view that some of the Europeans have spoiled the life of Aborigines. When they came to the

Aboriginal land with all European ways of farming, the Aboriginal forest starts disappearing. The Aborigines could not find any chance to be mingled with nature because of the ecological crisis.

Olga Gostin and Alwin Chong in their *Living Wisdom: Aborigines and the Environment* edited by Colin Bourke, Eleanor Bourke and Bill Edwards say that,

Aboriginal Australians have indeed proved successful in adapting to their environments-which range from the tropical island habitat of the Torres Strait to the desert of the Centre; from the rain forests of the tropical north to the temperature rain forests of Tasmania; from the riverine basin of the Murray Darling to the lacustrine environment of Lake Eyre. (149)

The Noongar Aborigines have the habit of carrying their bush medicine bag with them. In the novel, Johnson comments on the medicine bag. On a serious discussion with Waai regarding Obbeh magic, Jangamuttuk adds "I have the other items in my medicine bag" (110). The use of carrying the medicinal bag is for immediate operations.

Jangamuttuk clearly utters how he is influenced by bush medicine. The missionary Fada asks Jangamuttuk to stay in a house which is constructed outside the forest but the old Noongar Jangamuttuk rejects. Jangamuttuk is the oldest tribe of the clan and he has lost his health. Fada insists on Jangamuttuk that there is no benefit in staying in the forest if he rejects the medicine. For which Jangamuttuk reply, "Medicine, medicine, got strong medicine: bush medicine. Don't worry 'bout me, right by and by.' The old man groaned and broke into another fit of coughing" (45). Jangamuttuk shows a very strong faith

over his bush medicine. He has the faith that he can recover soon if he continues the bush medicine. The Aboriginal medicine still is of great importance to the Aborigines and for Australia.

Johnson is of the view that the Europeans do not allow the Aborigines to use bush medicine. The Europeans gave European medicine to the Aborigines, in which the Aborigines do not have any idea. The Europeans forced the Aborigines to eat medicine. When the Aborigines had it, they underwent some other physical illness.

The Aborigines and the environment are intertwined in that they have had a history and will continue to have a role together in the future. The Aboriginal traditions and beliefs have shaped human values and behaviours towards the environment in the past, this is one possibility for working towards positive environmental attitudes for the future. Thus, the paper aims at bringing an untold pandemic that happened so far in the Aboriginal land in particular and throughout the world in general.

#### WORKS CITED

Johnson, Colin Thomas. *Master of the Ghost Dreaming*. Angus & Robertson, 1995.

White, Lynn. *The Historical Roots of Our Ecologic Crisis*. 1967.

Grim, John A. "Indigenous Lifeways and Knowing the World." *Oxford Handbooks Online*, 2008, doi:10.1093/oxfordhb/9780199543656.003.0007.

Gostin, Olga, and Alwin Chong. *Living Wisdom: Aborigines and the Environment*. 1994.

## ROLE OF GREEN MARKETING IN INDIA

**R. Venkatesh Kumar**

Ph.D Research Scholar (Part Time - Management)

Department of Management Studies

Sri Vidya Mandir Arts & Science College,  
Katteri, Uthangarai – 635 207, Tamil Nadu.

**E - Mail Id :** aacvenkatesh@gmail.com

### ABSTRACT

In current business scenario environmental issues plays an important role in business. In most of the countries government is concerned about the environmental problems. In today's business environmentally sustainable development has become a key issue. Thus Green marketing is one of the strategies a firm can adopt to achieve this. Green marketing is the phenomenon that has been developed in the whole world to facilitate sustainable development. There has been a change in consumer attitude towards green life style. In my paper I have discussed importance and impact of green marketing. This paper describes the current scenario of Indian green marketing and its evolution.

**Key words:** Green Marketing, Environment, Eco-friendly products, Recyclable

### INTRODUCTION

Green marketing means the development, pricing, promotion and distribution of products that do not harm the environment. Environmentalists evaluate products to determine their impact on environment and marketer's commitment to the environment.

Environmentally safe products are approved and companies receiving the green signal can use it in advertising and on packaging. According to the American Marketing Association, green marketing is the marketing of products that are presumed to be environmentally safe. Thus green marketing incorporates a broad range of activities, including product modification, changes to the production process, change in packaging, as well as modifying advertising.

### IMPORTANCE OF GREEN MARKETING

Green marketing is becoming increasingly important due to the following reasons:

#### OPPORTUNITIES

Business firms perceive green marketing to be an opportunity that can be used to achieve their objectives. For example, Maruti Suzuki has strived towards offering high quality, latest technology and value for money products to its customers. Recently, the company has introduced a peppy k series engine for its new car.

#### SOCIAL RESPONSIBILITY

Many firms are beginning to realize that as members of the wider community they must behave in an environmentally responsible fashion. Therefore, environmental issues are being integrated into the firm's corporate culture.

#### GOVERNMENT PRESSURE

Government agencies are creating more and more regulations to control hazardous wastes produced by industry. These regulations seek to protect consumers and the society from negative impact of business activities on the environment. In some cases, Governments try to induce firms and individuals to become more responsible towards the environment.

#### COMPETITIVE ADVANTAGE

Firms marketing environment friendly products and services will have a competitive advantage over firms marketing non-environment friendly products and services. For example, P&G uses the elemental chlorine-

free pulp for company's all paper products and packaging.

### **COST FACTOR**

Firms also use green marketing to reduce costs. Disposing of harmful by-products such as polychlorinated biphenyl (PCB) contaminated oil is becoming increasingly costly and difficult. Therefore, firms that can reduce harmful wastes can gain substantial cost savings.

For example, HUL with its redesigned packaging technology, the company saved 1300 tonnes of paper and 95 tonnes of glass.

### **CHARACTERISTICS OF GREEN PRODUCTS**

- Grown without the use of toxic chemicals and within hygienic conditions.
- Can be recycled.
- Reused and is biodegradable in nature.
- Use less packaging and Comes with eco-friendly packing.
- Products with natural ingredients.
- Products that do not harmful to the environment.
- Products that will not be tested on animals.

### **EXAMPLES OF GREEN PRODUCTS IN INDIA**

- Power from wind and solar energy
- Solar heater
- Solar kitchen appliances
- Gas fitted vehicles
- Philips CFLbulbs
- LED Lights
- Green data centers
- Electricity powered vehicles
- Electric kitchen appliances
- Lewis jeans @ ECO
- Nike Green shoes (Air Jordan)
- Apple green technologies
- Motorola Green phone Moto W233
- ITC Paperkraft Premium Business Paper
- Suzlon Energy manufactures and markets wind turbines, which provide an alternative source of

energy based on wind power.

### **GOLDEN RULES OF GREEN MARKETING**

- Know your Customer:
- Educating your customers:
- Being Genuine & Transparent
- Reassure the Buyer
- Consider Your Pricing

### **OBJECTIVES OF THE STUDY**

1. To know the concept of green marketing.
2. To identify the importance and impact of green marketing.
3. To study the prospects of green marketing.

### **RESEARCH METHODOLOGY**

The present study is exploratory in nature to provide a clear guidance for empirical research. For this purpose secondary data were collected. The secondary data were collected through newspapers, magazines, books, journals, conference proceedings, Government reports and websites.

### **IMPACTS OF GREEN MARKETING**

Green marketing affects positively the health of people and the ecological environment. People are aware of pure products and pure methods of producing, using, and disposing the products. It encourages integrated efforts for purity in production and consumption as well.

### **FOLLOWING WITNESS ARE THE IMPACTS OF GREEN MARKETING**

1. Now, people are insisting pure products – edible items, fruits, and vegetables based on organic farming. The number of people seeking vegetarian food is on rise.
2. Reducing use of plastics and plastic-based products.
3. Increased consumption of herbal products instead of processed products.

4. Recommending use of leaves instead of plastic pieces; jute and cloth bags instead of plastic carrying bags.

5. Increasing use of bio-fertilizers (made of agro-wastes and wormy-composed) instead of chemical fertilizers (i.e. organic farming), and minimum use of pesticides.

6. Worldwide efforts to recycle wastes of consumer and industrial products.

7. Increased use of herbal medicines, natural therapy, and Yoga.

8. Strict provisions to protect forests, flora and fauna, protection of the rivers, lakes and seas from pollutions.

9. Global restrictions on production and use of harmful weapons, atomic tests, etc. Various organizations of several countries have formulated provisions for protecting ecological balance.

10. More emphasis on social and environmental accountability of producers.

11. Imposing strict norms for pollution control.

12. Declaration of 5th June as the World Environment Day.

13. Strict legal provisions for restricting duplication.

14. Establishing several national and international agencies to monitor efforts and activities of business firms in relation pollution control and production of eco-friendly products.

### CHALLENGES OF GREEN MARKETING

Green marketing is a new concept and a new concept is not easily accepted. These are the some challenges in the field of green marketing:

**1. Requires huge investment:** For green marketing there is need to invest a lot in research and development, product development, adoption of new technology.

**2. Price sensitive consumers:** In India consumers are price sensitive they are not able to pay high price for green products.

**3. Less awareness of consumers:** Green marketing is a new concept and mostly Indian people are unaware of the green marketing.

**4. Initial concept :** Green marketing is on initial stage and there is lot of development under it.

**5. Promotion tools:** Green marketing is a new concept and it is important to use various kinds of promotion tools to aware the people about the existence and importance of green products. They have to use multiple tools like advertisement, personal selling, sales promotion, social media etc.

**6. Misleading and availability of imitate products in the market:** There is lots of firms which are selling their products by advertising them as green product but they are not green products even consumer pay high price and after that they cheated.

**7. Problem of standardization:** In India products are not follow the international standard so consumer don't trust on their originality. 8. Poor marketing plan and implementation: Marketing plan and implementation is poor in India which is major cause of failure of green marketing in India.

### Keys to Successful Green Marketing:-

1. Unplug when not in use.
2. Use less water, every drop counts.
3. Switch to compact fluorescent light bulbs.
4. Choose products with less packaging.
5. Buy organic and local food.
6. Drive less that saves fuel.

7. Walk more.
8. Recycle more.
9. Switch to green power, use non conventional energy like solar power etc.
10. Spread the word about green, live green, stay green.

### CONCLUSION

Green marketing is a tool for protecting the environment for future generation. It is not going to be an easy concept. The firm has to plan and then carry out research to find out how feasible it is going to be. Green marketing should not neglect the economic aspect of marketing. Marketers need to understand the implications of green marketing. Now this is the right time to select Green Marketing globally. It will come with drastic change in the world of business if all nations will make strict rules because green marketing is essential to save world from pollution. From the business point of view because a clever marketer is one who not only convinces the consumer, but also involves the consumer in marketing his product.

Indian market Customers too are ready to pay premium price for green products. Therefore there is a need for green marketing and a need for a shift in the consumer's behavior and attitude towards more environment friendly life styles. Ultimately green marketing requires that consumers want a cleaner environment and are willing to pay for it, possibly through

higher priced goods, modified individual lifestyles, or even governmental intervention. The study brought out the fact that the people are considerably well aware of green products, but not loyal entirely towards it due to host of factors like expensive, not much difference when compared to traditional products in terms of performance and quality.

### REFERENCES

1. Nadaf YBR, Nadaf SM. Green Marketing: Challenges and Strategies for Indian Companies in 21st Century. International Journal of Research in Business Management. 2014; 2(5):91-94. ISSN-2347-4572.
2. A Muthukumaran. (2015). Emerging Strategies of Green Marketing in India. International journal of applied research , 553-556.
3. Babita Saini. (2017). Green Marketing In India: Emerging Opportunities And Challenges IOSR Journal of Business and Management (IOSR-JBM) , 67-73.
4. Consumer Awareness towards Green Marketing <http://www.scribd.com/doc/50457938/5/Importance-of-Green-Marketing>
5. <http://www.businessworld.in>
6. <http://www.outlookindia.com>
7. <http://en.wikipedia.org>
8. <http://www.business-standard.com>
9. <http://www.encyclopedia.com>



# SMARTx: The Next Generation Learning Management System

Ashish Hulle<sup>1</sup>, Ravikumar Purohit<sup>2</sup>

<sup>1,2</sup>Assistant Professor, D.K.T.E. Society's Textile and Engineering Institute,  
Ichalkaranji-416115 (Maharashtra), INDIA.

