A COMPARATIVE STUDY ON

E-LEARNING ENVIRONMENT IN THE SELECTED PUBLIC AND PRIVATE SECTOR BANKS

THIS THESIS IS SUBMITTED IN FULFILLMENT OF THE DEGREE OF DOCTOR OF PHILOSOPHY IN MANAGEMENT

BY

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This thesis is dedicated to my parents for their love, endless support and encouragement.

Preface

This Ph.D. thesis contains the result of research undertaken at the Department of Management, School of Economics, Management and Information Science, Mizoram University, Aizawl, Mizoram. This thesis represents a culmination of work and learning that has taken place during a period of over three years.

These three years have been a challenging trip, with both ups and downs. Fortunately, I was not alone on this road, but accompanied by an extended team of experts, always willing to coach, sponsor, help, and motivate me. For this, I would like to thank them.

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The first three chapters of this thesis describe background and literature, the fourth and fifth chapters discuss the methodology and profile of respondents, the remaining chapters present analysis of data, summary, suggestions, conclusion and bibliography.

Finally I would like to extend my gratitude to my parents, for their encouragement and support. They deserve a special word of appreciation for their moral support, love and encouragement.

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DECLARATION

I, Ms. AnupamaLakhera, hereby declare that the subject matter ofthe thesis entitled "A Comparative Study on E-learning Environment in the Selected Public and Private Sector Banks" is the record of the work done by me, that the contents of this thesis did not form basis for the award of any previous degree to me or, to the best of my knowledge, to anybody else, and that the thesis has not been submitted by me for any research degree in any other University/Institution.

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I wish her all success.

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I have drawn heavily on the library services of Mizoram University. My thanks are due to all librarians and supporting staff who were always prompt and helpful. I am also thankful to all office staff members of Mizoram University, Aizawl for their guidance to cope with the procedural formalities.

I will be failing in my duties if I do not thank all those authors and researchers from whose works I have referred extensively. I am also thankful to all the respondents who spared their invaluable time to give me the required information during the research work.

Last but not the least; I am highly grateful to all the respondents who shared their views openly which led me to make the final conclusions. Above all, no venture can be completed without the blessings of the Almighty. I consider it my duty to bow to the Almighty whose kind blessings always inspired me to walk in the right direction and have given me the vigour and strength to fulfill the dreams of my family.

Anupama Lakhera

ABBREVIATIONS

CBL - Computer Based Learning and Training Systems

CBT - Computer Based Training CD-ROMs

CMIS - Computer Managed Instruction System

CSCL - Computer Supported Collaborative Learning

EMIS - Education Management Information Systems

LAMS - Learning Activity Management Systems

LCMS - Learning Content Management System

LMP - Learning Management Platform

LMS - Learning Management System

NCL - Networked collaborative learning

VLE - Virtual Learning Environment

WBT - Web Based Training

WBTS - Web Based Training System

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INTRODUCTION

"***The biggest growth in the Internet, and the area that will prove to be one of the biggest agents of change, will be e-Learning.…***

***Education of the Internet is going to make e-mail usage like a rounding error in terms of the Internet capacity it will consume.*"**
John Chambers, CEO, Cisco Systems (Chambers 1999).

1.1 E-learning: Introduction

In the last decade the impact of technology and multimedia on training, learning and education has increased at a rapid pace. The e-learning environment is a multi-faceted area. There are different theoretical views, highlighting different schools of thoughts in the area. E-learning deals with the impact of technologies on learning

and teaching. Within an organization the e-learning environment is utilized to train and educate the employees on their professional roles and organizational strategies and policies. There are numerous perspectives on the impact of an e-learning environment in corporate training.

In modern times, one of the biggest challenges is keeping up with all the latest technological changes that are taking place in the corporate world. In this fast-paced world it is mandatory to acquire the necessary knowledge and skills, be it in the workplace or in the comfort of our own home. The days of routine are over: they have been replaced by rapid technological advances on the Information Superhighway.

Keeping up with the latest technological changes is possible when e-learning is adopted in the organizations for training purposes. E-learning comprises all forms of electronically supported learning and teaching. The information and communication systems utilized in the e-learning environment serve as specific media to implement the learning process. They may be networked or used directly. E-learning is the process of transfer of information, knowledge and skills via an e-learning environment. The transfer of information, knowledge and skills takes place via a computer and network enabled environment.

E-learning processes include Web-based learning, computer-based learning, virtual classroom training and use of multimedia or digital

content. The digital content is delivered via the Internet, audio or video tape, CD-ROM or satellite TV. It includes multimedia or digital content in the form of text, image, animation, video and audio. Abbreviations like CBT (*Computer-Based Training*), IBT (*Internet-Based Training*) or WBT (*Web-Based Training*) are generally used as synonyms to e-learning.

E-learning is naturally suited to distance learning and flexible learning, but can also be used along with face-to-face or traditional teaching, in which case the term Blended learning is commonly used. Sameer (2009) defines Blended Learning as "a fruitful effort in integrating live classroom activities including face-to-face instructions along with online learning and instructions so as to reap the maximum benefits by utilizing the best elements of all through effective planning by an ideal facilitator."

In his study Dietinger (2003) states that "Web Based Training and its newer and more general synonymous term e-Learning are two of today's buzz-words in the academic and business worlds. Decision-makers associate with them new ways of learning that are more cost efficient than traditional learning strategies and which allow students to better control the process of learning because they can decide when, where and how fast to learn." This is the reason why
Corporate Managers are adopting e-learning or web based training methods for corporate training.

Information is the lifeblood of all organizations. One of the most important process within an organization is training and learning. Thus, training methods must be of very high standards, whether the classroom is real or virtual.

It is essential for the employees within an organization to acquire a good education and learning. The employees must be provided with the finest and most up-to-date educational resources that are available, in addition to the traditional teaching methods that they receive.

The latest and advanced technology in the form of e-learning is being utilized extensively in corporate houses for imparting training to their employees. In almost all sectors the organizations are spending a good amount of their revenue on implementing an e-learning environment within their organization to provide training and learning to their employees.

The employees or learners benefit greatly from technology based educational resources. The use of a technology based educational medium gives them the opportunity to explore new and fascinating mediums of education and learning.

In today's tight labor market, companies know that in order to remain competitive they must develop a method for training employees more rapidly, more effectively, and less expensively.

Traditional training methods do not fulfill these criteria as effectively as technology-based training. (Byer, 2005)

Byer (2005) further states that traditional training:

- Is more expensive (considering costs for travel, printing, materials, training staff, and facilities)
- Must be done at a certain time and in a specific location (limiting the number of people who can attend at one time)
- Provides little opportunity to transfer knowledge as quickly as business needs may require
- Cannot be updated quickly or easily (it takes time to update paper-based materials, then copy and distribute them).

1.2 Meaning of e-learning

E-learning can be defined in numerous ways. It can be said that e-Learning is the use of technology to deliver and design content to support learning in an Internet-enabled environment. It involves the convergence of technology, the Internet and learning. The

components of e-learning comprise of content delivery in different formats, a team of trainers, learners and content developers and managing the learning experience.

The evolution and advancement in the field of computers, web technology and the Internet have led to new innovations and approaches in the field of training and learning which may be termed as e-Learning.

E-learning is the term most commonly used to represent the broader domain of development and research activities on the application of technologies to education. Information and communication technologies (ICT) refers to the broad range of technologies that are used in education.

E-learning provides a learning environment at reduced costs in the long-term and at a rapid pace. It provides a flexibility to the learners to learn at their convenience. It involves a process which ensures accountability for all participants in the process of learning. In today's work environment, the organizations that implement an e-Learning environment for corporate training provide their employees with the ability and advantage to gain a competitive edge in their chosen field.

E-learning has the potential to be the most efficient way for acquiring knowledge, if it is used in the right way. For e-learning to be used in the right way it is important to find out what an ideal learning environment should be.

There are numerous aspects to the technical development of e-learning. They may be categorized into different areas as given below:

- E-learning as an educational tool or process that supports traditional learning and different subjects.

- E-learning as a technological medium that helps in the transfer, communication and development of knowledge and skills.

- E-learning itself as an educational subject; which may be studied as a subject under "Information and Communications Technology" or "Computer Studies".

- E-learning as an administrative tool such as Education Management Information Systems (EMIS) or Learning Activity Management Systems (LAMS).

E-learning can be of two types – synchronous or asynchronous.

Synchronous learning refers to a learning environment in which everyone takes part at the same time. Here learning is in a face-to-face environment, where learners and teachers are all in the same place at the same time. While in asynchronous learning, learning is focused on the student and uses online learning resources to facilitate information sharing for a network of people. It is self-paced and allows learners to engage in the exchange of ideas or information without their dependency on other learners and at their own convenient time.

Synchronous learning involves the exchange of ideas and information with one or more participants during the same period of time. A face-to-face discussion or lecture is an example of synchronous learning. In e-learning environments, examples of synchronous learning include live teacher instruction and feedback. It may include Skype conversations, or chat rooms or virtual classrooms where everyone is online and working collaboratively at the same time.

In asynchronous learning we use virtual classrooms which may use technologies such as web-supported textbooks, audio video courses, email, blogs, wikis, and discussion boards using web 2.0. Professional training may include online instruction which the learners may avail as per their convenience and availability of time.

Asynchronous learning can be really beneficial for learners who find it difficult to leave home and attend lectures regularly, these may be learners with health issues, learners with child care responsibilities etc. In asynchronous training the learners have the opportunity to complete their work at their own pace in a stress free environment and within a flexible timeframe. If they want to watch any video again or listen to a lecture again they can easily go online and watch it again. This helps them to gather knowledge and skills better and at a faster pace. This proves to be very beneficial for the corporate training of employees within organizations. For the synchronous and asynchronous training to be effective self-discipline and self-motivation is essential.

Collaborative Learning

According to Gerry *et al.* (2006), Computer-supported collaborative learning (CSCL) is an emerging branch of the learning sciences concerned with studying how people can learn together with the help of computers.

Computer-supported collaborative learning (CSCL) uses methods and instructions that are designed to encourage students to learn and work together on assignments. The terminology, "e-learning 2.0" and "networked collaborative learning" (NCL) may also be used for Computer-supported collaborative learning (CSCL).

Collaborative learning is different from the traditional methods of instruction in which the teacher or trainer is the facilitator in the process of transfer of knowledge and skills. The term "e-learning 1.0" refers to the direct delivery or transfer of content in computer-based learning and training systems (CBL). It differs from the delivery of content, often directly from the teacher's or trainer’s material. Computer-supported collaborative learning (CSCL) uses communities, blogs, wikis, and cloud-based document portals.

Web 2.0 and Social Networks

The rapid technological advancements and Web 2.0 has made the sharing of information between multiple people in a network much easier. The use of Web 2.0 social tools in the classroom allows the learners and teachers or trainers to work collaboratively, share information and ideas. It makes the transfer of knowledge and skills from the teacher or trainer to the learner simpler.

