

Smart Network, Smart Technologies for the smartest geNext

Vandana Lama¹, Sudhir Kumar Sharma², Nidhi Goyal³

¹Assistant Professor, Dept. of Economics

Post Graduate Govt. College for Girls, Sector 42, Chandigarh, India

vndna_0205@yahoo.co.in

²Assistant Professor, Dept. of Computer Applications

Post Graduate Govt. College for Girls, Sector 42, Chandigarh, India

nangal_sudhir@yahoo.co.in

³Assistant Professor, Dept. of Computer Applications

Post Graduate Govt. College for Girls, Sector 42, Chandigarh, India

nidhi_sept@yahoo.co.in

Abstract:

Today, technology plays a significant role in our lives. It has transformed the way we work, learn and shop. Every little work we do is technology dependent. With the emergence of smart networks and gadgets in the 21st century, humankind is straightaway connected all over the domain while on the move. New technologies and their implementation in creative activities are altering the economic structure and aids in nation's economy. These comprehensive and excellent interactive solutions have the ability to empower each and every individual with superlative innovations. The mobility in education and inventions of new learning and teaching methodologies are the main benefits of this progression. The objective of this paper is to discuss the various technologies available for the learning of the next generation and how it affects the economic growth of the nation.

Keywords: E-learning, M-learning, Virtual classrooms, Wireless Communications.

Introduction

The use of technology in many arenas has been so successful and beneficial for e-learners to reach some particular goals especially in education. Web-based technologies and influential wireless communications deliver various innovative abilities for the development in every field and empower nation economy. Smart technologies like smart phones, tablets and laptops have grown tremendously day to day and have filled all areas of our lives. These gadgets are regularly used in banks, hospitals, or any industry with a powerful network connection. The Internet is becoming an increasingly vital tool in these smart devices. The amazingly speedy growth of information that likely would not be possible without this technology. Universities and schools are adapting this new era of e-learning and m-learning assistances with the aid of powerful gadgets and networks. With this advancement, educators and learners and have a diversity of learning tools at their fingertips. Universities, network companies, and e-textbook providers need to emphasize low-barrier, commercial alternatives for all higher education accessibility needs to the students. [1]

1.3G: THE BEGINNING OF SMART NETWORKS...

"Third Generation Wireless communication," is the next generation high-speed mobile system based on GSM technology. 3G supports broadband, packet-based transmission of voice, text, multimedia, and mobile video at a very high-speed up to 2Mbps. Following are the benefits of 3G technology that offers services in many ways:

- ✓ 3G allows users to be online all the time.
- ✓ Reduce Long Distance Voice Call Charges using VOIP Communications.
- ✓ Offers multimedia services such as sharing of digital photos and movies.
- ✓ Enjoying traditional games available on a virtual network.
- ✓ Access to critical enterprise applications like ERP, CRM, Business Intelligence on mobile phones.
- ✓ Increased connectivity in rural and remote areas. [2]

1.1 4G LTE: THE NEW REBELLION FOR WIRED GENERATION

4G is the next generation of wireless networks that provides better speed in contrast to previous networks. It provides integrated IP based multimedia services, where

voice, data and streamed multimedia is available to users on an "Anytime, Anywhere". Based on the requirements for seamless interaction between networks, 4G is characterized by the following key attributes:

1. **Emergence Response and Tele-Medicine:** 4G will cover remote health monitoring of patients. A user need not go to the hospital. Doctor is available with the aid of videoconferencing. This has led to the new face of technology in the services for the health-care operations that will provide better, faster, and less expensive medical and emergency care.
2. **Remote Sensing:** Combination of Geographical Information System and Global Positioning System. This technology is mainly useful in military and police services to get the exact location of the person.
3. **On the Move Learning:** 4G provides a good opportunity for e-learner and m-learner scholars where they get on demand education while on the move. Learners anywhere in the world can continue their education through online in a cost effective manner.
4. **Cloud Based Apps:** The rise of the 4G network will make cloud computing more working where everything is stored online. This service becomes more reliable, functional, secure and on-demand available by 24/7.
5. **Live Mobile Video:** High Definition demand is increasing day by day. 4G customers can watch online TV programmes by using Apps of different video channels.
6. **Amenity of services:** 4G gives the freedom to download heavy audio and video files, rapid workplace setup and remote access to business applications at a very high speed.[3]

1.2 5G: Towards More "Connected World"

In the coming years, 5G technology is going to be a new revolution in mobile market. 5G technology has astonishing data Competences like unrestricted call volumes, infinite data broadcast with latest mobile OS and ability to support software and consultancy for their users. This revolt has a bright future for the geNext that offer priceless amenities to their customers.