<sup>1</sup>Email: ashish.hulle@dkte.ac.in

## ABSTRACT

With the present pandemic situation, to continue the teaching-learning process, remote education and eLearning is essential. Content creation, content delivery, assessment and feedback are the four pillars of the remote teaching-learning process. Learning management system (LMS) is an engine which powers the remote teaching-learning process by automating content delivery, assessment and feedback stages. Although LMS offers a set of advantages, there are some demerits of the same. After a detailed analysis of eLearning and keeping demerits of present LMS, SMARTx learning platform is developed by Mr. Ashish Hulle. It offers a lot of advantages over present LMS and hardly has any demerit. Detailed discussion on different LMS available, merits and demerits of available LMS software, SMARTx platforms and features of SMARTx platform has been carried out in this paper.

**Keywords:** LMS, Online Learning, Pedagogy, SMARTx, etc.

## I. INTRODUCTION

Presently the entire world is fighting against COVID-19. One cannot predict when this COVID-19 pandemic situation will come to end. Keeping this in mind, there is a need to shift all teaching, learning and training practices online oblige for the security of students, teachers, and workers or employees. To shift the teaching-learning process online one has to take the help of a learning management system (LMS). Learning management system is a software system that can be used for educational content delivery, assessment, administration, documentation, tracking, reporting, automation of the same. LMS concept has emerged from e-Learning. Most of the learning management systems

are focused on online learning delivery with a different set of features in asynchronous and synchronous modes. In asynchronous mode, the teacher or instructor can upload the course content and learners can watch or use the content at any time. In a synchronous mode, both instructor and learners are online and knowledge transfer occurs. Both asynchronous and synchronous modes have their own advantages and disadvantages. Even though LMS offers great advantages, there are a lot of loopholes and disadvantages of the same. Keeping all things in mind authors designed one of the unique LMS called SMARTx. In this manuscript, the detailed discussion has been carried out on different LMS, their advantages, disadvantages and SMARTx learning platform.

## II. LIST OF TOP LEARNING MANAGEMENT SYSTEMS

Based on user satisfaction (reviews & ratings), social media buzz, online presence, and other relevant information following learning management systems are ranked.

1. Paradiso Solutions
2. iSpring Learn
3. Easy LMS
4. Talent LMS
5. Litmos LMS
6. Moodle
7. CANVAS LMS
8. Lessonly
9. Teachable
10. LearningStone
11. NEO LMS
12. Tovuti LMS
13. eLucid

14. Innform
15. MagicBox
16. JollyDeck
17. EduBrite
18. Trainual
19. WizIQ
20. Skillo
21. Kiwi LMS

### III. THE IMPORTANT BENEFITS OF LMS

There are six major advantages of LMS: interoperability, accessibility, reusability, durability, maintenance ability and adaptability, which in themselves constitute the concept of LMS. LMS makes the learning super-easy for learners as it helps in organizing eLearning content in one location. Use of multimedia eLearning material content like video, images, audio and text etc. serve as great tools in learning new skills or information which makes learning fun, engaging and exciting. One can deliver the eLearning content in a systematic way. LMS provides unlimited access to eLearning materials. Once the instructor uploads learning material on LMS, the learner has unlimited access to the content at any time. This enables the inclusion of worldwide learners to learn at their own pace at the desired time. Instructors or teacher need not deliver the same lecture or information again and again LMS does it for him/her. Hence instructor/teacher can get more time to create new content. Also, they can experiment by applying completely different learning techniques like blended learning, social learning, storytelling etc. Teachers/instructors can modify the eLearning material, and learners can see the updated material. LMS enables communication and facilitated the collaboration between people, as student and teacher/instructor can communicate on a streamlined topic on single-channel/platform. All the information about the teaching-learning process is available in a consolidated form with LMS. LMS automatically tracks learner progress and performance and inform the instructor about the same. At a glance, one can analyze the status of online learning programs, determine learners who have completed sure qualifications, and far more. LMS puts all coaching info at

fingertips which eliminates paperwork and saves time. LMS saves money and as it reduces the overhead costs – .

### IV. DEMERITS OF LMS

One-way content delivery may be boring for the learners. Depending on how it's set up, LMS can diminish the motivation of learners. Learners may not sit for a long time in front of the screen. Learners need to have a basic knowledge of technology to take lessons and complete assignments online. There is a lack of communicational skill in students as they are not interacting with peer learners and teachers as in the regular physical classroom. Prevention of cheating during online assessments is complicated. It is difficult for the instructor to monitor every learner to avoid malpractice by learners during an online assessment. Also, learners may copy content from other resources to complete their assignment. This leads to plagiarism. Some student may simply skip watching the online video or may not watch it regularly or there is a chance that they may finish everything in one day itself. With such kind of malpractice, the learning objective is not fulfilled. With LMS education theoretical knowledge is imparted to students largely, rather than practical skills. One has to have good internet connectivity and suitable gadget (smartphone/ tablet/ laptop/ desktop) to access the content. Low-quality affirmation and an absence of authorizing eLearning material keep on debilitating the authenticity of online learning.

### V. SMARTX ONLINE LEARNING PLATFORM

SMARTx is an online learning platform founded by Mr. Ashish Hulle, where one can learn many skills as per the requirement of an individual at their own pace. SMARTx is inspired by the increase in the demand by the people to learn online. SMARTx platform is an attempt made to transform traditional education to modern education with the novel learning pedagogy and features like learning by doing, peer learning, assignments, quizzes, live lectures, web conferencing and online internship. The learner can enroll in any interesting course and can get a verified certificate after completion of the course. The mission of

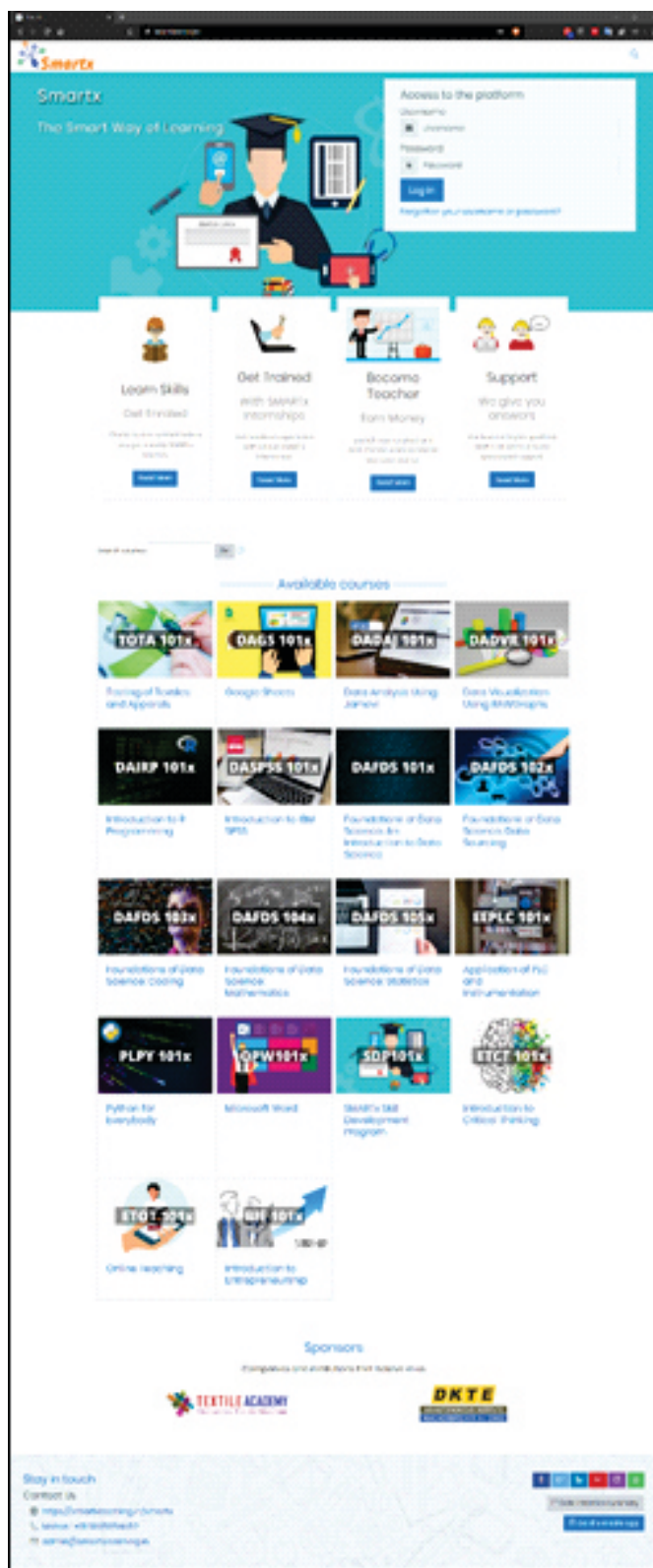


Figure - 1 SMARTx Home Page

SMARTx is to make learner smart and skilled so that learners can excel in their respective field. SMARTx platform can be accessed by visiting <https://smartxlearning.in>.

Key features of SMARTx include hybrid learning (self-paced courses and live class), interactive videos, interactive whiteboard for a live class, online meeting/web conference system, content seeding, automatic course tracking, a robust online examination system, online assignment submission, automatic plagiarism check for assignments, chat for real-time discussion, discussion forum, uses achievement badges, e-certificate, course feedback, grade book, real-time student activity reports, etc. The detailed discussion has been carried out on these key features in the following points.

## VI. HOW DOES SMARTX WORK?

The home page of the SMARTx can be accessed by the user from the browser by putting SMARTx URL: <https://smartxlearning.in>. Usually includes information



Figure - 2 SMARTx After Login Screen

about the courses and internships offered by SMARTx along with login box. How students enroll in different courses and internships can be decided by the course administrator. Available options are self-enrollment by students, manual enrolment by a teacher or automatic enrolment by SMARTx admin. Each user has their own customizable Dashboard. What a user sees on SMARTx dashboard depends on their role and rights granted to them by the administrator. However, Courses which are

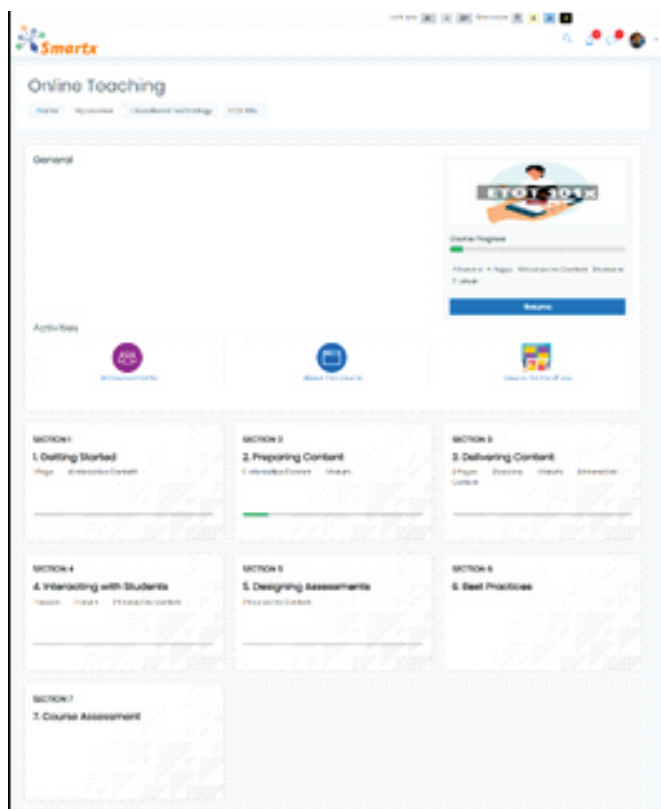


Figure - 3 Course Content View

organized into different course categories can be seen by every user. Learners can select enrolled courses and start can start their learning immediately.