Web 2.0 tries to tap the power of humans connected electronically through its new ways at looking at social collaboration. (IBM developerWorks, 2009) The main agenda of Web 2.0 is to connect people in numerous new ways and utilize their collective strengths. In this regard, many new concepts have been created such as: Techniques (Blogging, Social Networking, Communities, Mashups, and Tagging). The power of Web 2.0 is the creation of new relationships between collaborators and information. The components of Web 2.0 help to create and sustain Social Networks. Web 2.0 provides an ideal platform for implementing and helping Social Networks to grow. In today's environment, computer literacy is at its peak and tools that are aided through the computerization age are most effective in keeping alive a concept as complicated as Social Networks.

As discussed in "Building Smart Communities with IBM Social Collaboration Tool Suite" (IBM developerWorks, 2009), the major concepts that have been considered in Web 2.0 are:

- Communities: Communities are an online space formed by a group of individuals to share their thoughts, ideas and have a variety of tools to promote Social Networking. These are very cost efficient as well as easy to use.

- Blogging: Blogs give the users of a Social Network the freedom to express their thoughts in a free form basis and help in generation and discussion of topics.

- Wikis: A Wiki is a set of co-related pages on a particular subject and allow users to share content.

- Folksonomy: Web 2.0 being a people-centric technology has introduced the feature of Folksonomy where users can tag their content online and this enables others to easily find and view other content.

- File sharing/Podcasting: This is the facility which helps users to send their media files and related content online for other people of the network to see and contribute more on.

- Mashups: This is the facility via which people on the internet can congregate services from multiple vendors to create a completely new service.

While wikis and communities help to create an online space for the networks, blogging, folksonomy and file sharing help the information to flow across the virtual world of the social networking community.

In his study Sendall (2008) observed that blogs, wikis, and social networking skills are found to be significantly useful in the classroom. After initial instruction on using the tools, students also reported an increase in knowledge and comfort level for using Web 2.0 tools. The collaborative tools also prepare students with the technology skills necessary in today's workforce.

1.3 Essential Requirements for e-learning

There are some essential conditions for e-learning to take place. They may be summarized as:

- At least one or more learners who have a specific goal to achieve from the e-learning training.

- E-learning multimedia or digital content which represents the knowledge and skills which are to be learnt and describes the subject, the learning objectives and guidelines on how to achieve them. The e-learning content can be interactive and include videos and animations.

- An e-learning trainer or teacher. E-learning also involves preferably one or more e-learning teachers or trainers who assist and guide the learners in trying to achieve their learning goal.

- An e-learning environment which can be accessed using a web browser over the internet or intranet. It works as an interface between the learners and their learning goals and objectives. E-learning environments generally also include administrative and management tools.

Some other terms which are often used as synonyms for e-learning environments may be summarized as:

  - Computer Managed Instruction System (CMI-System) – The CMI system diagnoses the learning needs of learners and prescribes instructional activities best suited and most appropriate for the assessed needs of the learners.

  - Learning Management System (LMS) – The LMS is a software application which is used for the delivery, documentation, administration and tracking of e-learning content for training programs. LMS may be a system for managing the training and the documentation process for the training or a software for distributing the content online over the Internet. Colleges and universities use LMSs to deliver online courses and augment on-campus courses. Corporate training departments use LMSs to

deliver online training, as well as automate record-keeping and employee registration.

- Learning Content Management System (LCMS) – The LCMS provides a more complex platform meant for developing content used in e-learning programs. The emphasis in the LCMS is on the ability for developers to create new material or content.

- Learning Management Platform (LMP) – The LMP helps in resource management and is a useful support for multimedia or learning content.

- Virtual Learning Environment (VLE) – It is an e-learning education system which provides virtual access to the training content to the learners via the web or internet. The leaner can access the content of training course or classes, tests, assessments, and other external resources such as academic or website links via a Virtual Learning Environment (VLE). It is also a social space where the learners and trainers or teachers can interact, chat and have discussions.

- Web Based Training System (WBT-System) - It is anywhere, any-time instruction delivered over the Internet or a Corporate Intranet to learners who are linked online.

It is important to focus on and examine the technological, pedagogical, functional and non-functional requirements for e-Learning environments.

The distinguishing feature about a learning organization is that it promotes a culture of learning, a community of learners, and it ensures that individual learning enriches and enhances the organization as a whole. There can be no organizational learning without individual learning, but individual learning must be shared and used by the organization (West 1994).

Web-based training is in its nascent stage, but one should know what's needed to make online learning effective:

- Instructions must be interactive and should include presentations, videos, guided practice for learners, and assessment.

- The e-learning training programs must have clear learning objectives. They should be relevant and help the learners to achieve their learning goals.

- Structure is important. The e-learning training programs should be properly structured.

- Frequent interaction and immediate feedback should be an integral part of the e-learning training programs to ensure good performance.

- All e-learning training programs should provide practice sessions, ranging from simple to complex.

- The multimedia or digital content should be interactive. It should include media in the form of animation, graphics, text, and audiovisuals to enhance the learning process.

Bailey (2013) states that "to be sure, interactivity can add a level of, creativity and engagement to your e-learning modules. But keep in mind that the interaction needs to be instructionally sound and relevant. If you make a high-budget simulation with no instructional backing, you end up wasting the time and effort of both yourself and your learners. To help determine the best type of interaction, answer a few simple questions:

- Will it benefit the learner most to reflect, react, or make decisions?
- What is the most relevant content to the learner's goals?"

According to Whyte (1989), "Locus of control remains an important consideration in successful engagement of e-learners." Locus of control refers to the extent to which individuals believe that they can control events that affect them. Locus of control is one of the four dimensions of core self-evaluations – one's fundamental appraisal of oneself.

Whyte (1989) further states that, “the continuing attention to aspects of motivation and success in regard to e-learning should be kept in context with other educational efforts. Information about motivational tendencies can help educators, psychologists, and technologists develop insights to help students perform better academically.”

Skinner (1954) noted that the learning process should be divided into "a very large number of very small steps and reinforcement must be contingent upon the accomplishment of each step." Skinner also stated that by making the steps of learning small, the frequency of reinforcement is increased and the frequency of being wrong is reduced.

Yager (1991) advocated the constructivist learning approach. Constructivist teaching is based on constructivist learning theory.

It is based on the belief that the learners are the makers of meaning and knowledge and that learning occurs as learners are actively involved in a process of meaning and knowledge construction as opposed to passively receiving information.

Constructivist teaching fosters critical thinking, and creates motivated and independent learners. This theoretical framework holds that learning always builds upon the knowledge that the learner already has. According to Yager (1991) the constructivist learning approach leads to the following suggestions on how teachers should proceed in

their lessons. It also provides insights into how this could be supported by Virtual Learning Environments in e-learning courses:

- Encourage students/learners to suggest causes for event and situations and encourage them to predict the consequences.

- Seek out the student/learners ideas before presenting teacher ideas or before studying ideas from textbooks or other sources.

- Encourage students/learners to challenge each other's conceptualizations and ideas.

- Encourage adequate time for reflection and analysis; respect and use all ideas that students/learners generate.

- Encourage self-analysis, collection of real evidence to support ideas and reformulation of ideas based on the new knowledge.

- Use local resources (human and material) as original sources of information that can be used in problem resolution.

- Involve students/learners in seeking information that can be applied in solving real-life problems.

- Extend learning beyond the class period and classroom.

- Focus on the impact of the learning topic on each individual student/learner.

- Refrain from viewing content as something that merely exists for students/learners to master on tests.

- Emphasize career awareness--especially as related to the learning topic.

In reality this could work like this:

Learning which is integrated in everyday tasks, such as learning by doing, learning from mistakes, learning through networking or learning from interpersonal experiments is also summarized under the term "incidental learning" (Lankard 1995). According to Holzinger *et. al.* (2001) incidental learning is more efficient than intentional learning because learners rather concentrate on the learning goal than on the learning process itself because they are not conscious of the fact that they are learning at the moment. That is also the way children learn, and they do it quite effectively.

All these strategies and theories support the conclusion that learner centered knowledge acquisition is an efficient way of learning which has to be supported by a good virtual learning environment.

According to Gulati and Sivakumaran (2002), "Professional development seekers who seek to add value to their work environment are embracing open learning more and more. With different media offering diverse learning paths, the challenge to the trainer is to deliver contemporary content in multimedia-packaged formats and deliver them across different platforms. Web based training is the emerging technology, which promises to deliver a simulated classroom environment, while offering flexibility in terms of time and location. It underscores the need to become more learner focussed and to coordinate activities in real world terms, to ensure success in corporate training context."

Many of these suggestions are relevant for the e-learning content developer or author and the teachers or trainers who prepare the learning topic and do the coaching, they can be supported by various tools which the learning environment should provide.

Some of the available tools are:

- Authoring tool for the trainer or teacher to package all descriptions, contents, references and supporting tools which cover the topic to be taught to the students/learners. This package goes beyond a typical instructional course material.

- Simple structuring and authoring tools to summarize the knowledge acquired during the training course and to present this knowledge to others.

- Libraries and glossaries which include material such as books, publications and electronic books etc., simulations such as emulations of the real world or a connection to a real remote lab and external material such as rated and reviewed references. All these may be referred to gather information on the topic being taught.

- Rich and powerful search facilities which allow learners to search within the internal and the external information.

- Cognitive tools such as mind maps and semantic networks to structure gained knowledge.

- Personal annotation, rating and linking tools which allow working on the material.

- Collaboration features such as team building with shared workspaces and group annotations.

- Shared calendars and task lists might help to coordinate advanced students and schedule their jobs.

- Rating/voting tools could support sorting out and rating relevant material, and during the presentation phase allow the other students and the teacher to assess the prepared material.

- Synchronous and asynchronous communication features, such as discussion forums, messaging with mailing lists, text, audio, video chat, question/answer dialogues, shared whiteboards and application sharing tools to communicate with other learners, tutors and experts.

According to Meeker (Meeker 1996) students must be able to receive, process, assimilate, store, and use the information that is being presented in order to learn. Most people have a preference for the type of information they can handle most easily. This is a person's learning style, which also has to be taken into account when creating e-Learning content.

Many learning problems occur because there is a mismatch of learning styles between those offering instruction and those receiving it. Meeker developed a special "Structure of Intellect" (SOI) test. The test not only assesses thinking abilities, but also helps to develop and enhance areas of deficiency.

It also differentiates five ways of thinking which are:

- Cognition: The ability to perceive and understand new information quickly.

- Memory: The ability to retain and retrieve information in any form.

- Evaluation: The ability to make decisions and to judge correctness, suitability, adequacy, or desirability of information.

- Convergent production (sometimes called problem solving): The ability to synthesize new information from given information to arrive at what is normally accepted as the best answer or outcome.

- Divergent production (sometimes referred to as creativity): The ability to generate new information from given information, emphasizing the variety and quality of answers.

An e-learning system also has to provide features that support the overall learning process including administration and organizational issues and an integration into other IT systems and infrastructure apart from the functions that support the learning and training strategy which can be derived from the pedagogical requirements. In addition

to that it might also be useful to support tasks that are closely related to learning such as human capital management, resource management and knowledge management.

E-learning developments, whether small-or large-scale, are complex, having a raft of implicit and explicit consequences across an institution. Many believe that because of this e-learning initiatives need to be undertaken by multi-disciplinary teams, drawn from across the institution (educationalists, technologists, subject specialists and support staff). At the heart of the success of such teams is the adoption and management of a collaborative approach; however, successful collaboration is notoriously difficult.

