8.1 RECOMMENDATIONS

Despite an array of problems in the use of e-Learning systems for HEIs (see Chapter 2), the application of ICTs is gaining momentum not only in the developed and developing countries but also in the poor states of Africa and... Developed states are researching on and experimenting with advanced ICTs and their e-Learning applications while developing and poor regions are very excited in testing the initial-levels and most commonly the blended versions of educational technologies.

Furthermore, after analyzing the e-Learning experiences in developed, developing and poor states, several themes surface on the foreground. There are critical differences between the developed and developing states however; several similarities are visible at the broader level. On the top, the research across the globe suggests that success-n-failure of an eProject for the development, implementation and use of e-Learning tools and techniques in any HEIs depends, per se, on the top management support, robust ICTs infrastructure, collaborative development, user-participation/empowerment, and contextualization of the development and use theories and practices.

8.1.1 Top-Management Support

A Champion from the Top Management: Almost every researcher in the field of e-Learning have identified top-management-support as a critical factor in the success or failure of an eProject for HEIs all over the globe. The support and facilitation from government is on the top but once the government is taking interest then the commitment and involvement of the top management within every institution makes the difference. It is stated that the role of top management is central in the integration of ICTs in education because many teacher or student-initiated e-Learning projects have failed due to the lack of support from above. Furthermore, for a
sustainable development, administrators must learn using technology as well as understand the —technical, curricular, administrative, financial, and social dimensions of ICT use in education.

8.1.2 Robust ICTs Infrastructure

As discussed in the section on ‗Educational-technologies, it is not the provision of computers only which creates an e-Learning environment rather Networking lies at the core of modern digital learning systems. Everything happens through computers BUT on networks. Stand-alone systems are no more common not in the sense that they are not usable or not used but now they are playing back-office roles. The provision of a robust ICT-based infrastructure is challenging in the sense that it is not a one-shot activity. It is not like that the technical resources are purchased once for all. Computer-technologies are rapidly changing, which require Updates by the institutions otherwise they will lag behind fellow and competitive institutes in technological sophistication. So creation, maintenance and updating of technical infrastructure is a process which continues for ever.

Furthermore, while developing and/or updating, most of the HEIs opt for cutting-edge technologies however, experience shows that mostly these leading-edge technologies turn into bleeding-edge technologies by eating up budgets and delivering nothing special. Therefore researchers suggest that go with tried and tested systems. At the same time latest digital options are expensive while, the time is right for collaborative action because the time is wrong for any approach other than cost-sensitive, resource-smart deployments. An effective technical support also means that users are not only trained in using technologies but continuously updated about the user and possibilities created by these gadgets.

8.1.3 Collaborative Development

The Oxford Dictionary defines collaboration as work together and cooperate with the enemy. The second meaning is striking and demanding. Collaboration in the development of e-Learning environments refers to the cooperation between the developers and users during the user-needs analysis, design, development, implementation and user training. Even though they hail from different backgrounds with reference to ICTs, they have to collaborate by creating mutual
understanding in the development and execution practices of e-Learning in HEIs. Furthermore, there are many similarities in the ways of implementing, operating and using the ICT at different universities therefore, there is a rationale for cooperation in the ICT issues among universities and training institutions.

ICTs can enable developing countries to expand access to and raise the quality of education but it requires careful consideration of the interacting issues of policy and politics, infrastructure development, human capacity, culture, curriculum and pedagogy. Corporate training model does not work and the university's model of past traditions does not easily and effectively accommodate the integration of technology innovations. Certainly, a need to get everyone talking to each other academic computing staff, faculty, and administrators is the first crucial step in the development of new education models. Similarly, unless other simultaneous innovations in pedagogy, curriculum, assessment, and institute’s organization are coupled to the usage of instructional technology, the time and effort expended on implementing these devices produces few improvements in educational outcomes - and reinforces many educators’ cynicism about fads based on magical machines.

8.1.4 User-Participation

The significance of user participation in the development and use of e-Learning is the main route to contextualizing the new technologies. When users are not heard, the developers mostly embed their self-conceived user-perceptions into the system, which then appear incompatible with the real user-demands. Lack of user participation at the development level reduces the chances of system's ownership by the users. System ownership requires user-empowerment in terms of deciding about the structure and contents of new system, for example, if system matches with the learner's learning-style and teacher's teaching mindset, the chances of success are obvious.

Thus, in the context of e-Learning projects, user empowerment is the granting of unprecedented decision-making powers to the primary agents in education teachers and students. The researcher further argues that mostly ICT-training is extended by the Technical experts of ICTs however, faculty members who use technologies may actually have a better grasp of the best applications in their own disciplines.
The new trends in technology-integration in education are to create such digital environments, which are created to generate intellectual partnerships between the teachers and learners. The sustainable partnerships within the universities help in overcoming the feelings of digital divide among the university constituents including students, faculty, academic computing staff, and administrators and to explore diverse and effective uses of ICTs. Similarly, educational partnerships with foreign institutions for offering joint courses, adopting joint curricula or any other joint educational arrangements can help create broader level participation of users across the boarders in understanding and using new systems.