## VII. SMARTX FEATURES

SMARTx platform has been developed and evolved by keeping the disadvantages of current learning management systems. It combines all the advantages of top learning management systems and has no demerit. Unique course presentation style and high versatility are the USPs of this platform. SMARTx can meet all the needs of student, teacher or course/training manage. SMARTx is extremely customizable and has many standard features. In the following points, the features of this platform are described.

**1. Personalized Learning Experience:** SMARTx platform can be used to give customized learning experiences for the learners. Teachers can customize the learning path for the students. One can understand how

personalized learning can be facilitated using SMARTx following example is cited. Consider learner wants to attempt a quiz directly, without reading a particular course material or lesson, SMARTx course can be set up to notify/alert the student instructing to read the same before taking the quiz. In the same manner, if a student attempts a quiz and obtains marks less than 60%, SMARTx can be set up to redirect that student to remedial content automatically. On the other hand, if a student performs well in quiz, i.e. if he/she scores more than 90%, he/she will be redirected to next lessor/learning material. Of course, a lot of flexibility is given to the teacher. SMARTx puts no limitations on customizing learning paths. Teachers can configure the platform for the particular course according to their own way.

**2. User Interface:** SMARTx has a modern and responsive user interface. SMARTx interface is easy to navigate on a smartphone, tablet as well as on desktops. On user dashboard information pertaining to current, past and future courses, along with tasks due is displayed by default. Also, they can personalize their dashboard.

**3. Accessibility Control:** SMARTx is the only platform with accessibility controls. One can change the site color as well as font size as per the convenience.



Figure - 4 Accessibility Settings

**4.Course Activities:** SMARTx has an array of different tools that includes Quizzes, Assignments, Chat, Forum, Survey, Feedback, Workshop, Glossary, Wiki, Book, etc. All these tools can be used by respective teachers in a particular course for taking exams, for giving assignments, course content, extra information and to enable collaborative and peer learning experience for students.

**5. SMARTx Calendar:** To keep track of academic activities, deadlines, and other personal events, users can take the help of automated SMARTx's calendar tool. All the course-related activities, due dates etc. are automatically added to the SMARTx calendar.



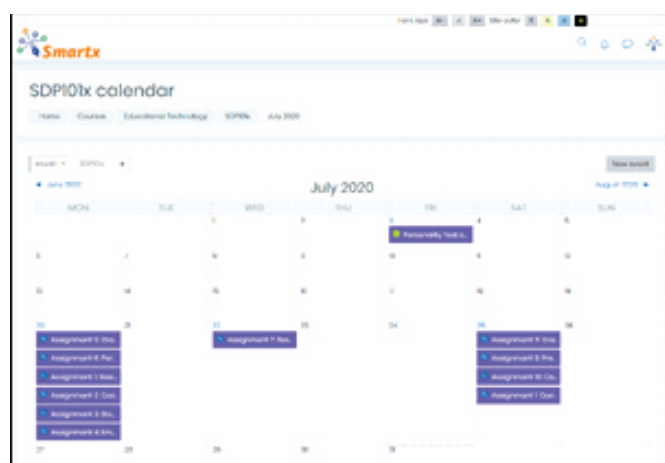


Figure - 5 SMARTx Calendar

**6. File Management:** Students can manage their personal files and notes with simple drag and drop feature. Also, they can import files from different cloud storage services like OneDrive, Google Drive, Dropbox etc.

**7. Word Editor:** SMARTx has an intuitive and simple word editor. Users can do text formatting easily and can conveniently add all type of media files with an editor into a course or in assignments.



Figure - 6 SMARTx Forum Posts

**8. Forum and Messaging:** Educators and learners can send private messages to one another using messaging feature and can discuss on the common topic using SMARTx forum.

**9. Notifications:** SMARTx is enabled with automated notification and alert system. Learners get alerts on new forum posts, deadlines and new assignments.

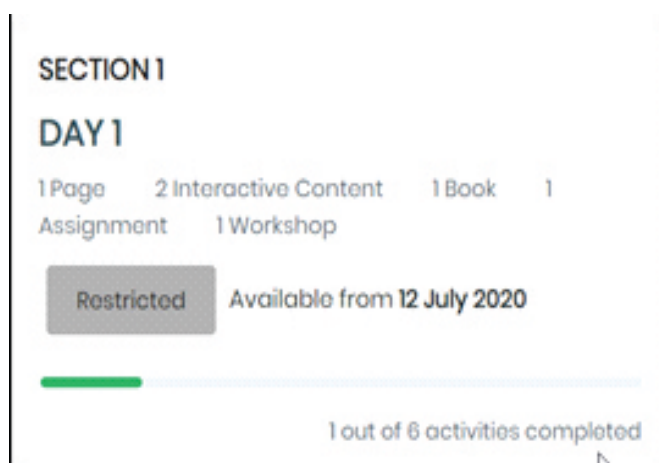


Figure-7 SMARTx Course Section With Activity List and Completion Tracking

**10. Automated Course Tracking:** SMARTx can track course completion and course progress as well as different course activities. SMARTx automatically tracks grades, activity completion, course completion, etc. This information is useful for educators and learners in different ways.

**11. Authentication and Enrolment:** SMARTx has over 45 authentication and enrolment options for user enrollments to courses and internships.

**12. Multilingual Capability:** SMARTx has Multilingual capability. One can view course content and learn in the preferred choice of language.

**13. Gradebook & Rubrics:** SMARTx has advance grade book and enabled with the criteria-based assessment.

**14. Course Backup and Restore:** For the safety reasons one can take course backup and can restore at any time. So that there is no chance of data loss and rework.

**15. User Role Management:** SMARTx is having user role management facility. Admins can define roles to specify and manage user access.

**16. SCROM Support:** On SMARTx platform once can

import and export IMS-LTI, SCORM courses.

**17. Security:** Connection to SMARTx is encrypted and has secure access to the site. SMARTx is regularly updated with the latest security patches.

**18. SMARTx Web Conferencing System:** To facilitate synchronous learning i.e. live online classes, SMARTx has its own web conferencing system. With this teachers can share their screen, audio, video, slides with students. One can record online lectures as well. Built-in polling system makes the class engaging. It also has a whiteboard tool which can be used to explain concepts, real-time annotations are also possible.

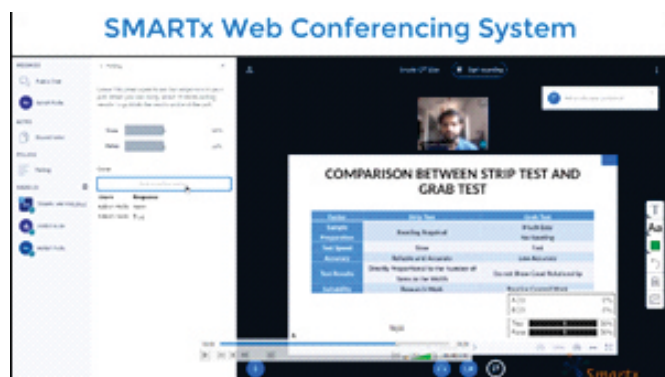


Figure - 8 SMART x Web Conferencing System

**19. Safe Exam Browser:** SMARTx exams/quizzes can be conducted using a safe exam browser. Common browser features like search, back/forward navigation, refresh, the addition of new tab, closing exam tab, switching applications, all shortcut keys, print screen, clipboard, browser menu, etc. are disabled.

The browser cannot be closed until the test is submitted. This adds an extra layer of security during assessments.

## 20. Course Development/ Management:

Instructors/teachers can easily design any kind of course/classes like instructor-led, self-paced, blended or entirely online. Hence a single SMARTx platform can fulfil the requirements of all types of courses.

**21. Collaborative Learning:** SMARTx has multiple collaborative publishing features that can foster student engagement and content-driven collaboration. It can be further strengthened by grouping the learners for sharing courses and distinguish activities which lead to teamwork.



Figure - 9 SMARTx Peer Evaluation

**22. Peer learning and self-assessment:** SMARTx workshops and surveys are the two tools which facilitate the peer learning and encourage students to view, grade and assess the work submitted by co-learners or their own. In this students has to submit his work according to guidelines given by the teacher. Upon submission, the student gets the submission from other co-learners which they suppose to assess according to teachers guidelines. This enables indirect learning from peers.



Figure - 10 Example of Verifiable Certificate

**23. Badges:** To reward the learner participation and their achievements in grades or activities automated customized Badges can be given to them. This motivates students and keeps them engaging.

**24. Verified Certificate:** Every learner who completes the course or internship on SMARTx gets verifiable e-certificate. One QR code is placed on the certificate that can be scanned by anyone to check the authenticity of the certificate.

**25. SMARTx User Profile:** Every SMARTx user has his own profile tab along with some right to customize SMARTx platform for their own suitability. The user profile has multiple fields wherein people can add a profile picture, bio, etc. All their forum posts, individual blogs, overall activity reports, activity statistics, courses enrolled, certificates earned, course progress, etc. is shown at one place.

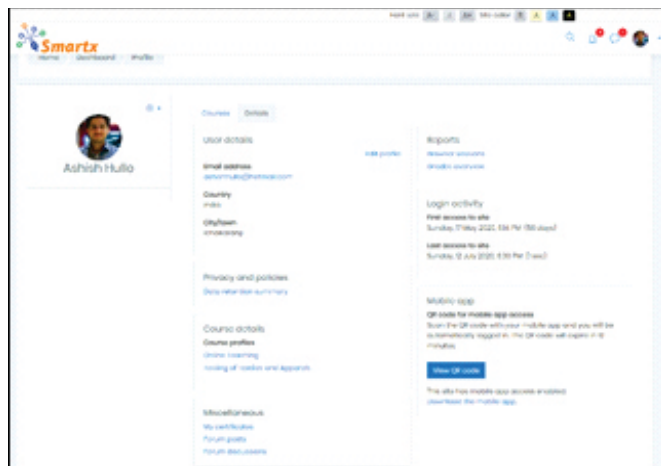


Figure - 11 SMARTx User Profile Section

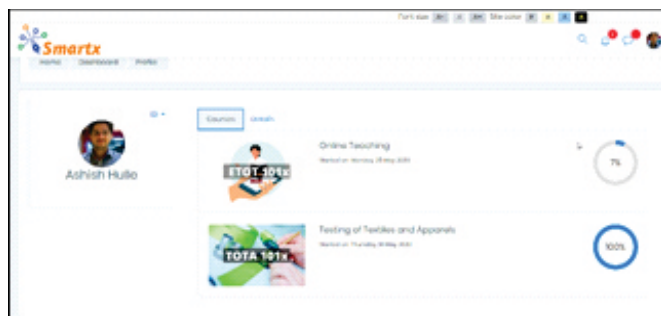


Figure - 12 Course Completion Status in Profile

**26. Reporting and Analytics:** Detailed reporting and logs of different activities can be viewed and generated at any time. Instructors/Teachers can get the activity reports of every student enrolled for the course. These reports incorporate insights and graphs regarding every module and every activity of student like last access, a number of times read. Thus, for instance, the educator will see the detailed activities of every learner in the online course. Which pages every learner has seen and how frequently, and what undertakings have been finished. This is exceptionally useful in giving help to learners who are

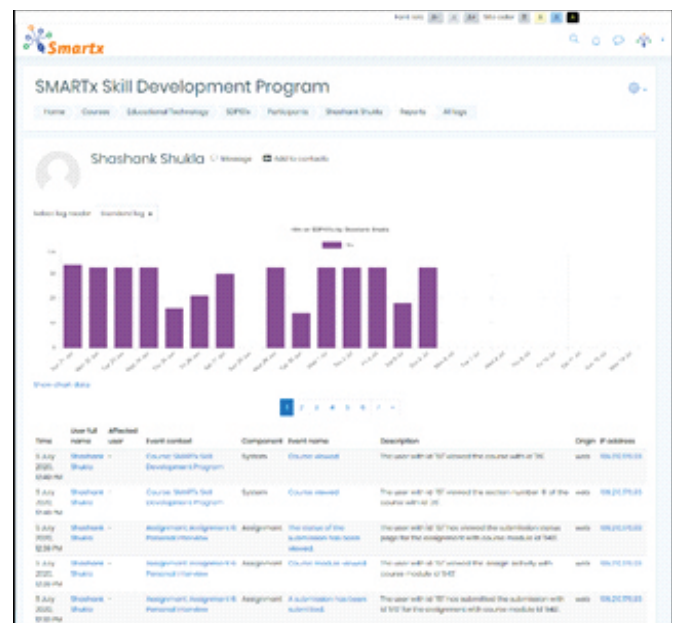


Figure - 13 User Activity Logs



Figure - 14 User Statistics



encountering issues.