The complex nature and importance of collaboration are key features of learning technology work that have long been recognized. Introducing yet more complexity in an already complex environment (McNay, 1995) inadvertently sets up problems to be overcome that never feature in bids for funding. In many instances new agglomerations of staff have been created, or the remit of existing centres has been widened (Gosling, 2001), often with a view to operationally focused tasks and little consideration of their strategic importance. Without this higher-level work, as explored by Elton (1999), achievement may be less than planned.

In traditional methodology teachers or trainers are comfortable teaching in a face-to-face context and have a good deal of control over how to do this. In contrast, the rules and norms in an e-learning environment are unfamiliar. Most teachers or trainers do not possess the technical knowledge to be able to introduce learning technologies without at least some support from a competent web-editor or server administrator.

E-learning is more visible and more subject to evaluation than traditional approaches to teaching and learning. Work is at least underway to develop frameworks in relation to e-learning, even if the current policy focus suggests that fair comparisons to conventional techniques are not a high priority (Nicol and Coen, 2003; Bacsich *et al.*, 2001).

The level of learning of the learners can be assessed by summarizing the difference between the pre- and post-test results after successfully finishing a corporate training program.

Constructivism is, perhaps, the most widely recognized social position within e-learning research, having come to dominate the field over the last decades (Thorpe, 2002). However, this 'position' might be more accurately described as a cluster of related positions, some advocating learning through active experimentation (e.g.

Papert,1980), while others emphasize the importance of social interaction (e.g. Vygotsky, 1986; Wenger, 1998) and others focus on the very personal nature of constructed knowledge (e.g. von Glaserfeld, 1993).

It is impossible to talk about e-learning in a research context without reference to methodology, since any claim about e-learning rests on data collected and interpreted in accordance with some methodological position (Conole, 2003).

Jones provides a critique of internet research and the methodological issues that arise (Jones, 1999), emphasizing the danger of misinterpreting online interactions. Using multiple methodologies can be one way of addressing this. For example, De Laat *et al.* (2005) combine the use of social network analysis with content analysis and critical event recall in a study of an online Masters course in education. Social network analysis is used to visualize the social structures and dynamics of the course, content analysis is used to identify the learning and teaching processes, and critical event recall is used to elicit teachers' experiences and perceptions

An aspect that impacts on how successful an e-learning initiative is, or is perceived to be, is the degree to which it is visible and accessible to relevant stakeholders. It is encouraging to note that

funders are more aware now of the importance of ongoing strategically directed dissemination of project outcomes.

1.4 Learning Management Systems

E-Learning systems are usually known as Learning Management Systems (LMS) which mainly focus on content delivery, administrative aspects of learning and the recording or documentation process for the training. LMS have evolved from the Computer Based Training CD-ROMs (CBT), which presented the learning content only but needed some kind of structure for the organized delivery of content and administration and management of the learners to organize who should learn what and when.

LMSs offer the required support for planning, organizing and managing the learning process. They help in administration of course catalogues and registration, event schedules, assessment services, keeping learner records, organizing group and individual learning paths. They also support additional functions for skill and competency management for tracking and controlling the personal development of employees. They assist in resource management by helping in organizing trainers, rooms and other types of resources for instructor-led trainings.

The most important functions and parts of an LMS are:

- Personalized learner portal: This module provides personalized entry to the learning system and access to the most important personal information.

- Course catalogues and registration: This enables learners to access the course catalogue, register, and enrol in the offerings. It also handles billing issues (which would require integration in e-commerce systems), notifications, schedule changes, waiting lists and drop policies and defines gathered skills when mastering the courses. A curriculum manager tool helps to define and select the courses from the course catalogue and is tightly integrated with the competency management functions. Selected courses can be assigned to trainees individually by the trainers or course managers.

- Learner-records database, with user-profile and competency management for tailoring learning experiences to competence frameworks.

Core components of this module are:

- Learner records: which contain stored information about the learner, such as job title, organization, location and skills acquired. These cannot be directly edited by the user. Personal preferences, such as delivery mode and language, may be edited by the user.

Skinner (1958) wrote about "teaching machines", which were mechanical devices designed to present educational material to students at their own pace and to reinforce correct responses to the material while preparing the student to respond correctly to subsequent material. He called this method of teaching (whether it used machines or workbooks) programmed instruction. Programmed instruction is a special type of "interactive training". Skinner described the purpose of a teaching machine as follows:

Creation of learning environments that allow and encourage learners to make connections with previously learnt material. This should support the recall of prerequisite skills, use of relevant examples and analogies.

1.5 Multimedia and Digital Content

Multimedia refers to the digital combination of text, graphic art, sound, animation and video elements. Interactive multimedia is

where the learners or users are able to control the material being presented to them, an example being interactive CD-ROMS (Vaughan, 1998). Alternatively, hypermedia is where a structured set of linked elements is provided through which a learner or user can navigate, for example - web pages.

Hypermedia has various advantages and disadvantages; the non-linear navigation possible with hypermedia is powerful in terms of potentially promoting discover learning. However, it is easy to get lost in 'hyper-space' when following hyperlinks (Nielsen, 1990); a learner may tend to become disoriented in terms of the goals of their original query and the relevance to the query of the information they are currently browsing. This problem is often referred to as the 'navigation problem' (Levene and Loizou, 2003).

Hypertext supports active learning. Learners who navigate and explore a plethora of information are gathering and gaining more knowledge; this interactivity allows them to create new paths until their understanding of the topic is complete. But perhaps an even more powerful tool for learning is the construction of hypertexts. The earliest users of hypertext in teaching (e.g. Landow, 1992) observed that the people who understood the most about any particular topic were the graduate students they employed to build the learning materials. Nowadays the teachers or trainers are being innovative and using this idea by asking the learners to construct hyperspaces and blogs, sometimes in teams.

Multimedia software is used across a range of subjects to support learning. For example, the creation of a virtual chemistry lab might require the bringing together of images, sound, maps, video and animation, controlled through user interaction. Other examples of where multimedia applications are used to facilitate learning include their use in languages and visually based subjects.

Simulation is a way of using multimedia in a project-based context, engaging learners in solving particular problems. Simulations may take many forms, such as scenario-based simulations, knowledge- or model-based simulations or multiplatform/multi-user synthetic environments enabling cooperative and adaptive immersion learning.

Facer *et al.* (2003) have pointed out that the use of games can allow learners the opportunity to imaginatively inhabit alternative realities in which they can test out ideas and take control and that this may lead to the development of new cognitive abilities and literacy. An interesting question for learning technology research is: Why are games motivating? Facer *et al.* (2003) suggest that learners are 'personally responsible for the outcome. The role of challenge in engaging and motivating games players is already well recognized and has been identified as an experience of a "flow" state'.

However, it is not easy to get tasks at the right level in gaming environments. Games do not offer true interactivity and are in

essence a very structured experience where ‘semiotic links to reality are merged with action without real world consequences that seems to be enjoyed. (Facer *et al.* 2003). Another factor is that there are no real consequences associated with games (e.g. the frequently reported activity of intentionally opposing the supposed aims of the game, such as refusing to take over any worlds in the game Risk). Thus in games there exists the opportunity to inhabit alternate reality and see what it is like to take control.

Malone and Lepper (1987), in their work on motivation, identified four major factors in relation to motivation – challenge, curiosity, control, and fantasy. Arguing that these are what make a learning environment intrinsically motivating. So to be challenging, activities should be kept continuously at an optimal level of difficulty to keep the learner from being either bored or frustrated. To elicit sensory or cognitive curiosity in activities one can use audiovisual devices or present information that makes the learner believe that their current knowledge structure is incomplete, in consistent or unparsimonious. Activities should also promote a sense of control on the part of the learner, that is, a feeling that learning outcomes are determined by their own actions. Finally, one can engage the learner in make-believe activities (or fantasy contexts) to allow the learner to experience situations not actually present.

Elsom-Cook (2001) points out that we are seeing a shift towards multi-modal communication abilities and literacy. However, Facer *et*

al. (2003) point out that being 'literate' in a digital age is more than information seeking and handling. It operates on three dimensions: operational (use of the computer), cultural (participation in authentic forms of social practice and meaning) and critical (ability to critique resources and use them against the grain, to appropriate or even redesign them). In addition, Rieber (2001) points out that play is an important component of promoting learning. The vision of e-learning in ubiquitous computing environments raises the idea that the environment, and the devices in that environment, can be coordinated to help support the learner's activities or collaboration.

1.6 E-learning Environment

In an ideal learning situation a very qualified teacher is needed who trains and guides one or just a few students whom he knows quite well (their personal background, their strengths and weaknesses, their personalities, how fast they can understand etc.). If there is more than one student then all students should have about the same level of knowledge and agreeable personal profiles, know each other quite well and love working together and helping each other. Direct face to face communication between teacher and students (and among students) allows to immediately react to requirements of students (questions, speed of teaching etc.). Thus the teacher can individually respond to each of the students and motivate them. Also all necessary illustration material is available that the students can use to understand the teaching subject more quickly and there are

plenty of possibilities to practice and test the already learnt and use knowledge gained to solve problems with it.

This ideal situation will most probably lead to a very efficient learning process, no matter whether the learning goal is just storing some facts, carrying out processes, or whether they are as complex as finding new solutions for difficult problems of a certain category (the learning subject).

However, although it might be the ideal learning environment in reality it is not usable most of the times for at least one or more of the following reasons:

- It is limited to a very small number of similar students (say 1-3).
- Usually the teacher and the students do not know each other well enough.
- It is time and place dependent.
- It is very expensive because of the one to one or one to few relation between teacher and students and the enormous investment in time.

Especially the fact that this scenario and all similar traditional learning strategies cannot deliver new knowledge to a large number of students fast enough is the strongest argument which displaces instructor led training in the way described above. Additionally new requirements such as lifelong learning and just-in-time learning arise out of short development and deployment cycles and continuously changing working profile. That is the reason why present day economy needs a new way of learning to continue to be successful. Therefore, a conducive-learning environment needs to be created for making technology enabled learning effective. An e-learning environment is an artificially created environment comprises of all required components for smooth and successful transmission of knowledge by using e-learning resources.

An e-learning environment which works as an interface between the participants and their learning objectives and provides different means to achieve the learning goal. Usually the e-learning environment can be accessed using a Web browser over the Internet or Intranet and supports several learning strategies and different ways of interaction, communication and collaboration. Additionally e-learning environments often include administration and management utilities and interfaces to other systems to support the organizational part of learning as well. Other terms for e-learning environments, which are often used as synonyms or with slight variations in its feature-set are e.g. (among many others):

- Computer Managed Instruction System (CMI-System)
- Learning Content Management System (LCMS)
- Learning Management Platform (LMP)
- Learning Management System (LMS)
- Virtual Learning Environment (VLE)
- Web Based Training System (WBT-System)

Whether you refer to them as course management systems, virtual learning environments or managed learning environments, they have in reality only been around since the late 1990s (e.g. WebCT was established as a company in 1986 and Blackboard in 1987). Initially they provided tools to allow teachers who were not necessarily IT literate to upload and manage content on the web; they then provided coherent and integrated tools for managing and communicating with and between groups, and more recently they have focused on the interface with enterprise systems such as student information systems. In just a few years such systems have moved from being esoteric tools for early adopters to becoming mainstream; nearly every university supports at least one such environment, and thus a significant majority of HE courses have a web presence of some kind.