8.1.5 Contextualizing the e-Learning Initiatives

UNESCO proposes ICT-diffusion strategies to its member states, which are: a. create an education system, which is based on your social and cultural realities; b. make it accessible to all; c. replace the traditional rigid and culturally alienating education models with flexible and more diversified and universally affordable systems based on ICT. The research reveals that those HEIs, which opted for leading-edge technologies hardly achieve long term objectives from the system. It is better to experiment with tested digital gadgets. Similarly, found that system costs scale-up during the development process, which endangers the systems sustainability, therefore researchers suggest that there is need to design a technology-based model within the context of the existing support and resource infrastructures.

Furthermore, the e-Learning projects should not be founded only on technical considerations rather developed by taking into account the social, cultural, political and economic context. For example, teachers need that type of training, which enables them for technology integration in their curriculum and replicated in the classrooms and not the training, which simply trains them is using some software applications. There is need to develop a contextualized model of training in which individual-differences are addressed because corporate training model is no more workable as well as the existing traditional training models are incapable to effectively integrate the

In nutshell, the development and implementation of an organizational strategy is a comprehensive and ongoing management process and … effective strategies are those that
promote a superior alignment between the organization and its environment and the achievement of strategic goals. So an e-Learning project must be sustainable in technical, economic, political and social terms. Sustainability is the acceptance (ownership) of the system by users. Political sustainability is the issue of policy and leadership and it forms the biggest threats to ICT-projects in the shape of resistance to change. If, for instance, teachers refuse to use ICTs in their classrooms, then the even the instrumental use of ICTs is not possible, let alone the substantive and integrative use. Economic sustainability is the ability to finance the project. It is tied closely to social and political sustainability. Technological sustainability refers to the selection of those technologies that will be effective over the long term.

8.2 RECOMMENDATIONS (Researcher’s Observations)

The long-n-short of the thesis in this dissertation is that the teachers, students and administrators mostly have positive perceptions and theories about the ICTs with even over-expectations by the users with computer-related degrees. Similarly, they have some reservations or uncertainties about the nature and role of these technologies. The variation in these reservations, change the theories and attitudes of users towards e-Learning tools. However, research suggests that perceptions, approaches, theories and attitudes all are changeable, if appropriate steps are undertaken by the management. Obviously, if management can mould the perceptions and theories of users with a favorable tilt, the attitude of users will automatically change. Thus, the challenge is to make the people think differently or positively about the nature and role of ICTs.

Naturally, this is squarely mounted on the training of users. However, training should not taken in its narrow sense of short-term-course rather lifelong-training. The management of HEIs should provide with such robust learning facilities that are accessible by the users at anytime and from anywhere. The most powerful, inexpensive and partially available facility for providing lifelong education facilities is The Internet. It is the gateway to a galaxy of knowledge, wherefrom users can access those caches of information which have so far been only for the elite class. For example, since the inception of digital learning, proprietary hardware and software have remained as big source of problems for users and main source of earning for the technology-suppliers. But FOSS movement has turned the table around.
The availability of online facts and figures to the teaching and learning started documents, notes, pictures, graphs, audio and video etc through the web-pages but in a static form unless updated by the hosts of the websites. However, web-based technologies have so advanced that now the users can have „a stream of data“ that is transmitted to the users as and when created not only by the hosts of the website rather mostly by the Users of the websites. For example, personalization and adaptation technologies in the social software have transformed the International Internet into Personal-Web by empowering the users to upload/download through a variety of interfaces and thus simultaneously teach-n-learn from the internet using Web 2.0 working environments like, wikis, facebook, blogs and You-Tube.

Given that world-libraries and information-databases are available online to the masses, the users are no more short of facts and figures rather facing the issues of information-overload and information-security. All the HEIs are struggling hard to catch up with the digital divide within the institutes, between the institutes and at the international level. They are succeeding but the tempo is slow and unnoticeable. At the same time, all the users have high perceptions, and expectations from the ICTs in teaching, learning and administration, which are indicative of the fact that "good learners will learn, in spite of our bad learning environments.

8.3 SCOPE AND LIMITATIONS OF THE STUDY

The present study is limited to the higher education in India in particular and training institution in general. Further the limitations of the study are its geographical constraints, time-frame constraints, industry limitations, and data collection constraints, questionnaire for the respondents, conceptual limitations and statistical limitations.

The researcher would like to clarify specifically that the present study does not pervade the scope of any particular courses. A separate study can be suggested on the above areas which can further extent the depth of knowledge in this regard. Also, scope of the study can be specified as the statistical model developed by the researcher can further be refined to predict the purchase outcome.
8.4 Time Period of Study

The study covers the times period of 2011-15. The process of data collection got over by 2013 which is followed by data analysis and hypotheses testing.