**27. AI and Analytics:** SMARTx platform is integrated with artificial intelligence. Descriptive, predictive, diagnostic and prescriptive analytics report is generated on SMARTx automatically.

## VIII. CONCLUSION

SMARTx platform fulfils all the gaps in digital learning

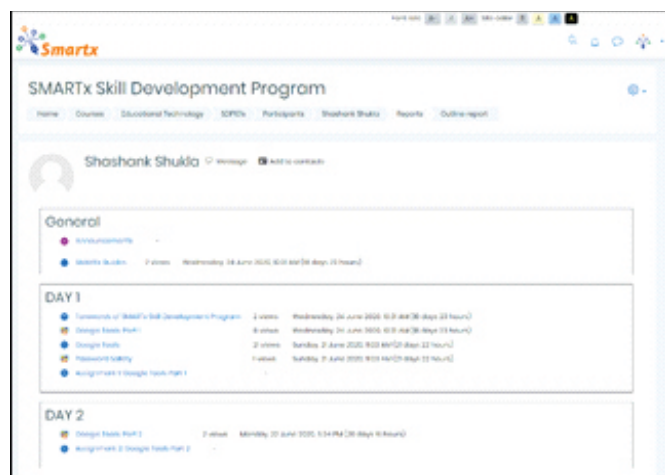


Figure - 15 User Outline Report

and has overcome the demerits of most of the learning management systems. In this uncertain pandemic situation, learning management systems like SMARTx are really helpful for academia to continue the real lifelike teaching-learning process for all academic levels.

## REFERENCES

1. R. K. Ellis, Field Guide to Learning Management. ASTD Learning Circuits, 2009.
2. Wikipedia, "Learning management system," 2020. [Online]. Available: [https://en.wikipedia.org/wiki/Learning\\_management\\_system](https://en.wikipedia.org/wiki/Learning_management_system). [Accessed: 01-Jun-2020].
3. "Best LMS Software in 2020 | Learning Management System Software." [Online]. Available: <https://www.softwareworld.co/top-learning-management-system-software/>. [Accessed: 09-Jul-2020].
4. A. Distefano, K. Rudestam, R. Silverman, and P. D. Long, "Learning Management Systems (LMS)," in Encyclopedia of Distributed Learning, SAGE Publications, Inc., 2012.
5. "5 Pros and Cons of a Learning Management System – OmkarSoft Blog." [Online]. Available: <https://www.omkarsoft.com/blog/5-pros-cons-learning-management-system/>. [Accessed: 09-Jul-2020].
6. "9 Advantages of Learning Platforms or LMS." [Online]. Available: <https://www.cae.net/lms-learning-platforms-advantages/>. [Accessed: 09-Jul-2020].
7. "10 Biggest Disadvantages of E-Learning | E-Student." [Online]. Available: <https://e-student.org/disadvantages-of-e-learning/>. [Accessed: 09-Jul-2020].
8. "Blended Learning Advantages and Disadvantages | Easy LMS." [Online]. Available: <https://www.easy-lms.com/knowledge-center/lms-knowledge-center/blended-learning-advantages/item10386>. [Accessed: 09-Jul-2020].

## TO MEASURE THE EFFECTIVENESS OF WEB-BASED E-LEARNING IN INDIA WITH REFERENCE TO MANAGEMENT STUDENT OF AHMEDABAD.

**Prof. Devrshi Upadhayay**  
Assistant Professor &  
Research Scholar,  
Faculty of Management,  
GLS University, Ahmedabad

**Nitin Acharya**  
PGDM IInd Year,  
Faculty Of Management,  
GLS University,  
Ahmedabad

**Naitik Ghiya**  
PGDM IInd Year,  
Faculty of Management,  
GLS University,  
Ahmedabad

### ABSTRACT

As the world is going through covid-19 pandemic, the education industry has got shattered. To lift the economy and maintain the continuous process of education, many institutes has taken a root of web-based learning. This new process has been carried out using multiple online sources. This paper will analyze the effect of web-based learning on management student. How effective online education is, and will be it more beneficial if online education will keep continue for long period of time. The primary research is carried out through questionnaire method and the data has been collected of 100 management students. How much student is satisfied or adopting this new way of learning has been analyzed.

**Key words:** online learning, management students, effectiveness

### INTRODUCTION

Web-based learning refers to the type of learning that uses the Internet as an instructional delivery tool to carry out various learning activities. It can take the form of (1) a pure online learning in which the curriculum and learning are implemented online without face-to-face meeting between the instructor and the students, or (2) a hybrid in which the instructor meets the students half of the time online and half of the time in the classroom, depending on the needs and requirement of the curriculum. Web-based learning can be integrated into a curriculum that turns into a full-blown course or as a supplement to traditional courses.

Non face to face, using web technologies, it is learning

that occurs with lessons conducted via the internet.

Higher Education sector has witnessed a tremendous increase in its institutional capacity in the years since Independence. The number of Universities/University-level institutions has increased 18 times from 27 in 1950 to 504 in 2009. The sector boasts of 42 Central universities, 243 State universities, 53 State Private universities, 130 Deemed universities, 33 Institutions of National Importance (established under Acts of Parliament) and five Institutions (established under various State legislations). The number of colleges has also registered manifold increase with just 578 in 1950 growing to be more than 30,000 in 2011. Higher Education is the shared responsibility of both the Centre and the States. The coordination and determination of standards in institutions is the constitutional obligation of the Central Government.

According to the current report, the Indian e-learning market size was USD247 million, contain 1.6 million learners in 2016. It is expected to have an 8X growth to reach USD1.96 billion and the recent user base will increase at 44 percent CAGR to 9.6 million learners by 2021.

In fact, India's e-learning market is the second largest after the US, which is predicted to grow by 15.64 percent and increased \$48 billion by 2020.

The E-learning in India is changing at a rapid pace unsettled to the following factors:

- Growth in internet and smart phone.

- Cost of online education
- Digital friendly government policies

The online sources that gives opportunity to get certified education are Udemy, coursera, edx, Upgrade, Jigsaw, etc.

During this pandemic, the group learning portal business has increased tremendously. The different portals like Zoom, google meet, Jio meet, Web ex, and now the university has started adopting this online portal for delivering education to the management student.

## LITERATURE REVIEW

### 1. MUSHTAQ HUSSAIN(2018)

Author in his title “Student Engagement Predictions in an e-Learning System and Their Impact on Student Course Assessment Scores” have used machine learning to machine learning (ML) algorithms to identify low-engagement students in a social science course at the Open University (OU) to assess the effect of engagement on student performance. The output variable was the student level of engagement in the various activities. Their study examined the relationship between student engagement and the course assessment score.

### 2. MONICA TRAKRU(2019)

Author in their article “E-Learning Effectiveness in Higher Education” mentioned difficult to preserve the standards of education because of limitations of finance, infrastructure, and other resources including skilled and experienced human power. Learning provided through Information Technology (IT), to some extent ensures high quality learning by providing necessary information at a convenient place and suitable time. They have observed that e-Learning emphasizes on quality and effective presentation of information.

### 3. PARTHA PRATIM RAY(2012)

Author in their article “Web Based E-Learning In India: The Cumulative Views Of Different Aspects” mentioned that there is a great diversity in India and because of that it is difficult to change background of students' parents and

their economic conditions. Therefore the only option left for us is to provide uniform or standardize teaching learning resources or methods. Web Based e-Learning (WBeL) concept in to the minds of young India along with various approaches taken or to be taken, associated to it till date besides of instructional design models, different course developmental models, the role of technical writing and merit-demerit of WBeL till date.

### 4. GAURAV CHOPRA (2019)

Author in their article “Effectiveness of e-learning portal from students' perspective: A structural equation model (SEM) approach” mentioned that E-learning has become an increasingly prevalent learning approach in higher educational institutions due to the fast growth of internet technologies in India. They have found that information available on the website may not be very useful as it's a one-way mode of communication. The researcher also found that the three dimensions (system quality, service quality and information quality) of e-learning system contributes to user satisfaction and net benefits. Students are satisfied with e-learning websites and intent to continue to use it in future as well.

### 5. DR.S.RADHA (2019)

Author in their article “Role Of E-Learning and Digital Media Resources in Employability of Management Students” mentioned that teaching is sharing of knowledge, skill, and attitude by the older generation to the new generation in the society. Also mentioned that the role of e-learning and digital media resources in employability of management students in Chennai city. The survey was conducted among 130 management students from thirteen higher education institutes which offers MBA program.

### 6. MOHAMMAD ZARE (2016)

Author in their article “The Impact Of E-Learning on University Students' Academic Achievement and Creativity” mentioned study investigates the impact of e-learning on creativity and content knowledge of chemistry students. The statistical population of the study included was 100 pure chemistry students who were following two

separate classes. They have concluded that e-learning is effective for knowledge and creativity acquisitions among chemistry students and the greater e-learning opportunities should be provided for wider audiences.

#### 7. SHASHI KANT DHIR (2017)

Author in their article “E-learning in medical education in India” mentioned that study aims to introduce the concept of eLearning, and discuss its need and scope in medical education in India. Experience shows that students and faculty are mostly in favor of adopting e-learning side-by-side with traditional learning, and the advantages far outweigh the likely discomfort associated with adoption of this new method.

#### 8. NIDHIPHUTELA (2020)

Author in their article “A qualitative study of students' perspective on e-learning adoption in India” mentioned that how e-learning is giving a new shape to the education industry. Also, it will encompass the students' perspective and experience of e-learning. Their findings have been grouped under two sections referred to as “themes,” which include “drivers for e-learning adoption” and “inhibitors which restrict the adoption of e-learning.”

#### 9. NANIGOPAL KAPASIA (2020)

Author in their article “Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India” mentioned the impact of lockdown amidst COVID-19 on undergraduate and postgraduate learners of various colleges and universities of West Bengal. They have found some data that during the lockdown period, around 70% of learners were involved in e-learning. Most of the learners were used android mobile for attending e-learning. Students have been facing various problems related to depression anxiety, poor internet connectivity, and unfavorable study environment at home.

#### 10. SABRIN AFTAB PATEL (2018)

Author in their article “India's Emerging Economy: E-Learning: Challenges & Opportunities in Rural India” mentioned that eLearning is an revolution in education

industry like other areas, in this case also urban areas are influenced to a greater extent than rural one. E-learning is learning, utilizing electronic technologies to access educational curriculum outside of a traditional classroom. In most cases, it refers to a course, program or degree delivered completely online. Their objective is to understand the concept of eLearning.

### RESEARCH METHODOLOGY

#### OBJECTIVE

- To understand effect of online learning on management student.
- To analyze the sustainability of e-learning in India.
- To measure the satisfaction level of online learning on management student.

#### SCOPE OF THE STUDY

**Area:** Ahmedabad, Gujarat

**Sample size:** 100 management student.

**Research Design:** Descriptive research

**Data collection method:** Primary Data

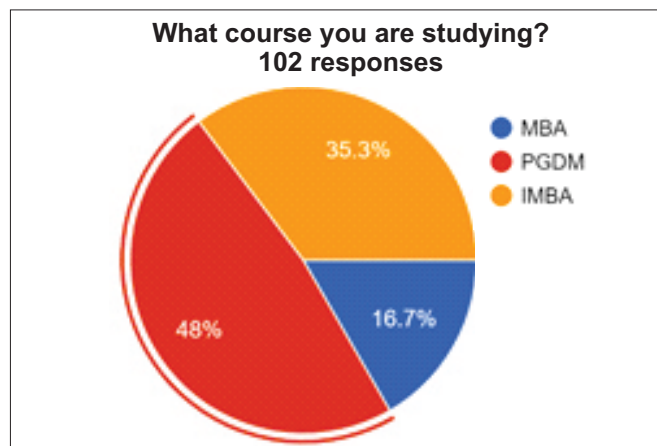
**Population:** Ahmedabad (Gujarat)

**Sampling Method:** Sampling frame

100 management student pursuing management degree from different B school of Ahmedabad.