In spite of this enormous success there are many criticisms and shortcomings of what, after all, is the first generation of large-scale web-based learning systems. These systems are monolithic, may not use standard representations for their content, may not be open at the service/API (applications program interface) level and are typically commercial rather than open source, so interoperability (the ability of one system to communicate with another) is a serious issue. The SCORM (sharable content object reference model) approach of many learning management systems also tends to support a particular pedagogical view point, which more often aligns with commercial training requirements than academic education (Wirski *et al.*, 2004).

Current thinking is that the next generation of e-learning environments will be modular; they will allow the creation of bespoke systems sewn together from appropriate modules that will interoperate to create the whole. These systems will be developed by communities (including software vendors) rather than single suppliers and they will be content and communication standards compliant, ensuring interoperability. This technical solution should enable teachers to specify learning tools and environments appropriate to their pedagogical purposes, rather than as dictated by the features provided by a particular technology. At the same time institutions should benefit financially, as not only are they sharing in the cost of development, but also the cost of deployment of new functionality is much reduced, involving maybe only the addition or

replacement of a module rather than waiting for and deploying a full system upgrade.

CHAPTER-II

USE OF E-LEARNING TECHNIQUES AND RESOURCES FOR CORPORATE TRAINING

E-learning and Corporate Training in Organizations

In modern times corporate training has become an essential process in the organizations due to stiff competition in the market and survival of the fittest scenario. Therefore corporate managers are constantly looking for more cost effective ways to deliver training to their employees. It is felt that e-learning is less expensive than traditional classroom methods of teaching in the long-term. The use of e-learning resources for training helps in reducing many expenses like - booking training facilities, travel costs for employees and trainers. It also helps to greatly reduce employee time away from the job as the employees can avail this training online as per their convenience and availability.

Nowadays in the business sector rapid technological advancements and implementations are taking place, for example, cloud

computing, online training etc. are being implemented in organizations. In the banking sector – online banking has been introduced.

Jochems *et al.* (2004), in their study consider the impact of e-learning on institutional change, particularly changes to roles and organizational structure. They observe that, "despite a long tradition of distance education, educational institutions have been slower to take advantage of the potential of new technologies to support their teaching, research and administrative procedures."

E-learning in learning and education refers to the use of modern technology, such as computers, digital content, networked digital devices such as the Internet and associated software and multimedia or digital courseware to facilitate the learning process.

E-Learning has gained prominence due to its importance for increasing flexibility of learning, reducing costs and gaining acceptance.

Every organization has its own particular culture, which is influenced by the organizational goals, mission and strategic priorities. This structure of an organization is based on the organizational objectives and culture.

McNay (1995) identifies and characterizes four organizational types. Although this characterization is generic, understanding and identifying which of these types an organization most closely fits can help in the successful implementation of e-learning for corporate training within the organization.

McNay's (1995) four organizational categories:

- The first category describes 'collegial' organizations, typified by research-led institutions. There is a clear divide between academic and support roles and structures, with decision-making through a complex structure of committees.

- The second category describes 'bureaucratic' organizations, characterized by strong central management and top-down decision making, with clearly defined roles and career progression paths.

- The third category describes 'corporate' institutions, with tight policy definition and control over implementation.

- The fourth category describes 'enterprise' institutions, which are more closely aligned to business organizations, being

> driven by financial objectives and responsive to external opportunities. They have traditional management roles and structures with clear demarcation of responsibilities and hierarchical decision-making processes.

Organizations are multi-faceted and have a complex structure which influences the decision to successfully implement an e-learning environment within the organization. An organization's profile includes its structure, culture (at different levels), mission, business needs and organizational objectives and goals.

Decision makers and managers view the implementation of e-learning for corporate training as a means of supporting the organizational objectives, goals, mission and business needs.

Castells *et al*. (1996) suggest that nothing is certain and that we live in an increasingly culturally rich and complex society with changing norms and values. The impact of Information and Communications Technology (ICT) across all aspects of our lives is one of the key features of this, and we are only just beginning to understand some of the ways in which technologies are changing our lives.

According to Giddens (1999), "Coupled with external drivers, an institution is defined by its organizational culture, which is in part instantiated or reified in institutional strategies and policies."

An organization has numerous stakeholders, whose opinions may differ and who may have conflicting agendas. In order to understand organizational culture it is very important to assess the needs of the various stakeholders especially for implementing an e-learning environment for corporate training.

Morgan (1986) has described a series of metaphorical models, each of which highlights different characteristics of an organization and helps to understand the overall organizational culture, priorities, strategies and agendas.

These metaphors can be used as a means of understanding and highlighting different aspects of organizations. The ‘machine’ metaphor highlights the structural aspects of organizations. The ‘brain’ metaphor is based on the idea of organizations as information processing systems capable of learning. The ‘culture’ metaphor views organizations as mini-societies with their own distinctive patterns of culture and sub-culture. Finally, the ‘political’ metaphor highlights the relationship between interests, conflicts and power. It focuses on the understanding that people think and act differently.

Each of these metaphors focuses on different aspects of an organization and hence can be useful in providing a rich picture of the institutional context within which e-learning occurs. They can

also be used as a basis for undertaking research in this area – highlighting different aspects of organizations.

Byer (2005) has observed that, "To run the best company possible, employers should introduce e-learning to their companies and reconsider the costs and effectiveness of traditional training. Knowledge must be streamlined and communicated on a widespread scale to all employees. E-learning offers companies a cost effective, proficient answer."

One of the greatest benefits of e-learning is the cost savings associated with delivering training via the Internet, multimedia, satellite or other electronic methods. E-learning has been proven to consistently save companies between 15% and 50% of the costs incurred in programs delivered exclusively in classroom settings. (Byer, 2005)

According to Dietinger T (2003), "Human Capital Management (HCM) is a more focused and strategic training of employees depending on their future employment and career path. The training can be done with blended learning i.e. mixing different learning strategies, e.g. ILT (Instructor Led Training) and e-Learning, but coordinated and controlled by skill gap analysis and skill management (as part of an overall e-Learning architecture)."

E-learning is often described as a catalyst for change as it impacts the organization in various ways and may bring about a change in the organizational structure. The impact of e-learning on corporate training may benefit organizations on policy developments, staff developments and changing organizational structures.

The advantages of e-learning are evident but organizations need to analyze and confirm that the learners are actually acquiring and using the knowledge and skills that are being taught during the online training, and that e-learning is the best way to achieve the desired outcomes in a corporate environment.

Much of the discussion about implementing e-learning has focused on the technology, but Driscoll (2001b) has observed that, "e-learning is not just about the technology, but also many human factors."

Due to the obvious advantages of e-learning such as positive economic benefits, convenience, standardized delivery, self-paced learning and availability of diverse content, e-learning has become a high priority for many organizations.

The worldwide e-learning industry is economically significant, and was estimated in 2000 to be over $48 billion according to

conservative estimates. Nagy (2005) has observed that, "Developments in internet and multimedia technologies are the basic enabler of e-learning, with consulting, content, technologies, services and support being identified as the five key sectors of the e-learning industry."

ASTD (American Society of Training and Development) (2002), in its State of the Industry Report, noted that the year 2000 marked a new era of growth for e-learning. In spite of all the enthusiasm in corporate training programs for e-learning, an ASTD study found that 67 percent of the training directors interviewed do not measure the effectiveness of their net-based programs at all.

There is always a focus on the fiscal bottom line in corporate training; the comparatively low costs of e-learning are attractive. According to Strother (2002), "some firms are beginning to measure e-learning results for their sales force in terms of increased sales, as in the Unilever case. Unilever claims that e-learning helped their sales staff produce more than US $20 million in additional sales (Hoekstra, 2001). They track the results of their e-training programs by asking course participants to take part in a teleconference several months after the course. Participants are asked to discuss how they have integrated their new skills into their work and to share their best practices."

Strother (2002) further states that, “until a more solid research methodology is developed for measuring e-learning results, we can rely on the mainly qualitative feedback from corporations that are using e-learning to deliver their training. Firms praise online training as a cost-effective, convenient, and effective way to deliver corporate education. Early studies seem to demonstrate that e-language-learning in business is a win-win proposition for all - the learner, the corporation, and the customers served by the corporation. E-Learning could be a good and cost efficient solution which allows learning at home.”

Barron (2001) observes that “learning technology providers have been increasingly able to demonstrate cost-savings and broader benefits, develop integrated offerings, and propose innovative ways of applying e-learning."

Burnside (2001) summarized the questions in the area of e-learning for corporate training as follows:

- How does learning actually occur in the human being, individually, in groups, and in organizations?

- How do we increase students' capacity for learning?

- What evidence do we have of the benefits of increased capacity for learning?

According to Dietinger T (2003), "In the corporate training sector e-Learning has its main advantage in its elimination of the border between learning and working. However this does not mean that learning can be done completely on the side, because learning is a mental process that still needs its time and environment. It means that learning can be better integrated in the working process."

If corporations can get all of the advantages of e-learning with the same level of results as an instructor-led classroom situation, then the economic advantage for e-learning becomes even stronger. Research results consistently demonstrate superior benefits of e-learning in general. In addition to higher performance results, there are other immediate benefits (Strother 2002).

E-learning and the Banking Sector

Nowadays due to increased global competition the banking sector is facing a transformation. The local banks are competing with the overseas branches of foreign banks in the same market. In the past few years the banking sector has seen tremendous growth and competition in India.

The banks need to keep pace with the fast changing technological advancements to retain a favourable position in the competitive market. They also need to increase the efficiency and productivity of their staff. This can be obtained by training their employees and making corporate training an ongoing process within their organization. They need to implement an e-learning environment within their organization.

Gulati and Sivakumaran (2002) state that, "the banking industry is in the midst of a huge transformation. The voluntary retirement schemes floated by various banks are largely driven by the need to have richer human capital, and the adoption of technology in various operational areas. The need of the hour is to impart knowledge more than learning, and to retool the experienced personnel into more valuable ones."

Gulati and Sivakumaran (2002) further state that, "to be productive, the active learning approach must be with constructivism as the corner stone, training becoming more and more learner-focused, and less teacher-focused. Training should be in tandem with daily routines and requirements and this should normally lead to reward for professional development in line with corporate direction. To achieve these we must incorporate quality design elements in open learning systems."

According to Karaaslan (2013), “Developments in information and communication technology create the spread of education and economic opportunities. E-learning is one of them. For companies in the banking sector, web-based training is a new opportunity to create a harmonious labour force with new technology and to increase the efficiency of business productivity. E-learning with practice of these new technologies, offers bank employees individual learning, regardless of time and space.”

Karaaslan (2013) further states that, “Nowadays, because e-learning provides opportunities for learning without interfering with the flow of work for the staff working at the appropriate time and space, an economic advantage is provided to both the bank as company and its employees. Therefore, spending on education decreases. However, the level of benefit that bank staff gains from educational opportunities changes on the basis of certain demographic characteristics.”

