



# D2M – A ICT Tools for Education and Training

Dr. Sunil Ikharkar<sup>1</sup> and H. S. K. Tangirala<sup>2</sup>

Associate Professor, Department of MBA<sup>1</sup>

Kamla Nehru Mahavidyalaya, Nagpur, Maharashtra, India<sup>1</sup>

Director, Institute of Cooperative Management, (Ministry of Cooperation Govt. of India), Hyderabad<sup>2</sup>

**Abstract:** *D2M technology is a tool for sending the large content like FM radio. D2M can be used for rural education and training without internet connectivity. It is very economical in usage but requires mobile phone at the hands of the user. D2M technology is a mass media but not panacea to formal or online education and training. It helps to send content across the country in a single stroke.*

**Keywords:** D2M technology

## I. INTRODUCTION

Information Communication and Technology (ICT) in education and training plays a prominent role to enhance learning experiences and provide new sets of skills required for industry. It may be by outreach through Massive Open Online Courses (MOOCs). ICT is not only useful to the students but also to the faculties of universities or training organizations in minimizing costs and save time. ICTs are automated for routine tasks and daily duties. In present day environment Robots are used in education. ICTs improve administration of educational/training institutions anywhere in the world. Indian government stressed in new education policy to use more ICT tools for effective education and skill development of the youth.

Enabling ICT in institutions will be useful to the educational institutions for National Assessment and Accreditation Council (NAAC), National Board of Accreditation(NBA), and Accreditation Board for Engineering and Technology (ABET) accreditations. In the present scenario, one way is to improve the quality of education to make use of efficient technology in academic institution with various technology tools.

### 1.1 Mobiles and Internet Connectivity Status:

Deloitte conducted a study on use of mobile phones and found that over 750 million people in India use smartphones and this demand for smartphones are expected to increase at a Compound Annual Growth Rate (CAGR) of 6%. Coupled with the development of high-speed broadband connectivity, the growth in smartphone users is expected to cross the 1 billion user mark by 2026. Mobile phone is one of the devices which are used all over the world for one or another reason including academic and training training activities. India has around 622 million active internet users in 2020. Further, India's monthly data consumption reached 17GB per user in 2021.

### 1.2 m-Learning

Day by day the mobile learning (m-learning) is galloping in the field of education and training. It has become a paramount importance right from primary education to post-doctoral and research programmes with the help of CISCO Webex, Zoom or Team meet of Micro soft. These type of applications were not limited but increasing every year with new features for the benefit of the educational institutions as well as to the students and researchers. All these available applications (Apps) require internet connectivity. Because of this fact most of the students/participants of the training programmes in the villages for skill development is becoming very difficult. Eventhough we talk about 5G speed of the internet, many areas in the villages are facing paucity of internet connectivity and speed. Most of the students are facing acute problems (Lazar Stošić and Milena Bogdanović,(2013)).

### 1.3 Objectives of the Study

Following are the objectives of the study

1. Explain the D2M concept
2. To benefits of D2M in education and training.

### 1.4 Issues of Online Education/Training Programmes

In case of rural areas, the internet speed found to be very slow and most of the times no internet connectivity. Hence, in rural areas it is very difficult to the cooperatives connected with agriculture, dairy, sheep and goat, weavers etc in conduct of online training programmes, skill-based training programmes to be conducted online has become futile.

## II. D2M TECHNOLOGY

D2M technology is based on the convergence of broadband and broadcast, using which mobile phones can receive terrestrial digital TV. It would be similar to how people listen to FM radio on their phones, where a receiver within the phone can tap into radio frequencies. The Department of Telecommunications (DoT), in association with public service broadcaster Prasar Bharat, is exploring the feasibility of a Direct-To-Mobile' (D2M) technology.

Band 526-582 MHz is envisaged to work in coordination with both mobile and broadcast services. "DoT has set up a committee to study this band,". Currently, the Band 526-582 MHz is used by Prachar Bharati (DD) or Terrestrial TV Broadcasting. Many Analogue, Digital Ready, and Digital Terrestrial TV transmitters are operating in the band.

### 2.1 Benefits of D2M to Education and Training

- This technology allows broadcasting videos and contents of multimedia directly to mobiles. It is a boost to IGNOU, universities conducting online and distance educational programmes for even to the candidates of remotest areas as the multimedia content directly goes to mobile phones, without an active internet connection.
- The content will stream without any buffering and not consuming any internet data. In other words no internet facility is required.
- It promises to improve consumption of broadband and utilization of spectrum.
- The D2M will broadcast content related to citizen-centric information, skill-based activities, educational programmes, contents like disaster management calamities, live news etc. can be taken up to cover remote area participants.

### 2.2 Constraints

- Mobile phone is essential for D2M technology and most of the rural people cannot afford to possess mobile phone or smart phone.
- People in the rural areas have to be given training to use D2M technology.

## III. CONCLUSION

Technology upgradation has paramount importance in education and training rural farmers and people of cooperatives in the areas of farming. Further, with the help of D2M technology quality of rural education can be augmented. It is also to be concluded that D2M is not panacea for rural education but it is one of the best tool.

## REFERENCES

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