#### EXPECTED CONTRIBUTION

This study will benefit to different B school to understand the importance of online learning and its effect on student. This study will help them to analyze how much students adopting this e-learning teaching method.



**RESEARCH MODEL**

Dependable Variable: Students, university

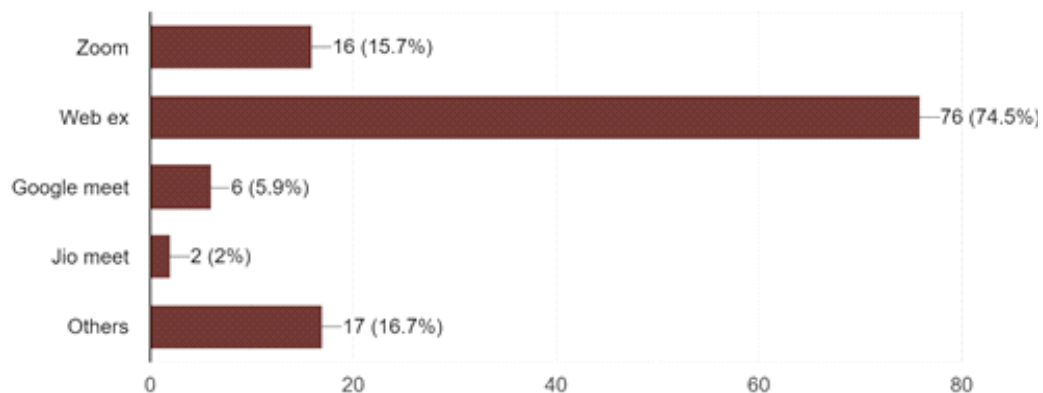
Independent variable: Online platform.

**DATA ANALYSIS**

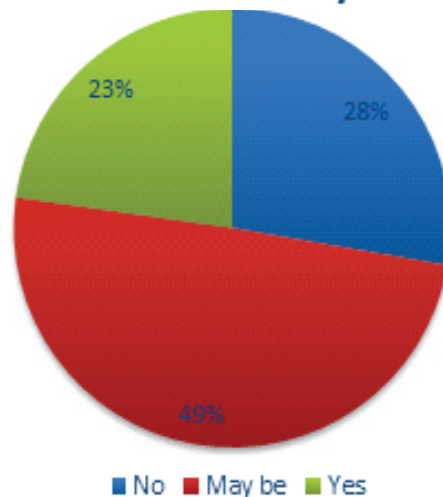
We have categorized our research in 3 courses of management which includes MBA, PGDM and IMBA in which 48% of respondents are pursuing IMBA course. Out of which 48% of the student are doing PGDM and 35.6% students are from IMBA.

**Which web based portal does your institute uses?**

102 responses



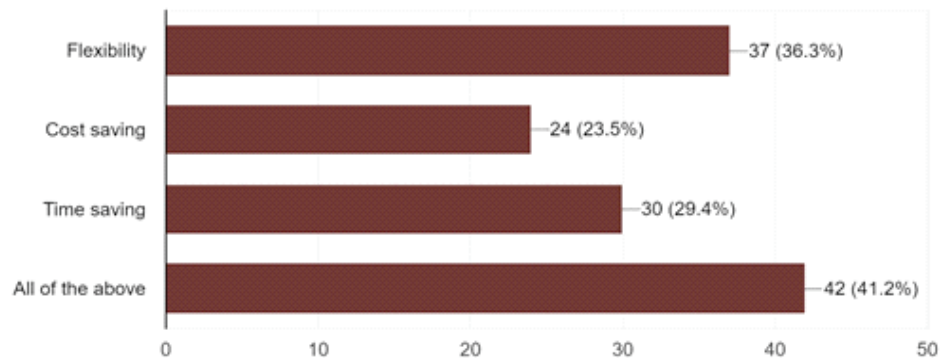
By the research we came to know that most of the institute uses Web Ex for online education purpose. I.e. approx. 75% of the institute uses Web ex following to it 18% uses other application and 15% uses Zoom. Hence from the above chart it can be estimated that web ex is most popular amongst the educational institute.

**Sustainability**

During the pandemic over 4 months students are learning on web portals but still 49% of students are not sure that is it sustainable in India or not. As well 23% students said yes and 28% students denied. Hence from the above pie chart it can be observed that the suitability of web based learning is still difficult as student do not adopt the technology and teaching methodology easily.

What makes online education different to offline education?

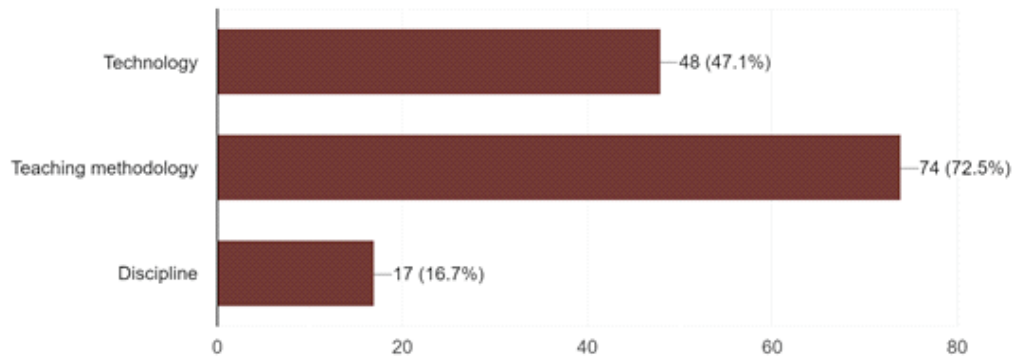
102 responses



Web based educations have many perks as students can study on their own convenience so almost 37% of students thinks that this concept is flexible and 30% students found this option as a time saving. 42% of students found that it is flexible, cost saving as well as time saving. Hence from the chart it can be analyse that online education is flexible, cost saving and time saving.

On which factor does your university should focus for web based e-learning?

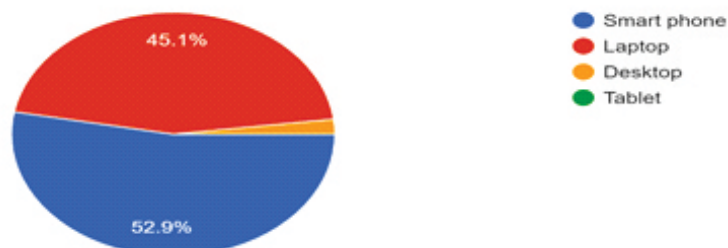
102 responses



We found one drawback that most of students(72.5%) are not comfortable with the teaching methodology of the institute and 47% students are not comfortable by the technology which institute use. Hence from the above chart it can be assume that educational institute should change their teaching methodology and should adopt easy technology for the online education.

Through which electronic gadgets do you frequently attain your lecture?

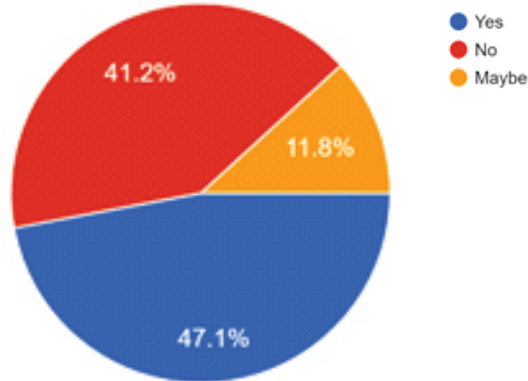
102 responses



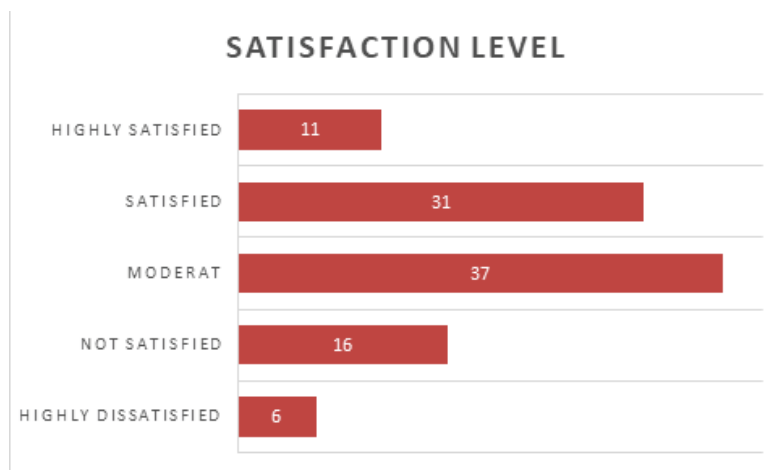


Most of the students attend online classes on the smart phone and laptops. There are 53% of the student uses mobile for their online education. Whereas 45% of them uses laptop. The rest of them prefer desktop for the online lectures.

**Do you face any problem while havin online lectures**  
102 responses

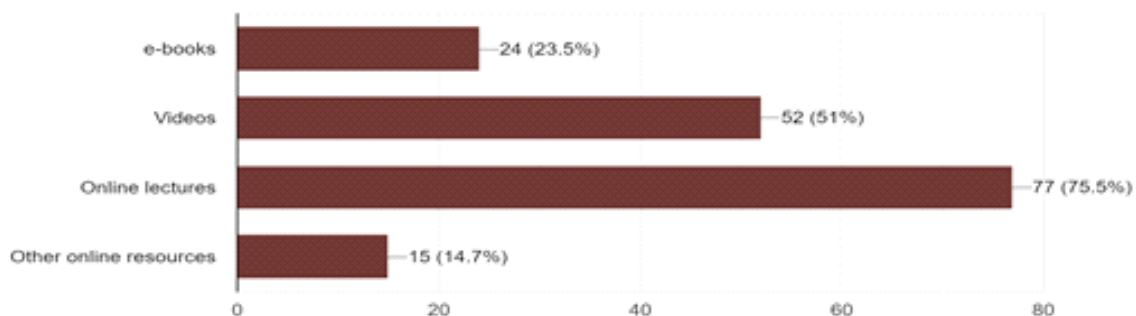


Students may face few problems like internet connectivity and audio or video cracking so here 47% students face problems while online lectures and 41% students are not facing any problem while online lectures.



From the respondents 37 respondents have moderate review and 31 students are satisfied where 6 students are highly dissatisfied and 11 students are highly satisfied.

**Which is the best resource for online learning?**  
102 responses



From the research we get to know that by online lectures 75% of students can connect more on same side by learning from e-books only 23% students can connect.