For his study it can be concluded that the benefits of e-learning are that it provides opportunities for learning to the bank employees without interfering with the flow of work. The banking staff can be trained online via web-based training at the appropriate time and space as per their convenience and availability. E-leaning also provides an economic advantage to both the bank as a company and its employees as individuals.

Implementing an e-learning environment within their organization provides an economic advantage to the public and private sector banks in the long term as spending on education decreases. It also helps to incorporate a culture of corporate training within the bank and training of employees or banking staff can become an inherent and continuous process within the organization.

However, the level of benefits that the bank employees gain from the educational opportunities provided by e-learning and corporate training changes on the basis of certain demographic characteristics. This is an important variable with regard to the effect of e-learning.

Through the use of ICT or an e-learning environment a process of continuous and effective training of the employees can be established within the bank. The knowledge, skills and efficiency of the bank employees can be enhanced which will lead to increased efficiency within the organization. However, it is important to consider the economic and financial aspects when planning a training programme. The management and decision makers within the bank need to consider all aspects of establishing an e-learning framework for corporate training while proposing and preparing a budget for establishing the same.

As a consequence of the constant technological changes the demand for change in job performance has grown, due to this a continuous

education, training and development process has become inevitable in organizations. E-learning i.e. web-based learning, is one of the important solution areas to minimize the spending on education and training. As transportation, food and hotel accommodation are not required during such training programmes, extra costs and expenses are thus eliminated. Therefore e-learning projects in training and education provide important advantages in sustainable and continuous training within an organization.

Today, many banks have adopted e-learning training programmes. Continuous training of employees is required to make them expert and efficient at using new technologies and software. It also helps in increasing the productivity and quality of the banking services. The educational and training opportunities that are created by establishing an e-learning framework provide an economical solution through online or web training.

Interaction is one of the most important features of web-based education. Communication and interaction between the trainer and learner is the most important factor in improving the efficiency of the training.

E-learning materials, where course content is distributed in electronic form by the development of technology, indicate the privilege of education. The most important of these privileges is that

the course is communication and interaction technology-based (Swan, 2003).

Content compatible interactions should be designed in e-learning design. The learners can see not only material, but also their own circles through the interaction and there is increased sharing of information (Johnson *et al.,* 2008). In addition, because there is an increased interaction of the individual, the learning environment is perceived to be more positive. Immediate interaction and feedback between instructors provides learners with the necessary information more quickly.

Karaaslan (2013) has observed that, "Banks are able to transmit the new developments in their staff training costs by adapting to the decline in distance education programs, and banking services are attuned to the global innovation. Sustainable training of the personnel is carried out in branch or home environments before and after closing time. During the course of study, the staff is able to back up any learning and self-test through e-examinations. In addition, assessment exam questions are delivered to the various branches of the bank's employees through the Internet, enabling personnel to receive their results instantly even though they are in different places at the same time. Time, money and labor savings are also achieved. Thus, increasing the intellectual capital of the bank via e-learning seems to be quite functional. Because human capital is

an important component of intellectual capital, human resources, policies, and coordinated e-learning contribute to improving the performance of the bank's business and services."

E-learning training helps in providing a fast and effective feedback that is why it is preferred in the banking and financial sector. Many banks use e-learning training option as it is sometimes impossible for their employees to have a face-to-face training. E-learning helps the employees to receive training without disrupting work hours as per their convenience at their chosen time and place.

Internet has radically changed the concept of business and banks are also utilizing the web facility effectively. At the beginning of the use of the Internet on the web, banks began to promote their products to customers via Internet banking (İleri & İleri, 2011). Though there is no limitation of time and space, they perform training services through the web in order to work with more qualified personnel. Thus, using speed tracking technology banks have made a profit in terms of time and cost. Therefore, since investments have paved the way to develop e-learning in the field of education, numerous companies are carrying out their training in the virtual environment.

While e-learning is workplace learning, job performance is a development tool (Bersin, 2002). E-learning training helps in the

development of knowledge, skills and efficiency of the employees and contributes to the employees' career development.

According to Alugani (2013), "the banking industry is an important sector that is growing competitive in the current business scenario. Leads of the bank are now intent to revamp the present resources to those that can meet the challenges from competition. The major challenge for banks is to train the employees in a different way, which develops the strength of the organization to withstand the competition in future."

Alugani (2013) further states that, "Organizations are now implementing e-learning method to train employees." She observes that e-learning supports the banks training needs in many ways. She has summarized them as follows:

- Main goal of banks is to serve the customers better. The information regarding the essentials of the product, need to be taught to the sales persons in time. This process can be made easy through e-learning, a method where the sales persons can get the information immediately.

- For tracking compliance, banks use e-learning and learning management system software that support e-training.

- E-learning enables you to easily adapt the content and transfer to the learner, which could be done at any time and from anywhere. This is the main benefit of using this method in the banking sector.

- During active production, the learning approach is a very important factor to be considered. Training should be given in terms of daily basis, so that learners develop their skills to the professional extent. In order to achieve the required objectives, we use e-learning to train employees.

- The administrative qualities of the bankers can be developed and improved. This helps them improve their communication skills and interact with clients effectively. They are given enough scope to apply the concepts they have gained on a daily basis.

- Using e-learning, banks can setup a single platform where the members can learn and justify training for changing content.

Understanding the benefits of implementing e-learning, it is not surprising that the Banking sector is increasingly favoring this method for their training purposes (Alugani 2013).

CHAPTER-III

REVIEW OF LITERATURE

This chapter presents a brief overview of the past studies relating to the subject theme. In fact, this area has few studies directly relating to the main theme. Some researchers have made attempts to study e-learning from different perspectives. The studies which helped in conceptualizing the present research are given below in chronological and alphabetical order.

Bailey (2013). In her study Bailey has stated that, "the important thing is to focus on the needs of the learner. A good mixture of content and interactions will help learners retain knowledge gained from the lesson. And if you are unsure of where to start, you can draw inspiration from similar projects. For example, something like diversity training has been done by other instructional designers, so try to find what strategies they used that might also work for your module."

Preethi (2012). According to Preethi**, "**The global online education space has been steadily growing over the past two years. Many may argue that e-learning is never a substitute for classroom learning. But interactive sessions and online classes ensure that you have contact with teachers. It has also enabled quality teachers from premier institutes to offer their knowledge to students from different parts of the country. Not to forget that high-speed internet connections have made this possible. It's fast, efficient, time-saving, cost-effective and practical. Noticing this trend abroad, many Indian entrepreneurs have enabled quality e-learning in India."

Obringer (2011). She examined the psychology of learning, "Let's begin with what goes on in a person's head when they're learning. First, learning requires attention. Effective training grabs attention and holds it. Unfortunately, the neural systems in the brain that control attention and store information as memory get tired very quickly (in minutes). They need to rest every three to five minutes, or else they become much less responsive. They recover pretty quickly, but training has to work with this quick fatigue/boredom pattern for the person to learn efficiently. Besides catering to these neural systems' needs, training should also incorporate other elements such as interaction, imagery and feedback. E-learning can incorporate many elements that make learning new material, a new process or a new program more fun. Making learning more fun -- or interesting -- is what makes it more effective. Obviously, every type

of training can't be turned into e-training, but many can with excellent results."

Obringer (2011). On the benefits of e-learning she further states that, "e-learning has definite benefits over traditional classroom training. While the most obvious are the flexibility and the cost savings from not having to travel or spend excess time away from work, there are also others that might not be so obvious. For example: It's **less expensive** to produce, It's **self-paced**, It moves **faster,** It provides a **consistent** message, It can work from **any location and any time,** It can be **updated easily** and quickly, It can lead to **increased retention** and a stronger grasp on the subject, It can be **easily managed** for large groups. There are many advantages to e-learning, and even the potential disadvantages (i.e. boring text-based courses, technophobia, loneliness) can be alleviated with a properly designed course".

Luskin B (2010). He found that, "the "E" must be understood to have a broad meaning if e-learning is to be effective". Luskin says that, "the "E" should be interpreted to mean exciting, energetic, enthusiastic, emotional, extended, excellent, and educational in addition to "electronic" that is a traditional national interpretation. This broader interpretation allows for 21st century applications and brings learning and media psychology into the equation".

Bersin (2009). According to Bersin who is also President and Founder, Bersin and Associates, "This is an exciting time of change in enterprise learning and talent management. The tight labor market, coupled with the increased focus on integrated performance and learning strategies, will force further alignment between training and HR. Learning technologies will evolve, and self-published content and collaboration will become a significant element in enterprise learning solutions".

Bersin (2009). He further states that, "With the cost of implementing e-learning tools falling, more governments, businesses, and schools have added online courses and other forms of distance learning to their organizations. By keeping an eye on the top trends in e-learning, meeting some of the most influential experts in the e-learning field, and asking critical questions about your own strategy, you can make important decisions about how you use e-learning tools in your own life and at your own organization".

Based on research from the Gartner Group, the University of Pennsylvania and other prestigious think tanks, **Bersin *et al.*** (2009) have identified vital trends that will influence the growth of e-learning. Excerpts - "By developing classrooms without walls, e-learning programs can reduce the costs of participation without negatively affecting the compensation for renowned lecturers, researchers, and presenters…… Governments deploy e-learning at

all levels. In addition to the obvious business uses for e-learning, governments around the world have discovered that e-learning programs can dramatically improve the quality of life for citizens while reducing the financial burden on taxpayers…… Governments in developing countries have invested heavily in e-learning programs to build eager, talented, work forces. Strong e-learning systems allow team members at collaborating companies to understand shared objectives. Workers can quickly learn about the inner workings of technologies and techniques…… With radio, satellite, and Wi-Fi signals beaming two-way information from distant locales, people can participate in an almost endless array of learning opportunities."

Fitter (2008). On his finding about e-learning in the Indian Context, "Most people could not see what the fuss was about when e-learning was first introduced at the turn of the millennium. A few sang e-learning's praises, but most thought it was quite a waste of time and money. But today, companies are finding it increasingly difficult to find well-trained, employable candidates, while recruitment levels are unprecedented. All this had led to dramatic increases in training expenses. Suddenly, the attractions of e-learning are far more obvious. Besides, broadband is here".

Fitter (2008). Further, he states that, "According to studies by market analysts, IDC, the global e-learning market, which was

roughly $1.1 billion (Rs 4,400 crore) in 2000, will grow to more than $21 billion (Rs 84,000 crore) and corporate e-learning itself will grow 27 per cent year-on-year over the next four years . Nilesh Vani, executive vice-president of learning services at e-learning provider Aptech, believes that the content development market alone is worth $250 million (Rs 1,000 crore) in India, while the market for companies that only deliver e-learning, a newer service, is now worth nearly $5 million (Rs 20 crore). At any rate, growth has belied expectations so far. In 2005, Nasscom had estimated the e-learning market to be worth only around $9.5 million (Rs 38 crore)".

Fast-growing industries are putting e-learning to good use	
Industry	**How e-learning is being used**
IT Services	New employees in this industry typically possess excellent technical skills but are low on soft skills and inter-personal abilities. Such training complements technical abilities.