2. SMART TECHNOLOGIES: INNOVATIVE AND INTERACTIVE EDUCATION SOLUTIONS

Digital devices have the potential to enlarge and enhance virtual interaction in the classroom, involve students in real-world activities, develop learning environments, and engage apprentices in an innovative way. E-learning or M-learning technologies offer educators and students a more flexible approach to learning while on the move. Nowadays, schools and universities are adopting these innovative learning techniques in the classroom with the advancement of electronic devices that offer portability

and ease of use. Following is the list of smart gadgets that has become an integral part for today's educators and learners.

2.1 Smart phones: The simplest way but still fairly powerful technology on the go because of following points:

- ✓ Students learn online in a way they are comfortable.
- ✓ Stores and access online data from the cloud whenever required.
- ✓ Students can get responses quickly.
- ✓ Audio and video can bring learning to life.
- ✓ Smart phones allow for social learning.
- ✓ 24/7 online lectures and support available from worldwide tutorial websites.

2.2 Tablets: In this 21st era, iPad, tablets have captured the imagination of e-learner. This is more optimistic of projections to define a brand new e-gadget and has become the best-selling gadget of all time. Here's a look at the top reasons why the young generation is adopting this technology.

- ✓ iPads and tablets are the best way to show textbooks in the form of e-books featuring images, video and audio.
- ✓ Fit students' lifestyle by giving the advantage of thin, lightweight and better battery backup.
- ✓ Better software competitive specifically for tablets. Number of apps available that are entirely compatible with online teaching and learning platforms.
- ✓ Cloud-based solutions have become ever more popular with these devices. With these, cloud-based systems, learners can work anywhere in the campus and save them all in a central location that is easily accessible from cloud.

2.3 Personal Digital Assistant: An innovative e-learning platform that combines computing and networking features i.e. access to internet, word processing packages and manages personal information. PDAs, also known as pocket or palmtop computer that provides real technological innovation in online education. Computer labs, even laptop offer students only limited access but PDAs gives the opportunity of learning from one location to another.

2.4 Cloud based learning: The brand new technology accelerates the innovation for the computer industry. It offers services to their users that can be purchased and downloaded on demand. Working from the cloud, learner's access necessary materials from anywhere collaborate with other students on group projects and share knowledge. Cloud technology has made things easier for teacher and students by providing infrastructure with a minimum budget.

2.5 Smart Classrooms: The concept of smart class education is blessing to the students of the 21st Century. A smart classroom is a classroom that has a trainer equipped with multimedia computer that is connected with internet using a wide variety of media. This includewhite board, DVD's, PPT's and more, all displayed through a projector. It helps the students for improving their overall academic performance in school and universities.

2.6 E-books: E-books have speedily grown in the realm of higher education. Educators and students are buying e-books rather than print books because of online availability.

E-books offer hyperlinks, facility of downloading multimedia assignments, and tools such as chat services that allow students to interact with other students. They are mostly stored in the PDF format. [4]

3. PROSPECT OF SMART TECHNOLOGIES: TECHNOLOGICAL ADVANCES

In the coming years, technology will revolt in various ways that can be leveraged for education. The express evolution in internet, smart phones and cloud technologies has touched every aspect of human life. E-learning or M-learning through smart technologies are gaining continues popularity in the educational sectors and enhancing economic growth of the nation. The key drivers behind growth of virtual learning are: the increase in apps available, small size, low price and – most importantly – mobile devices' adaptable technology. The increased accessibility of wireless virtual learning environment and cloud services will open a new world of new potentials. In the near future, universities and higher

education will not survive as the future is outside the traditional campus and classroom.

4. CONCLUSION

Virtual learning is a new start that will continue to gain popularity based on convenience. It opens so many doors to new opportunities to deliver quality of education that will expand individual knowledge for better job prospects in the coming competitive world. Learners will have access to millions or billions of online modules in the form of web pages. All across the sphere, these wireless education technologies allows learning that will expand beyond the four walls of the classroom and the hours of the school day that will make a better world. The future of eLearning is very bright. Educators and smart gen encourage to adopt new eLearning and m-learning methods to flourish and older eLearning techniques.

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