Rate your satisfaction level of e-learning. \* Course \* What is your specialization? Crosstabulation Count

| What is your specialization? |   |                     | Course |      |      | Total |
|------------------------------|---|---------------------|--------|------|------|-------|
|                              |   |                     | MBA    | PGDM | IMBA |       |
| Finance                      | Rate your satisfaction level of e-learning. | Highly Satisfied    | 1      | 0    | 2    | 3     |
|                              |   | Satisfied           | 4      | 1    | 4    | 9     |
|                              |   | Moderate            | 4      | 4    | 3    | 11    |
|                              |   | Not satisfied       | 5      | 4    | 5    | 14    |
|                              |   | Highly dissatisfied | 2      | 0    | 1    | 3     |
|                              | Total                                       |                     | 16     | 9    | 15   | 40    |
| Marketing                    | Rate your satisfaction level of e-learning. | Highly Satisfied    | 1      | 0    | 1    | 2     |
|                              |   | Satisfied           | 5      | 0    | 0    | 5     |
|                              |   | Moderate            | 16     | 0    | 5    | 21    |
|                              |   | Not satisfied       | 8      | 3    | 6    | 17    |
|                              |   | Highly dissatisfied | 0      | 2    | 2    | 4     |
|                              | Total                                       |                     | 30     | 5    | 14   | 49    |
| Human Resource               | Rate your satisfaction level of e-learning. | Highly Satisfied    | 0      | 0    | 1    | 1     |
|                              |   | Satisfied           | 0      | 0    | 2    | 2     |
|                              |   | Moderate            | 0      | 1    | 0    | 1     |
|                              |   | Not satisfied       | 1      | 0    | 0    | 1     |
|                              |   | Highly dissatisfied | 0      | 0    | 1    | 1     |
|                              | Total                                       |                     | 1      | 1    | 4    | 6     |
| Other                        | Rate your satisfaction level of e-learning. | Moderate            | 1      | 2    | 2    | 5     |
|                              |   | Not satisfied       | 0      | 0    | 1    | 1     |
|                              |   | Highly dissatisfied | 1      | 1    | 0    | 2     |
|                              | Total                                       |                     | 2      | 3    | 3    | 8     |
| Total                        | Rate your satisfaction level of e-learning. | Highly Satisfied    | 2      | 0    | 4    | 6     |
|                              |   | Satisfied           | 9      | 1    | 6    | 16    |
|                              |   | Moderate            | 21     | 7    | 10   | 38    |
|                              |   | Not satisfied       | 14     | 7    | 12   | 33    |
|                              |   | Highly dissatisfied | 3      | 3    | 4    | 10    |
|                              | Total                                       |                     | 49     | 18   | 36   | 103   |

Cross tabulation is a method to quantitatively analyse the relationship between multiple variables. Here three major management courses have analysed (MBA, PGDM and IMBA). Also, with three major specialization fields we have analysed (Finance, Marketing and Human resources).

We have measured student satisfaction level according to their specialization field.

From the total 40 Finance students only 3 students are highly satisfied with the eLearning method, 11 of them have moderate satisfaction level and 3 students are highly dissatisfied with eLearning method.

From the total 49 Marketing students only 2 students are highly satisfied with the eLearning method, 21 of them have moderate satisfaction level and 4 students are highly dissatisfied with eLearning method.

From the total 6 Finance students only 1 student is highly satisfied with the eLearning method, 1 of them have moderate satisfaction level and 1 student is highly dissatisfied with eLearning method.

**Do you agree web based e-learning is better substitute of offline learning \* Course Crosstabulation**

Count

|  |                   | Course |      |      | Total |
|--|-------------------|--------|------|------|-------|
|  |                   | MBA    | PGDM | IMBA |       |
| Do you agree web based e-learning is better substitute of offline learning | Strongly Disagree | 2      | 0    | 6    | 8     |
|  | Disagree          | 9      | 2    | 6    | 17    |
|  | Neutral           | 24     | 6    | 11   | 41    |
|  | Agree             | 12     | 5    | 10   | 27    |
|  | Strongly Agree    | 2      | 5    | 3    | 10    |
| Total  |                   | 49     | 18   | 36   | 103   |

Here we have measured from the student's perspective that is web-based eLearning is better substitute of offline learning from different management courses. We get to know that 10 students are highly agree with the eLearning method. 41 students have moderate opinion with the eLearning method, 8 students are strongly disagree with the eLearning method.

**Through which electronic gadgets do you frequently attain your lecture? \***

**Course Crosstabulation**

Count

|   |             | Course |      |      | Total |
|---|-------------|--------|------|------|-------|
|   |             | MBA    | PGDM | IMBA |       |
| Through which electronic gadgets do you frequently attain your lecture? | Desktop     | 0      | 2    | 0    | 2     |
|   | Laptop      | 18     | 6    | 23   | 47    |
|   | Smart phone | 31     | 10   | 13   | 54    |
|   | Total       | 49     | 18   | 36   | 103   |

By the research through which electronic gadgets do you frequently attain your lecture, so here majority of students (54 students) attend from the smartphone and laptop (47 students). Hence this data shows that smart phone is most popular among the student when it comes to online lecture. Laptop stands second which is approx. 48% student attain their lecture through laptop.

### Chi-Square Tests

|                              | Value              | df | Asymp. Sig. (2-sided) |
|------------------------------|--------------------|----|-----------------------|
| Pearson Chi-Square           | 9.327 <sup>a</sup> | 6  | .156                  |
| Likelihood Ratio             | 8.134              | 6  | .228                  |
| Linear-by-Linear Association | .835               | 1  | .361                  |
| N of Valid Cases             | 103                |    |                       |

a. 3 cells (25.0%) have expected count less than 5. The minimum expected count is .17. The level of statistical significance is often called p value. Depending on the statistical test we have chosen, we have calculated the probability of observed sample. The significant P value, which is 0.156, which is greater than 0.05, hence it has a statistical relation between effectiveness and the online education. Hence this test proves that there is huge effect of online education on management student.

### Symmetric Measures

|                      |                      | Value | Asymp. Std. Error <sup>a</sup> | Approx. T <sup>b</sup> | Approx. Sig.      |
|----------------------|----------------------|-------|--------------------------------|------------------------|-------------------|
| Interval by Interval | Pearson's R          | -.090 | .093                           | -.913                  | .363 <sup>c</sup> |
| Ordinal by Ordinal   | Spearman Correlation | -.102 | .097                           | -1.033                 | .304 <sup>c</sup> |
| N of Valid Cases     |                      | 103   |                                |                        |                   |

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

## Statistics

|                | Do you agree web based e-learning is better substitute of offline learning | Rate your satisfaction level of e-learning. |
|----------------|--|---|
| N              | 103  | 103   |
| Valid          | 103  | 103   |
| Missing        | 0  | 0   |
| Mean           | 3.14   | 3.24  |
| Std. Deviation | 1.058  | 1.024                                       |

Above table signifies the relationship between two variable namely students adoption towards online learning and course where they are pursuing the education and it shows negative relationship between these two and research conclude that there is negative relationship between adoption/satisfaction level and in which course they are pursuing their management education.

**CONCLUSION**

From this study it can be conclude that the satisfaction level of the students are way less in the matter of online education. Hence the sustainability of web based learning is too far. The technology, teaching methodology are the two key points university should focus on. With this study it can also be assume that online learning has a different effect on management students.

**REFERENCES**

1. Chopra, G. (2019). Effectiveness of e-learning portal from students' perspective: A structural equation model (SEM) approach.
2. Dhir, S. K. (2017). E-learning in medical education in India.
3. Dr.S.Radha. (2019). Role Of E-Learning And Digital Media Resources In Employability Of Management Students.
4. Hussain, M. (2018). Student engagement predictions in an e-Learning system and their impact on student course assesment scores. 21.
5. Kapasia, N. (2020). Impact of lockdown on learning status of undergraduate and postgraduate students during COVID-19 pandemic in West Bengal, India.
6. Patel, S. A. (2018). India's Emerging Economy: E-Learning: Challenges & Opportunities in Rural India.
7. Phutela, N. (2020). A qualitative study of students' perspective on e-learning adoption in India.
8. Ray, P. P. (2012). Web Based E-Learning In India: The Cumulative Views Of Different Aspects. 12.
9. Trakru, M. (2019). E-Learning Effectiveness in Higher Education . 6.
10. Zare, M. (2016). The Impact Of E-learning On University Students' Academic Achievement And Creativity .

## IMPACT OF INFORMATION TECHNOLOGY ON SOCIAL ENTREPRENEURSHIP

**Dr. Santhosh Kumar A.V.**

Assistant Professor, Dept.of Management  
Government First Grade College for Women,  
Old M.C.Road, Maddur-571428, Mandya District  
Mail ID: sankum7578@gmail.com

### ABSTRACT

Social entrepreneurship is comprised of social entrepreneurs who act as the change agent in a society. Social entrepreneurs identify the problems in the society and improve the systems, invent new approaches, and create social values. Social entrepreneurship provides social value by creating innovative ideas and mutual beneficially exchanges. Social entrepreneurship recognizes a society's problem and provides new ways to solve the problems. They create products and services that a society needs. Social entrepreneurship's goal is to create social value rather than making profit. Social entrepreneurship is a way to catalyze social transformation well beyond the solutions of the social problems that are the initial focus of concern. Social entrepreneurship is increasingly seen as a critical component of the global conversation on volunteerism and civic engagement. The purpose of this Paper is to lay the groundwork on the role of information technology in social entrepreneurship. Social networking and information sharing were identified as the most critical roles of IT in support of social entrepreneurship. However, in order to realize the full potential of these roles, four key challenges must be addressed: access, capacity, commonality and the scholar-practitioner link.

**Key Words:** Information Technology, Social entrepreneurship, Change Agent, Social Value, Volunteerism

### INTRODUCTION

The question that often comes to most people's minds about helping the poor is usually which concept is more ideal, traditional aid or social entrepreneurship. Answers

may vary from one person to the next, but social entrepreneurship is better than traditional aid because traditional aid is to alleviate the immediate suffering rather than improving social conditions. On the other hand, social entrepreneurship is comprised of social entrepreneurs who act as the change agent in a society. Social entrepreneurs identify the problems in the society and improve the systems, invent new approaches, and create social values. Social entrepreneurship provides social value by creating innovative ideas and mutually beneficial exchanges. Furthermore, traditional aid works within given structures in society while social entrepreneurship creates opportunities for social structural change. Interest in social entrepreneurship, the application of business models to social issues, has risen to the forefront of the global conversation on volunteerism and civic engagement. Social entrepreneurship combines the passion of a social cause with business principles, and is distinguished from other forms of entrepreneurship by its pursuit of mission related impact. The last two decades have seen extraordinary growth in social entrepreneurship and increased attention from a variety of sectors. Technology is knocking down barriers and fueling social innovation. Technology has a powerful role in creating social change and transforming communities.

### REVIEW OF LITERATURE

The concept of entrepreneurship has a long history in the business sector. A major theme has been the creation of value through innovation (Schumpeter, 1951; Drucker, 1985). As applied more recently to social concerns, the concept has taken on a variety of meanings. Some, for

example, have focused on social entrepreneurship as combining commercial enterprises with social impacts. In this perspective, entrepreneurs have used business skills and knowledge to create enterprises that accomplish social purposes, in addition to being commercially viable (Emerson & Twersky, 1996).

Non-profit organizations may create commercial subsidiaries and use them to generate employment or revenue that serves their social purposes; profit based organizations may donate some of their profits or organize their activities to serve social goals. These initiatives use resources generated from successful commercial activities to advance and sustain their social activities.

Others have emphasized social entrepreneurship as innovating for social impact. In this perspective, attention is focused on innovations and social arrangements that have consequences for social problems, often with relatively little attention to economic viability by ordinary business criteria (Dees, 1998). Social entrepreneurs are focused on social problems. They create innovative initiatives, build new social arrangements and mobilize resources in response to those problems, rather than in response to the dictates of the market or commercial criteria.

(Dees, 1998) of Stanford University outlines five factors that define social entrepreneurship: Adopting a mission to create and sustain social value (not just private value); Recognising and relentlessly pursuing new opportunities to serve that mission; Engaging in a process of continuous innovation, adaptation, and learning; Acting boldly without being limited by resources currently in hand and Exhibiting a heightened sense of accountability to the constituencies served and for the outcomes created.

Former Secretary General of the United Nations, (Kofi Annan, 1997), "Information is liberating". Information sharing is very critical for IT in social entrepreneurship. Information sharing is key to building and sustaining

relationships. Faster access to more information, along with the ability to efficiently communicate that information to constituents, may lead to the opportunity for faster social change.

### OBJECTIVES OF THE STUDY

- To study and understand the role of information technology in social entrepreneurship.
- To understand the core of social entrepreneurship and provide the basis for future research.
- To analyze the challenges of utilizing information technology for social entrepreneurship.