Banking	Trains executives and managers spread across a country-wide branch network. Train on knowledge-based topics such as new products or financial concepts.
Auto	Dealerships, especially new ones, that are spread across the Country can be instantly trained on Company policy.
Retail Sector	Employees spread across the retail chain's network can be instantly trained to handle new marketing promotions etc.
Language Training	Trainees undergo specific skills improvement and skills refreshment training and can also take assessments online.

Tynjala (2008). He observed **"**Individual and group learning in the workplace requires high social activity like interaction, dialogue, reflecting on past experiences and future planning activities. Individuals can interact with e-learning, share goals, have access to more information. All employees can participate".

Johnson *et al.* (2008). In their study state that when an e-learning environment is established in an organization, "The learners can see not only the material, but also their own circles through the interaction and there is increased sharing of information. In addition, because there is an increased interaction of the individual, the learning environment is perceived to be more positive. Immediate interaction and feedback between instructors provides learners with the necessary information more quickly".

Byer (2005). In her study she has observed that "E-learning provides organizations with a training method that can be conducted at the individual's convenience and can be accessed at any time where an Internet connection is available. Because of this level of availability, employees can work the training into their schedules as opposed to trying to coordinate a schedule where conflicts with work projects, time and travel are common. In addition, internet-based e-learning can often be standardized and updated immediately as information or technology changes - unlike printed books and manuals."

Choudhury (2005). Based on a research he states that, "Successful e-learning necessitates a powerful strategy. And it is pertinent that all e-learning strategies be grounded in strong research. Just the way a teacher would adopt a different style of teaching in a classroom setting for different groups of students, e-learning too essentially

requires a good strategy that sets the platform for optimum learning."

Price *et al.* (2005). In a review paper they show how academics internationally are increasingly expected to work in teams (especially when developing curricula), are positioned as part of a more industrialised process of teaching and are forced to re-think their teaching approaches. It would be over-simplistic to say that technology has 'caused' all this, but it is certainly implicated – the promotion of teaching approaches using new technology is often seen as a way to achieve these wider changes.

Ravenscroft (2004). He argues that probably the most engaging application of the theoretical stance within e-learning was delivered by **Papert (1980)** in his book *Mindstorms* and with the LOGO programming language that he developed. Although this work was aimed at understanding and developing intellectual development in children, arguably the work carries broader significance, in that it focuses on processes and mechanisms (such as experimentation, reflection and abstraction) that are also prevalent and important in 'adult' learning.

Vaughan (2004). According to him**,** e-learning uses electronic multimedia technologies to reach a wider audience and distribute

knowledge by using Internet, intranet, and other technology-based systems.

Salmon (2003). A specific e-learning model that describes the stages of increasing competence in participating in an online community is Salmon's five-stage framework for supporting effective e-moderating in discussion forums, which emphasizes the dialogic aspects of socially situated theoretical perspectives. Her stages are: access and motivation; online socialization; information exchange; knowledge construction; development. This model has been incredibly popular and has been taken up and applied extensively.

Welsh *et al.* (2003). In their research state that "e-learning is very effective for prior knowledge capture, use and interaction between staff and the online material. Thus, while learning time enables continuity, flexibility and accessibility, learning materials are distributed free of charge and fast to a wider audience".

Govindasamy (2002). He states that, "many institutions of Higher Education and Corporate Training Institutes are resorting to e-learning as a means of solving authentic learning and performance problems, while other institutions are hopping onto the bandwagon simply because they do not want to be left behind. Success is crucial because an unsuccessful effort to implement e-learning will be clearly reflected in terms of the return of investment. One of the

most crucial prerequisites for successful implementation of e-learning is the need for careful consideration of the underlying pedagogy, or how learning takes place online."

Gulati and Sivakumaran (2002). According to them, "Web based learning is the current frontier for distance education providers. It involves CBT using Internet technologies. The most predominant and elevating characteristic of web based learning is that it is interactive and not passive. It is also easy to distribute, evaluate and update."

Strother (2002). A researcher from Florida Institute of Technology found that "Corporate managers are constantly looking for more cost-effective ways to deliver training to their employees. E-learning is less expensive than traditional classroom instruction. In addition, many expenses – booking training facilities, travel costs for employees or trainers, plus employee time away from the job - are greatly reduced. However, some firms that have spent large amounts of money on new e-learning efforts have not received the desired economic advantages". "In addition to generally positive economic benefits, other advantages such as convenience, standardized delivery, self-paced learning, and variety of available content, have made e-learning a high priority for many corporations. There is no doubt that corporations are increasing their emphasis on e-learning."

Bassi (2001). In her research demonstrates that investment in training adds to the value of a company's shares - a high priority for

corporations and she claims that there is added value regardless of overall market conditions.

Beetham *et al.* (2001). They carried out a detailed survey of learning technologists and found that this first generation of learning technologists shared a set of common characteristics. They tended to come from a wide range of professional backgrounds. They acted as change agents, adopting multi-faceted roles, and were often involved in the entire process of development, support and use.

Driscoll (2001). According to Driscoll**,** much of the discussion about implementing e-learning has focused on the technology, but e-learning is not just about the technology, but also many human factors.

Driscoll (2001). He further states that, "Assessments are the foundation of effective instructional practices and return-on-investment studies. The power of tests and assessments will become exponentially more important with the advent of content management systems and learning management systems." Indeed, data from assessments should help drive the development of solid content and advanced instructional practices.

Nelson (2001). He observed a significant difference between the mean grades of 406 university students earned in traditional and distance education classes, where the distance learners outperformed

the traditional learners. Along these same lines, a California State University Northridge study reported that e-learners performed 20 percent better than traditional learners.

Rosenberg (2001). He identifies knowledge management as a key in creating a culture for e-learning. E-learning and knowledge management are separate processes from training. In speaking of knowledge management, he stresses that support to move in the learning-through-technology direction must be championed by management—especially front-line managers must be on board for success to be realized. Building intellectual capital and investing early on not only in the job performance of each employee, but also in the potential of that employee through learning opportunities is tantamount. An effective knowledge management system not only provides a vehicle to share information, but also builds a community of learners. The employee can use their computer to view company policies, access forms, distribute information among colleagues, share stories, access expertise of respected sages, trouble shoot, gain up-to-the-minute advice, teach, coach, and customize one's training needs.

Bregman and Jacobson (2000). They noted that the additional desired outcome of positive business results is notoriously difficult to measure for the corporate training arena, because of the following factors:

- Conducting a rigorous evaluation can be expensive and time-consuming.

- Isolating a direct cause-and-effect relationship between training programmes and a business' bottom line is difficult.
- Determining the appropriate outcomes to measure is challenging.

Dalton (2000). He states that, "Forrester, an independent research firm that helps companies assess the effect of technology change on their operations, interviewed training managers at 40 Global 2500 companies and found that all but one of them already had online initiatives in place. A survey of 500 training directors clearly shows the new priorities".

Hall and LeCavalier (2000). They summarized some firms' economic savings as a result of converting their traditional training delivery methods to e-learning. IBM saved US $200 million in 1999, providing five times the learning at one-third the cost of their previous methods. Using a blend of Web-based (80 percent) and classroom (20 percent) instruction, Ernst & Young reduced training costs by 35 percent while improving consistency and scalability. Rockwell Collins reduced training expenditures by 40 percent with only a 25 percent conversion rate to Web-based training. Many other success stories exist. However, it is also true that some firms that have spent large amounts of money on new e-learning efforts have not received the desired economic advantages.

Serrano and Alford (2000). They conducted research that clearly showed that incorporating technology across the curriculum acts as a catalyst for all learners. They concluded that e-learning empowers students to engage actively in language-content learning tasks and to develop higher-order critical thinking, visualization, and literacy skills.

Biggs (1999). He uses the phrase 'constructive alignment' and describes good pedagogical design as ensuring that there are no inconsistencies between curriculum, teaching methods, environment and assessment.

Giddens (2000). He notes that "instantaneous electronic communication isn't just a way in which news or information is conveyed more quickly. Its existence alters the very texture of our lives".

Mayes and Fowler (1999). They point out, "one problem in focusing on learning objects is that teachers tend to plan e-learning around 'instructivist' learning models, which focus on single learners accessing content. Thus, it does not help bridge the gap between current pedagogical theory and implementation".

Moore (1999). He noted: "One of the few generalizations that can be made about any distance education program – whatever the communications media used and the content level – is that a good monitoring and evaluation system is likely to lead to a successful program, and a poor system is almost certain to lead to failure."

Moore describes the three key features of a good system as follows:

1. The preliminary specification of good learning objectives, with this crucial question at the heart: Did each student

   produce evidence of having learned what was required as specified in the learning objectives? If not, why not?
2. The construction and handling of assignments, which are the students' evidence of learning and an important source of feedback for the program.
3. A good data gathering and reporting system and a solid review of all of the data by both instructors and program administrators.

Redding and Rotzien (1999). In a study within the insurance industry, they found that the online group is the most successful at cognitive learning as measured by the end of course examinations The results of the study do provide strong support for the conclusion that online instruction for individuals entering the insurance field is highly effective, and can be more effective than traditional classroom delivered instruction.

Wegner *et al*. (1999). They provided an example of a study showing no significant differences between the test scores of experimental (e-learning) and traditional (classroom-based) students at Southwest Missouri State University. Although there were no statistically significant differences in test scores, this two-semester study yielded qualitative data that indicated that students in the e-learning group had, overall, more positive feelings about their experience than did the control group. This observation is consistent with those found in a number of the "no significant difference" studies.

Barron (1998). He observes that, "learning technology providers have been increasingly able to demonstrate cost-savings and broader benefits, develop integrated offerings, and propose innovative ways of applying e-learning.'' However, how do training managers decide which educational products and which learning technology providers actually produce effective results? How do they balance product quality with training costs? As the new corporate adage goes: Wise training managers realize the bitterness of poor quality remains long after the sweetness of low price has been forgotten." To justify making decisions about training programs independently of training cost considerations, managers need concrete measures of program effectiveness. While there is no doubt that we see an increasing number of case studies showing success with e-learning, it is still difficult to find solid research measures of learner achievement in the specialized setting of a corporate training program.

Boud *et al.* (1993). He argues that, “the job of the teacher is to create imaginative ideas that make the learning engaging and meet the needs of learners”, going on to state that “the teacher creates an event which the learner experiences and may learn from.” Clearly technologies offer new opportunities to enhance the learning experience, but usually these opportunities are not being realized.

Kirkpatrick (1979). He noted that the number of variables and complicating factors make it difficult, if not impossible, to evaluate the direct impact of training on a business' bottom line and this is just as true for e-learning as for traditional training programs.

CHAPTER-IV

METHODOLOGY

This chapter describes details of research methodology undertaken in the present research study. It focuses on details of research design which includes objectives of the study, hypotheses formulated for testing, sampling method, data collection method and statistical techniques used in the present study.

Research Problem: A Comparative Study on E-learning environment in the Selected Public and Private Sector Banks.

Statement of the Problem

Due to the Globalization and stiff competition in the market place, organizations need to keep pace with the rapid advancement. This has resulted in Corporate Training becoming an essential feature of organizations. It has become essential for them to train their

employees as per the job requirements and the requirements of the market in the latest technical skills and abilities required, to enhance their knowledge and efficiency on the job. The utilization of e-learning resources will help to impart training to employees in a more effective way.

The present study is essential to find out the effectiveness and advantage of using e-learning resources focusing on the Banking sector where e-learning is an integral part of training in many banks. Further, to assess the sectoral impact on e-learning environment. To suggest and explore additional ways to make e-learning resources more useful for training. The outcome and result of the study would be very useful, and will benefit the concerned authorities and management to formulate and plan the corporate training programs in a more effective manner by utilizing e-learning resources. The utilization of e-learning resources will also help them to develop their training content as per their needs. This will also help organizations to impart training in a cost effective manner in the long run.

Significance of the Study

Present day business organizations are investing a good amount from their budget in creating effective e-learning environment and making their employees e-learners. It is because of the belief that it saves

time and reduces costs in the long run. The effectiveness and rate of success in imparting training to the employees are more through e-learning. The advantages are many. Employees get updated knowledge and learn effectively how to do their work as per the expectation of the organization as well as the customers. Such type of training programmes are interesting and employee friendly. The employees have the freedom to learn at any time they prefer, as per their convenience. Their working hours are not affected. Therefore, progressive business organizations are extensively using popular e-learning techniques for the upgradation of knowledge of their human resources.

In banking sector also, both public and private sector banks are extensively using e-learning techniques for imparting training to their staff. They are creating e-learning environment as the day to day functioning of the banks need effective cyber skills. On the top of it, severe competition in the banking sector has forced them to make their employees properly trained so that they can satisfy their customers by offering quality services with less consumption of time. The banks have created e-learning environment from the branch to the corporate office. A huge amount of capital has been invested and is being spent for setting up the same.

In this regard many questions arise. Some of the questions may be summarized as - Whether the human resources working in the

different banks are well aware of the use of different e-learning resources? Are they motivated to learn such advanced techniques? Are they trained effectively or competent enough to handle such e-learning resources? Are the contents and methods used in imparting the training programme meeting the expectations and fulfilling the training objectives in both public and private sector banks? What type of administrative support is extended by the management of both public and private sector banks for the e-learning programmes? Since the management is spending good amount of money on e-learning and for creating an e-learning environment, banks must assess different aspects of e-learning such as its effectiveness and implementation.

Objectives of the Study

The objectives of the proposed research are:

1. To examine the corporate planning of selected banks with regard to the creation of e-learning environment.

2. To appraise the type of e-learning resources available and their use in corporate training by the selected public and private sector banks.

3. To assess the impact of demographic factors on the learning outcome of the training.

4. To know the perceptions of officials with respect to usefulness of e-learning.

5. To compare the traditional methods of corporate training with the e-learning resources.

6. To suggest measures to overcome the problems associated with the use of e-learning resources for corporate training.

Hypotheses

In the light of this backdrop of the present study the following hypotheses have been formulated and tested:

The following hypotheses are formulated:

H01: Type of e-learning resources used in the training programme is different in public and private sector banks.

H02: Perception of officials with regards to usefulness of

e-learning is different for public and private sector banks.

H03: Administrative support extended by the management of public and private sector banks for creating effective e-learning environment is different.

H04: Motivational level of officials of public sector and private sector banks as regard to avail e-learning programmes is different.

H05: Contents and methods of delivery of contents in e-learning are more effective than traditional methods .

H06: Demographic factors are significant predictors of effective e-learning.

Sample

The sampling population of this research includes 400 officers of public and private sector banks located in Delhi. State Bank of India (S.B.I.) has been selected to represent public sector bank as the bank has more number of branches in Delhi. Similarly, I.C.I.C.I. bank a leading private sector has been considered for the study as this bank

has more number of branches operating in different parts of Delhi. Random sampling method has been used to select two branches from each zone of Delhi. Out of total branches in a zone two branches have been selected by lottery method.

Two S.B.I. branches each from northern, southern, western, eastern and central Delhi have been considered randomly. The officials working in the selected S.B.I. branches are considered in the present study. Similarly, two I.C.I.C.I. bank branches each from northern, southern, western, eastern and central Delhi are considered randomly for the data collection. The officials working in the selected I.C.I.C.I. branches are contacted in the present study. The total sample comprises of 200 S.B.I. officers (20 officersX10 S.B.I. branches=200) + 200 I.C.I.C.I. bank officers (20 officersX10 I.C.I.C.I. branches= 200) = 400 officers.

Data Collection Tools

The following techniques are used to collect the data:

Questionnaire Method: A structured questionnaire has been framed to collect information from Public and Private Sector bank officials regarding the e-learning techniques used in their organizations and the effect of the e-learning methods in improving performance.

E-learning Questionnaire: The questionnaire contains a total of 58 (fifty eight) statement grouped under seven different dimensions of e-learning. They are e-resources, perception about e-learning, administrative support for e-learning, motivation for e-learning, contents of e-learning, methods for e-learning and effectiveness of e-learning. E-resources dimension has ten (10) statements, perception about e-learning has ten (10) statements, administrative support has ten (10) statements, motivation for e-learning has five (5) statements, contents of e-learning has nine (9) statements, methods of e-learning has five (5) statements and effectiveness of e-learning has nine (9) statements. Each statement is rated against a five point scale i.e. strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4) and strongly agree (5).

Reliability of the Questionnaire: Reliability of an instrument is the degree of consistency between multiple measurements of variables. Reliability has been estimated through internal consistency method which is applied to measure the consistency among variables in a summated scale. In the present scale, the Cronbach Alpha co-efficient of reliability has been found on the basis of the primary data of the present study. The Alpha values for the overall questionnaire has been found to be .86.

Interview Method: Face-to-face interview with few respondents and branch managers of few branches has been conducted.

Statistical Techniques: In order to analyze the data SPSS has been used. Statistical techniques like t-test, ANOVA and Regression Analysis have been used to test the hypotheses.

t-test: The t-test is the most commonly used method to evaluate the differences in means between two groups. In this study t-test has been used to evaluate the differences of means between the private and public sector bank officers. Further, it has been used to compare means of two groups of respondents such as male and female officers.

ANOVA: Analysis of variance is used to compare means and variability of more than two groups. In this study, the ANOVA is used to find out the differences with respect to various factors among the groups formed on the basis of age, experience, gender, and income etc.

Regression Analysis: This analysis has been undertaken to examine the predictor effect of the demographic variables with reference to effectiveness of e-learning as dependent variable.

CHAPTER-V

PROFILE OF THE RESPONDENTS

This chapter deals with the profile of the respondents who participated in the research voluntarily. Four hundred respondents belonging to public and private sector branches are contacted. The questionnaires are distributed to them by the researcher. The respondents are from public sector and private sector banks working in different branches within Delhi. Out of 400 respondents 200 belong to the State Bank of India and remaining 200 belong to the I.C.I.C.I. Bank. For further analysis, they are grouped into different categories on the basis of their age, income, experience, and education level.

1. Sector Wise Profile of the Respondents

Two types of banking sectors are operating in the country. They are either public undertaking or private banks. Though basic guidelines are same for both categories of banks, yet differences are there as far as work culture and budget allocations are concerned. In the present

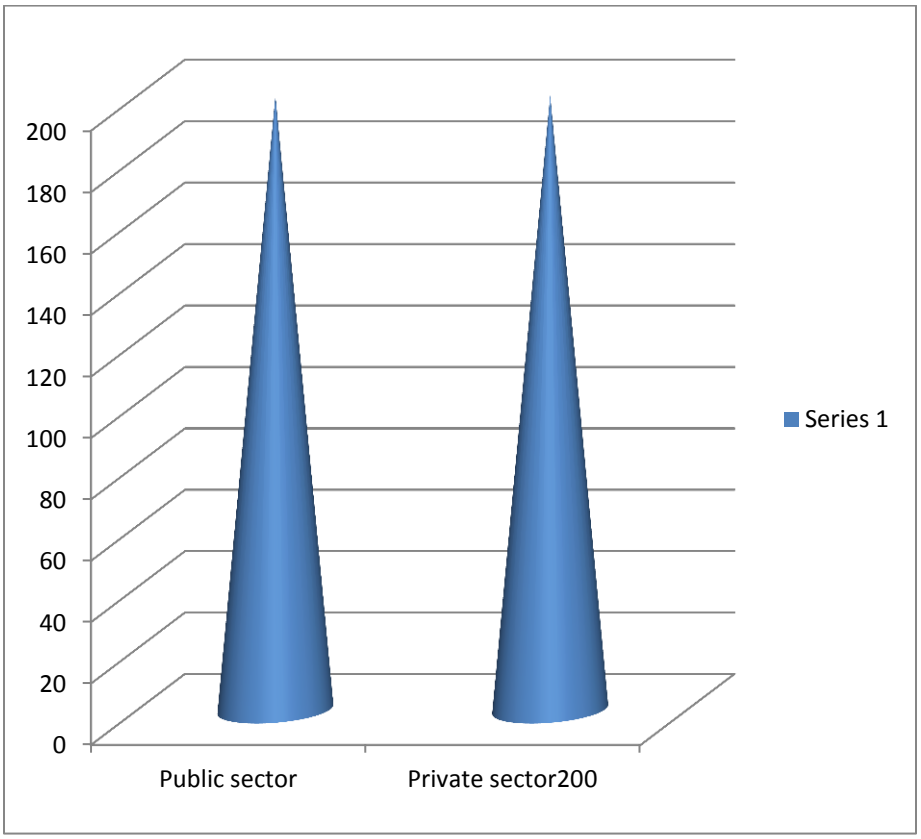
study, total number of the respondents is 400. Out of 400 respondents, 200 belong to the public sector banks and remaining 200 belong to private sector**.** The sector wise distribution of the respondents has been presented in the table-1.

Table-1: Sector Wise Profile of the Respondents

Sector of the Bank	**No of Respondents**	**Total**
Public Sector	200	200
Private Sector	200	200
Total	**400**	**400**

Source: Primary data

Graph-1: Graph Showing Sector Wise Profile of the Respondents



2. Age Wise Profile of the Respondents

Age is very decisive factor which influences training behaviour. The behaviour varies from age to age as one passes through different phases of life. On the basis of the age, respondents are classified into four groups, i.e. below thirty years, between 31 to 40 years, between 41 to 50 years and 51 years and above. Out of 200 respondents from public sector bank, 80 belong to below thirty years group, 80 belong to 31-40 years group, 30 belong to 41-50 years group and remaining 10 belong to 51 and above group. Similarly, out of 200 respondents from private sector banks, 65 belong to below 30 group, 45 belong to 31-40 years group, 75 belong to 41-50 years group and remaining 15 belong to 51 and above group. Age wise profile of the respondents has been presented in the table-2.