### SOCIAL ENTREPRENEURSHIP & ROLE OF I.T.

Social entrepreneurship is a way to catalyze social transformation well beyond the solutions of the social problems that are the initial focus of concern. From this perspective, social entrepreneurship at its best produces small changes in the short term that reverberate through existing systems to catalyze large changes in the longer term. Social entrepreneurs in this tradition need to understand not only immediate problems but also the larger social system and its interdependencies; this understanding allows for the introduction of new paradigms at critical leverage points that can lead to cascades of mutually-reinforcing changes that create and sustain transformed social arrangements. Sustainable social transformations include both the innovations for social impacts and the concern for ongoing streams of resources that characterize the other two perspectives on social entrepreneurship. They also lead to major shifts in the social context within which the original problem is embedded and sustained.

### ACCORDINGLY, SOCIAL ENTREPRENEURSHIP IS INCLUSIVE OF THREE BASIC COMPONENTS

- 1) A stable, but inherently unjust equilibrium that marginalizes, excludes, or causes the suffering of a segment of the population that is unable to transform the situation on their own.
- 2) An opportunity, through the development of a social value proposition that brings to bear inspiration, creativity, direct action, and the courage to challenge

the unjust equilibrium.

- 3) The development of a newly forged stable equilibrium that releases trapped potential or alleviates the suffering of the targeted group.

I.T. has many roles to play in the transition towards a new equilibrium. Social Networking has a very important role in IT to create social change and transforming communities. Secondly, facilitating the flow of information and the importance of business applications that support daily operations. Individuals and Institutions can use social networking capabilities of IT to build connections across sectors and geographic boundaries. IT is seen as a low risk way of linking of individuals with common interests and these connections can aid in the identification of potential collaborators - resource providers (e.g. funding agencies), consumers, and partners. Consistent with the idea of making a significant social impact, IT-enabled social networking was viewed as critical to the success of replication efforts. Information Technology can be a mechanism for strengthening existing relationships, leveraging them to connect with 2nd and 3rd order relations (i.e. 'a friend of a friend') and facilitating the formation of groups to explore topics of mutual interest.

Personal Branding blog has listed out a few incredible social networking sites which can be leveraged by social entrepreneurs:

- Linked In
- Plaxo with Simply Hired
- Twitter with Blog or Linked In URL
- Face book
- Craigslist
- MyWorkster with Indeed
- VisualCV
- Ecademy

Access to information is vital to the transition towards a new equilibrium. The graphical representation of information may facilitate social change. Visual imagery, whether through pictures, maps or other data visualization tools, may help to overcome language,

cultural and educational barriers to the sharing and assimilation of information.

### **CHALLENGES OF UTILIZING INFORMATION TECHNOLOGY FOR SOCIAL ENTREPRENEURSHIP**

The challenges of utilizing information technology for social entrepreneurship are as follows:

#### **ACCESS**

Despite the significant progress society has made in addressing the digital divide, it remains a pervasive issue; particularly in the disenfranchised communities being served by social entrepreneurs. As a result, any discussion of the role of IT in social entrepreneurship must address disparities in access. These disparities come in the form of access to resources, technology, training and education. Even when access exists, social entrepreneurs often face a digital mismatch. A digital mismatch occurs when the technology resources available do not match the technology needs required to accomplish a particular goal. This digital mismatch results in the false impression that technology needs have been met and that the access gap has been narrowed.

#### **CAPACITY**

In order to realize the potential of IT for social networking and information sharing, social entrepreneurship must develop the capacity to exploit its use. Capacity building efforts often start with the search for resources. Certainly financial resources are important. These resources enable the purchase and maintenance of the IT infrastructure. However, capacity building activities also must include education and training - as these activities are critical components of any capacity building efforts.

#### **COMMONALITY**

Grassroots movements are diffused by necessity. Needs and the solutions that address them, differ across regions. Cultures vary and communities often have their own way of working. While this variability allows social



entrepreneurs to effectively address local needs, it also hinders their ability to effect system-wide change. Information sharing is more effective when parties have a common understanding and use a common language. IT may facilitate the linking of individuals across geographic boundaries, but it does not ensure that they will be able to communicate. IT can electronically link individuals in disparate places, but it cannot make them enter into a relationship. Relationships require some common interest and lack of commonality will prevent a relationship from forming.

### **SCHOLAR-PRACTITIONER LINK**

Social entrepreneurship scholars and practitioners can and must learn from each other in order to realize the full potential of IT. Theoretical developments need to be informed by the realities of the field, and practical innovations should be incorporated into theoretical advancements. Reaching the full potential of IT in social entrepreneurship will require timely and purposeful communication between scholars and practitioners.

### **DISCUSSION**

Social entrepreneurship must develop the capacity to exploit the use of I.T. to its maximum potential. Disparities in access of I.T. must be removed through access to resources, technology, training and education. Available technology resources must match the technology needs required to accomplish a particular goal thereby avoiding 'Digital Mismatch'. Social entrepreneurship must focus on capacity building activities and also must include education and training.

Social entrepreneurs must effectively address the issue of variability by focusing on common interests between people to build relationships. Timely and purposeful communication between scholars and practitioners must be encouraged to realize the full potential of use IT in social entrepreneurship. Social entrepreneurship's goal must be to create social value rather than making profit and stakeholders across sectors must stress on the role and the reality of IT in social entrepreneurship.

### **CONCLUSION**

Entrepreneurs are innovative, highly-motivated and critical thinkers. When these attributes are combined with the drive to solve social problems, a social Entrepreneur is born. Entrepreneurs are courageously creating change through innovative social ventures. Every social venture is a social mission driven organization which exchange goods or services for a social purpose. Social entrepreneurs are those who act as the change agents for society, seizing opportunities others miss and improving systems, inventing new approaches and creating solutions to change society for the better. While a business entrepreneur might create entirely new industries, a social entrepreneur comes up with new solutions to social problems and then implements them on a large scale. The positive effect of social entrepreneurship signals the imperative to drive social change, and it is that potential payoff, with its lasting, transformational benefit to society, which sets the field and its practitioners apart. Social entrepreneurship is a way to catalyze social transformation well beyond the solutions of the social problems that are the initial focus of concern. From this perspective, social entrepreneurship at its best produces small changes in the short term that reverberate through existing systems to catalyze large changes in the longer term. Social entrepreneurship is distinguished from other forms of entrepreneurship by its value proposition. Social entrepreneurs are designed to make societal change and social entrepreneurs simultaneously work to address a specific instance of a social problem and to enable transformational change within the system. Social entrepreneurship recognizes a society's problem and provides new ways to solve the problems. They create products and services that a society needs. Social entrepreneurship's goal is to create social value rather than making profit.

The idea of social entrepreneurship is to apply business principles to the achievement of a social mission. This can be facilitated by social networking and information sharing. Given that social entrepreneurs tend to focus on big ideas. However, the focus on higher order

uses of IT without some attention to the more mundane (e.g. basic office operations), might not present an accurate picture of the needs in the field. For instance, it may lead to a digital mismatch where resource providers assume a basic level of IT capacity and offer services outside of the reach of many social entrepreneurs. In order to prevent this situation, stakeholders across sectors must continue to engage in an open dialogue about the role and the reality of IT in social entrepreneurship.

### REFERENCES

1. Barr, Kate. (2008). "Compare and Contrast - Social Enterprise, Entrepreneur and Business", Retrieved on October 20, 2019 from <http://www.nonprofitsassistancefund.org/blog/2008/09/05/compare-and-contrast-social-enterprise-entrepreneur-and-business>.
2. Burley, Diana. (2009). "Information technology in social entrepreneurship: The role and the reality", ACM SIGCAS Computers and Society archive, vol. 39, issue 1, pp 11-14.
3. Dees, J. Gregory (1998). "Enterprising Nonprofits", Harvard Business Review (January - February), pp. 55-56.
4. Dees, J. Gregory, Jed Emerson and Peter Economy (2001). "Enterprising Nonprofits: A Toolkit for Social Entrepreneurs", New York: John Wiley & Sons.
5. Light, P. (2009). "Social Entrepreneurship Revisited: Not just anyone, anywhere, in any organization can make breakthrough change", Retrieved on December 12, 2019 from [http://ssir.org/articles/entry/social\\_entrepreneurship\\_revisited#](http://ssir.org/articles/entry/social_entrepreneurship_revisited#).
6. Martin, R. L. and S. Osberg. (2007). "Social entrepreneurship: The Case for Definition", Retrieved on September 24, 2019 from [http://ssir.org/articles/entry/social\\_entrepreneurship\\_the\\_case\\_for\\_definition](http://ssir.org/articles/entry/social_entrepreneurship_the_case_for_definition).
7. [http://ssir.org/articles/entry/social\\_entrepreneurship\\_the\\_case\\_for\\_definition](http://ssir.org/articles/entry/social_entrepreneurship_the_case_for_definition).
8. Pearse J. M. et al. (2007). "Leveraging Information Technology, Social Entrepreneurship and Global Collaboration for Just Sustainable Development", Retrieved on August 09, 2019 from <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.180.6320>
10. Schumpeter, Joseph A. (1951). "Essays: On entrepreneurs, innovations, business cycles and the evolution of capitalism", Cambridge: Addison-Wesley.

## SYNTHESIS AND ANTIMICROBIAL ACTIVITY OF IMIDAZO-THIAZOLE

Hitesh Samata<sup>1</sup>, Dr. Sheetal Gulati<sup>2</sup>, Dr. H. Patel<sup>3</sup>

1,2-Dept. of Chemistry, Rabindranath Tagore University, Bhopal(M.P.), India  
3-Ex-Head and Prof. Dept. of Chemistry, S.P. University, VV Nagar, Gujarat, India

### ABSTRACT

4-(naphthalen-2-yl)thiazol-2-amine (I) on reaction with 2-bromo-1-arylethanone(IIa-f) yield 6-Aryl-3-(naphthalen-2-yl)imidazo[2,1-b]thiazole (III a-f). The structures of all the produced fused heterocycles designated as imidazo-thiazole (IIIa-f) were investigated by spectroscopies. All the derivatives (IIIa-f) tasted for their antimicrobial activity. The results show that all the compounds have good antimicrobial activity.

**Key words:** Imidazole, Thiazole, 2-bromo-1-aryl ethanone, imidazo-thiazole, antimicrobial activity and spectral studies.

### INTRODUCTION

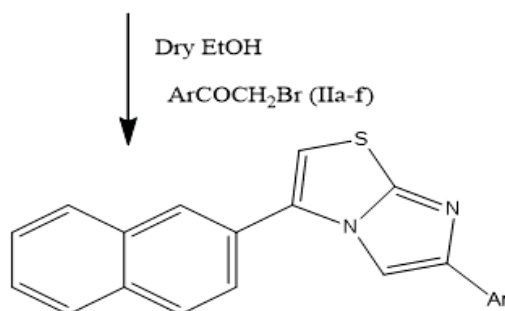
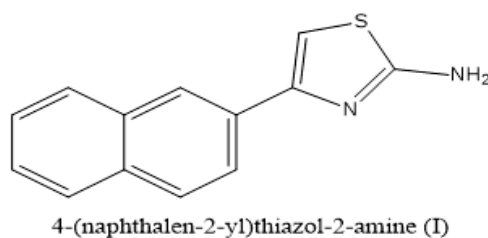
In recent years lots of research was done to synthesis anti-microbial actives compounds for various microorganisms, particularly for bacteria and several fungi. The numerous derivatives of imidazole heterocycle moiety and natural products have been synthesized for their antibacterial, Insecticidal, anti-HIV, antifungal, anticancer and anti-inflammatory activities(Meng et al.,2018;Uzun,2019;Abraham et al.,2018;Ali et al.,2018;Wang et al.,2018; Kadhém et al.,2018;Łukowska-Chojnacka et al.,2016).

On the other hand, Thiazole derivatives were also reported with their anticancer, antiparasitic, antibacterial, antifungal agents and antifolate activity(Gangjee et al.,2007;Chan and Anderson, 2006;Kompis et al.,2005;Toyoda et al.,1997;Dolzhenko,2006).

Hence, Thiazole and Imidazole containing compounds into one molecule may have good medicinal property. Thus it was thought to explore this type of merge

molecules. In context to this the present communication deals with the synthetic approach on imidazo-thiazole shown in scheme-1.

### EXPERIMENTAL



Where Ar= Ph, 4-ClPh, 4-BrPh, 4-CH<sub>3</sub>Ph, 4OHPh, 4-NO<sub>2</sub>Ph

4-(naphthalen-2-yl)thiazol-2-amine (I) and 2-bromo-1-arylethanone (IIa-f) were synthesis by reported method(Patel and Mehta,2006;Phan et al.,2017). All other reagents were used laboratory grade. The IR spectra of all compounds were taken in KBr pellets on a Nicolet 400D spectrometer. Proton NMR spectra were recorded on on a Bruker (400 MHz) spectrometer. Deuterated DMSO was used as a solvent. LC-MS of selected samples taken on LC-MSD-Trap-SL\_01046. All the compounds were checked for their purity by TLC. The characterization data of all these compounds are given in Table.1.

The antibacterial activity of both the series of compounds (IIIa-f) were studied against gram +Ve and –Ve bacteria shown in Table-4. The activity was measured at a conc, 50µg/ml by agar-cup plate method (Barry et al., 1976). The % age inhibition of growth of bacteria by the compounds is shown in Table-2.

The antifungal activity of both the series of compounds (IIIa-f) were measured at 1000ppm concentration in vitro Plant pathogen shown in Table-3 have been selected for study (Nweze et al., 2019). Synthesis of 6-Aryl-3-(naphthalen-2-yl)imidazo[2,1-b]thiazole (III a-f)

A mixture of 4-(naphthalen-2-yl)thiazol-2-amine (I) (0.01 mol) and 2-bromo-1-arylethanone (IIIa-f) (0.01mol) in anhydrous ethyl alcohol (30 mL) was refluxed for 6-7 hrs. Then reaction mixture was cooled under tap water, then poured into ice water. The solid product which precipitated was collected by filtration, washed with water and air-dried. Finally crystallized from ethyl alcohol. The details are given in Table-1.

**Table-1 Physical and Analytical Data of the Compounds Synthesized (IIIa-f)**

| Comp. No. | Molecular Formula   | Yield % | M.P.*   | Elemental Analysis |       |        |       |        |       |        |       |
|-----------|---|---------|---------|--------------------|-------|--------|-------|--------|-------|--------|-------|
|           |   |         |         | C%                 |       | H%     |       | N%     |       | S%     |       |
|           |   |         |         | Calcd.             | Found | Calcd. | Found | Calcd. | Found | Calcd. | Found |
| IIIa      | C <sub>21</sub> H <sub>14</sub> N <sub>2</sub> S (326)                | 69      | 278-279 | 77.2               | 77.27 | 4.3    | 4.32  | 8.5    | 8.58  | 9.8    | 9.82  |
| IIIb      | C <sub>21</sub> H <sub>13</sub> N <sub>2</sub> SCl (360.5)            | 66      | 264-265 | 69.8               | 69.90 | 3.6    | 3.63  | 7.7    | 7.76  | 8.8    | 8.89  |
| IIIc      | C <sub>21</sub> H <sub>13</sub> N <sub>2</sub> SBr (405)              | 68      | 275-277 | 62.2               | 62.23 | 3.2    | 3.23  | 6.9    | 6.91  | 7.8    | 7.91  |
| IIId      | C <sub>22</sub> H <sub>16</sub> N <sub>2</sub> S (340)                | 64      | 270-271 | 77.6               | 77.62 | 4.7    | 4.74  | 8.2    | 8.23  | 9.4    | 9.42  |
| IIIe      | C <sub>21</sub> H <sub>14</sub> N <sub>2</sub> OS (342)               | 62      | 263-264 | 73.6               | 73.66 | 4.1    | 4.12  | 8.1    | 8.18  | 9.3    | 9.36  |
| IIIf      | C <sub>21</sub> H <sub>13</sub> N <sub>3</sub> O <sub>2</sub> S (371) | 63      | 272-273 | 67.9               | 67.91 | 3.5    | 3.53  | 11.3   | 11.31 | 8.6    | 8.63  |

\* Uncorrected LC-MS data for IIIb: 367, IIIe: 348

**Table-2 Antibacterial Activity of Compounds (IIIa-f)**

| Comp. No.    | Zone of Inhibition(mm)   |                              |                           |               |
|--------------|--------------------------|------------------------------|---------------------------|---------------|
|              | Gram +ve                 |                              | Gram -ve                  |               |
|              | <i>Bacillus Subtilis</i> | <i>Staphylococcus aureus</i> | <i>Klebsiella promiie</i> | <i>E.coil</i> |
| IIIa         | 55                       | 49                           | 63                        | 61            |
| IIIb         | 72                       | 51                           | 82                        | 69            |
| IIIc         | 70                       | 47                           | 80                        | 63            |
| IIId         | 59                       | 49                           | 74                        | 62            |
| IIIe         | 60                       | 44                           | 60                        | 59            |
| IIIf         | 70                       | 50                           | 81                        | 66            |
| Tetracycline | 79                       | 55                           | 87                        | 72            |

Table-5 Antifungal Activity of Compounds (IIIa-f)

| Zone of Inhibition at 1000 ppm (%) |                                  |                        |                             |                           |
|------------------------------------|----------------------------------|------------------------|-----------------------------|---------------------------|
| Comp. No.                          | <i>Botrydepladia Thiobromine</i> | <i>Nigrosspora Sp.</i> | <i>Penicillium Expansum</i> | <i>Rhizopus Nigricans</i> |
| IIIa                               | 58                               | 66                     | 57                          | 55                        |
| IIIb                               | 68                               | 74                     | 72                          | 67                        |
| IIIc                               | 62                               | 68                     | 64                          | 62                        |
| IIId                               | 60                               | 70                     | 66                          | 59                        |
| IIIe                               | 61                               | 69                     | 65                          | 61                        |
| IIIf                               | 75                               | 72                     | 70                          | 64                        |

## RESULTS AND DISCUSSIONS

The 4-(naphthalen-2-yl)thiazol-2-amine (I) on reaction with 2-bromo-1-arylethanone(IIa-f) gives 6-Aryl-3-(naphthalen-2-yl)imidazo[2,1-b]thiazole (III a-f).

The structures of (IIIa-f) were confirmed by elemental analysis and IR spectra showing an absorption bands at 3030-3080 cm<sup>-1</sup>(C-H of Ar), 710 cm<sup>-1</sup> (C-S),1120 cm<sup>-1</sup> (C-N), 1080(-Cl),1555, 1375(-NO<sub>2</sub>), 2960, 1370 cm<sup>-1</sup> (-CH<sub>3</sub>),690 cm<sup>-1</sup> (C-Br),3250-3300 cm<sup>-1</sup> (OH),1180-1200 cm<sup>-1</sup> (C-OH).<sup>1</sup>H NMR (400MHz , DMSO - d<sub>6</sub> ,  $\delta$  / ppm ) : 8.40-7.65(m,7H,Ar-H),8.90-8.12(m,2H,Ar-H of thizaole-Imidazole ring), (IIIa): 8.15-7.40 (m,5H, ArH); (IIIb): 8.00-7.60 (s,4H,ArH); (IIIc): 7.84-7.62(s,4H,ArH);(IIId):7.70-7.24(s,4H,ArH),2.37(s,3H,CH<sub>3</sub>); (IIIe): 5.80(s,1H,OH), 7.52-6.82(s,4H,ArH), (IIIf): 8.40-7.96(s,4H,ArH).The C, H, N analysis data of all compounds are presented in Table-1.

All the elemental and spectral features suggest that the data are consistent with the predicted structure shown in Scheme-1. The LC-MS of selected compounds shows the peak of M<sup>+</sup> ion which is consistent of their molecular weight. All these facts confirm the structures IIIa-f.

The examination of antibacterial activity data reveals that all compounds toxic against microbes and the compounds IIIb and IIIe found more active against the gram-positive and gram-negative bacteria.

## REFERENCES

1. X. Bi, X. Meng, G. Chen, B. Chen, and P. Zhao, "Manganese oxidecatalyzed synthesis of anti-HIV N-substituted benzimidazoles via aone-pot multistep process," Catal. Commun., vol. 116, pp. 27–31, 2018.
2. S. Uzun, Z. Esen, E. Koç, N. C. Usta, and M. Ceylan, "Novel purinebenzimidazoles as antimicrobial agents by regulating ROSgeneration and targeting clinically resistant Staphylococcus aureusDNA groove," J. Mol. Struct., vol. 1178, pp. 450–457, 2019.
3. R. Abraham, P. Prakash, K. Mahendran, and M. Ramanathan, "Anovel series of N-acyl substituted indole-linked benzimidazoles andnaphthoimidazoles as potential anti inflammatory, anti biofilm andanti microbial agents," Microb. Pathog., vol. 114, pp. 409–413, 2018.
4. S. M. Ali, S. A. Kadhém, A. Jabar, K. Atia, and R. I. Al-bayti, "Journal of Global Pharma Technology Synthesis , Characterizationand Antibacterial Studies of Some New Imidazole Derivatives," vol.3026, no. 1, pp. 123–125, 2018.
5. Y. N. Wang, R. R. Y. Bheemanaboina, G. X. Cai, and C. H. Zhou, "Novel purine benzimidazoles as antimicrobial agents by regulatingROS generation and targeting clinically resistant Staphylococcusaureus DNA groove,"

- Bioorganic Med. Chem. Lett., vol. 28, no. 9, pp. 1621–1628, 2018.
6. S. A. Kadhem, S. M. Ali, A. Jabar, K. Atia, R. H. Salih, and R. A. Abdulrazaq, "Synthesis and study of biological activities of compounds derived from new Imidazole derivative," J. Pharm. Sci. Res., vol. 10, no. 11, pp. 2818–2824, 2018.
  7. E. Lukowska-Chojnacka, P. Wińska, M. Wielechowska, M. Poprzeczko, and M. Bretner, "Synthesis of novel polybrominated benzimidazole derivatives - Potential CK2 inhibitors with anticancer and proapoptotic activity," Bioorganic Med. Chem., vol. 24, no. 4, pp. 735–741, 2016.
  8. A. Gangjee, H. D. Jain, S. Kuru, Recent Advances in Classical and Non-Classical Antifolates as Antitumor and Antiopportunistic Infection Agents: Part I. Anticancer Agents Med Chem, 7:524-542, 2007.
  9. D. Chan, A. Anderson, Towards Species-specific Antifolates. Curr Med Chem, 13:377-398, 2006.
  10. I. M. Kompis, K. Islam, R. L. Then, DNA and RNA Synthesis: Antifolates. Chem Rev, 105:593-620, 2005.
  11. T. Toyoda, R. K. Brobey, G. Sano, T. Horii, T. Lead Discovery of Inhibitors of the Dihydrofolate Reductase Domain of Plasmodium falciparum Dihydrofolate Reductase-Thymidylate Synthase. Biochem Biophys Res Commun, 235(3):515-519, 2007.
  12. A. V. Dolzhenko, W. K. Chui, Synthesis of 2-amino-6-triazino[1,2-a]benzimidazoles as potential antifolates from 2-guanidino- and 2-guanidino-5-methylbenzimidazoles. J. Het Chem, 43:95-100, 2006.
  13. K. H. Patel and A. G. Mehta, Synthesis and Antifungal Activity of Azetidinone and Thiazolidinone Derivatives of 2-Amino-6-(2-naphthalenyl)thiazolo[3,2-d]thiadiazole E-Journal of Chemistry, 3(2), 103-103, 2006.
  14. P. T. Phan, T. T. Nguyen and T. N. Pham, Synthesis and Bioactivity Evaluation of Novel 2-Salicyloylbenzofurans as Antibacterial Agents Molecules, 22(5), 687, 2017.
  15. A. L. Barry, The Antimicrobial Susceptibility Test: Principles and Practices, 4th ed., edited by Illuslea and Feger, Philadelphia, 180 (1976).
  16. E. I. Nweze, P. K. Mukherjee and M. A. Ohannoum, Agar-Based Disk Diffusion Assay for Susceptibility Testing of Dermatophytes, J. Clin. Microbiology, 48(10), 3750-3752, 2019.