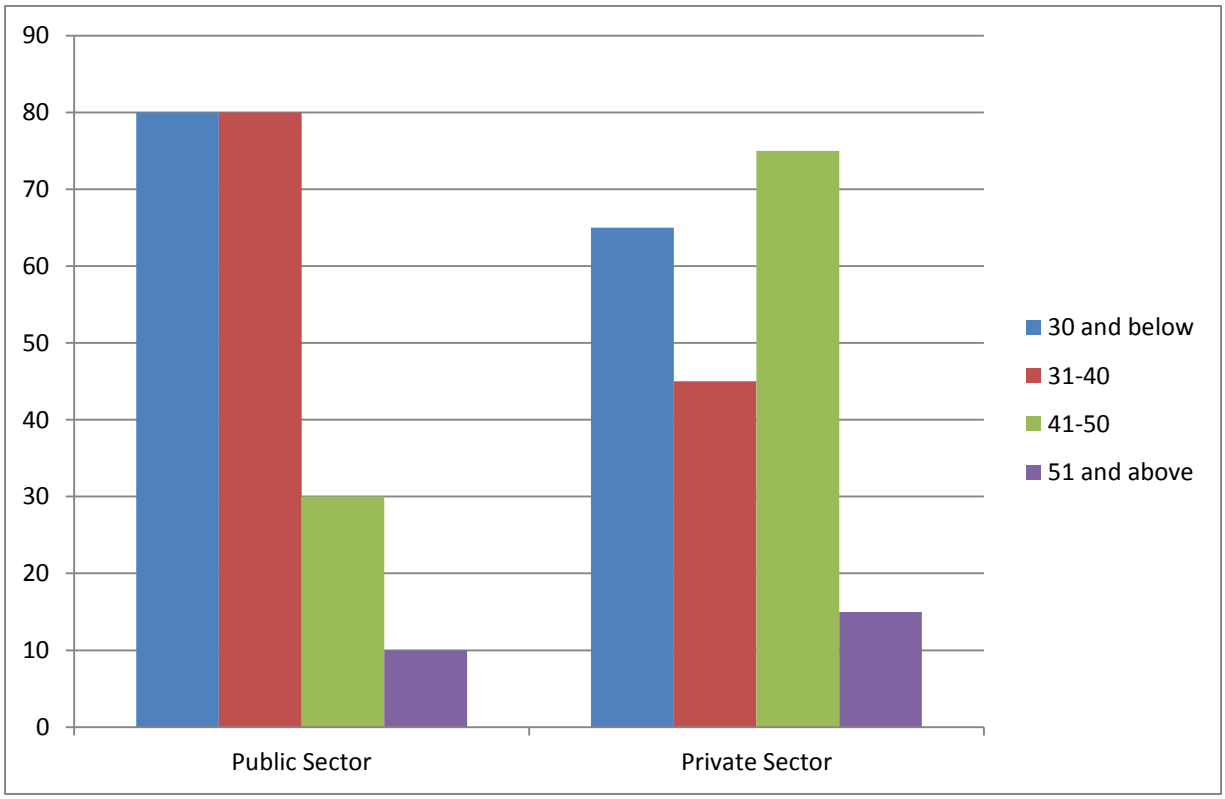
Table-2: Age Wise Profile of the Respondents

	AGE in Years				**Total**
Sector	**Below 30**	**31-40**	**41- 50**	**51 and above**	
Public	80	80	30	10	200
Private	65	45	75	15	200

Total	**145**	**125**	**105**	**25**	**400**

Source: Primary data

Graph-2: Graph Showing Age Wise Profile of the Respondents



3. Income Wise Profile of the Respondents

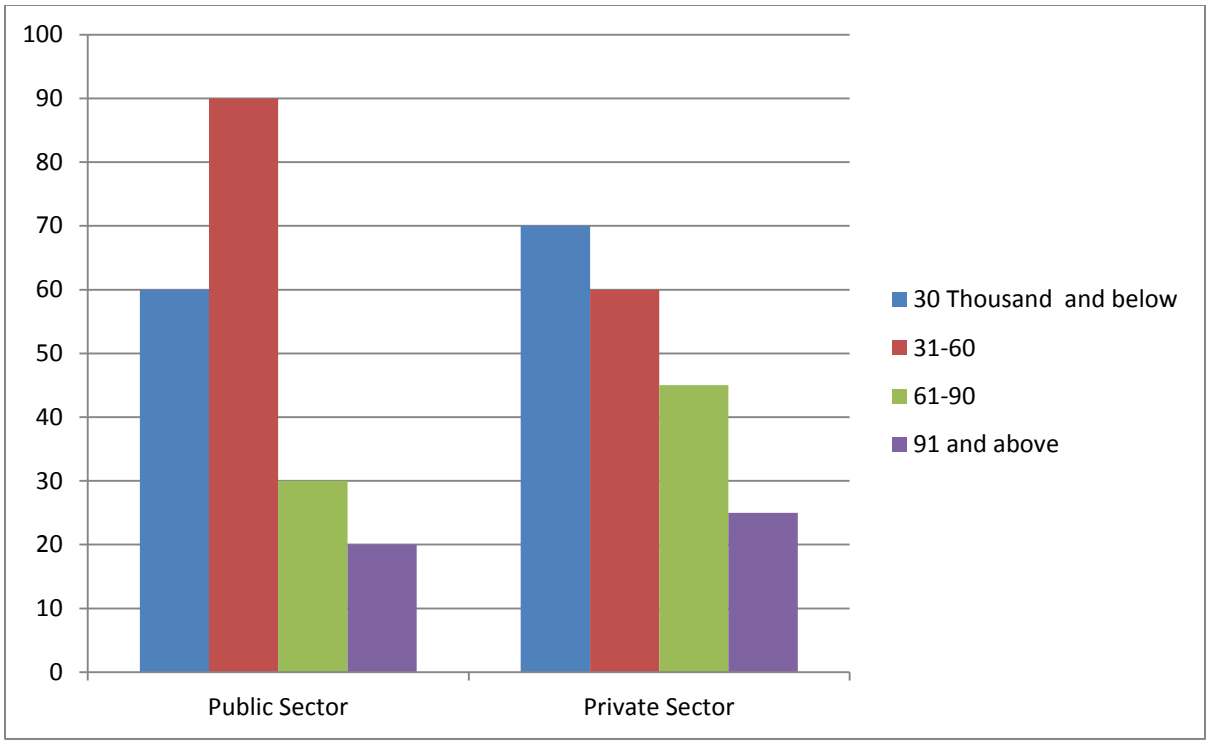
Income determines status and standard of living of a person. There is a need to study the relationship between income and e-learning behaviour. In the present study monthly income has been considered as the basis for categorization of the respondents. On the basis of the monthly income**,** respondents are grouped into four categories. Income wise groups as classified in the present research are below 30 thousand, between 31-60 thousand, 61-90 thousand, 91 thousand and above. The income wise profile of the respondents has been presented in table-3. Among 200 public sector respondents, 60 belong to below 30 thousand group, 90 belong to 31-60 thousand group, 30 belong to 61-90 thousand group and remaining 20 belong to 91 thousand and above. Likewise, among private sector respondents, 70 belong to below 30 thousand group, 60 belong to 31-60 thousand group, 45 belong to 61-90 thousand group and 25 respondents belong to 91 thousand and above group.

Table-3: Income Wise Profile of the Respondents

Sector	Income in Thousands				Total
	Below 30 Thousand	**31-60**	**61-90**	**91 and above**	
Public	60	90	30	20	200
Private	70	60	45	25	200
Total	**130**	**150**	**75**	**45**	**400**

Source: Primary data

Graph-3: Graph Showing Income Wise Profile of the Respondents



4. Experience Wise Profile of the Respondents

On the basis of the experience, respondents are divided into four categories. In public sector group 50 belong to 10 years and below, 70 belong to 11-20 years group, 40 belong to 21-30 years group, and remaining 40 respondents belong to 31 years and above group. Similarly, in private sector bank group, 55 respondents belong to 10 years and below group, 65 belong to 11-20 years group, 58 belong to 21-30 years group and remaining 22 respondents belong to 31 and

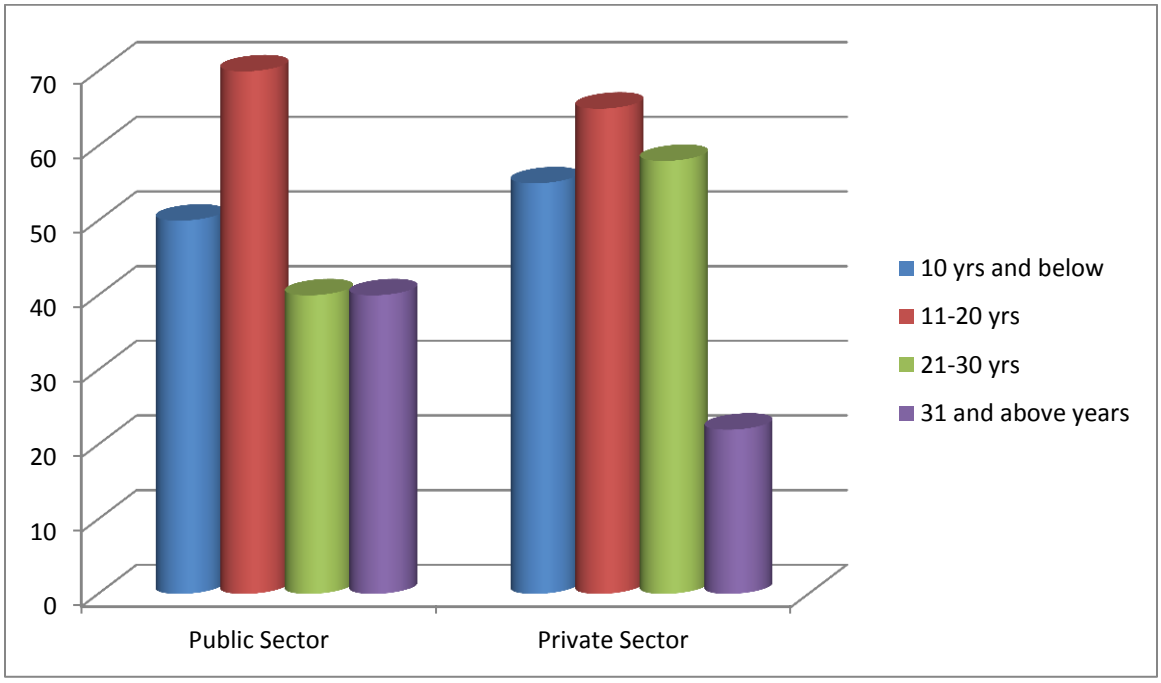
above years group. The details of experience wise respondents have been presented in the table-4.

Table-4: Experience Wise Profile of the Respondents

	Experience in Years				**Total**
Sector	**10 Years and below**	**11-20 Years**	**21-30 Years**	**31 and above Years**	
Public	50	70	40	40	200
Private	55	65	58	22	200
Total	**105**	**135**	**98**	**62**	**400**

Source: Primary data

Graph-4: Graph Showing Experience Wise Profile of the Respondents



5. Education Wise Profile of the Respondents

Education plays vital role in increasing the mental horizon of a person and makes him receptive to new ideas and techniques. Thus, one needs to study impact of education on e-learning behaviour. On the basis of their education, respondents are classified into three categories i.e. Graduation, Post-Graduation and Technical. Among the 200 respondents of public sector bank, 92 are graduates, 80 are post-graduates and 28 are technical. Out of 200 respondents in

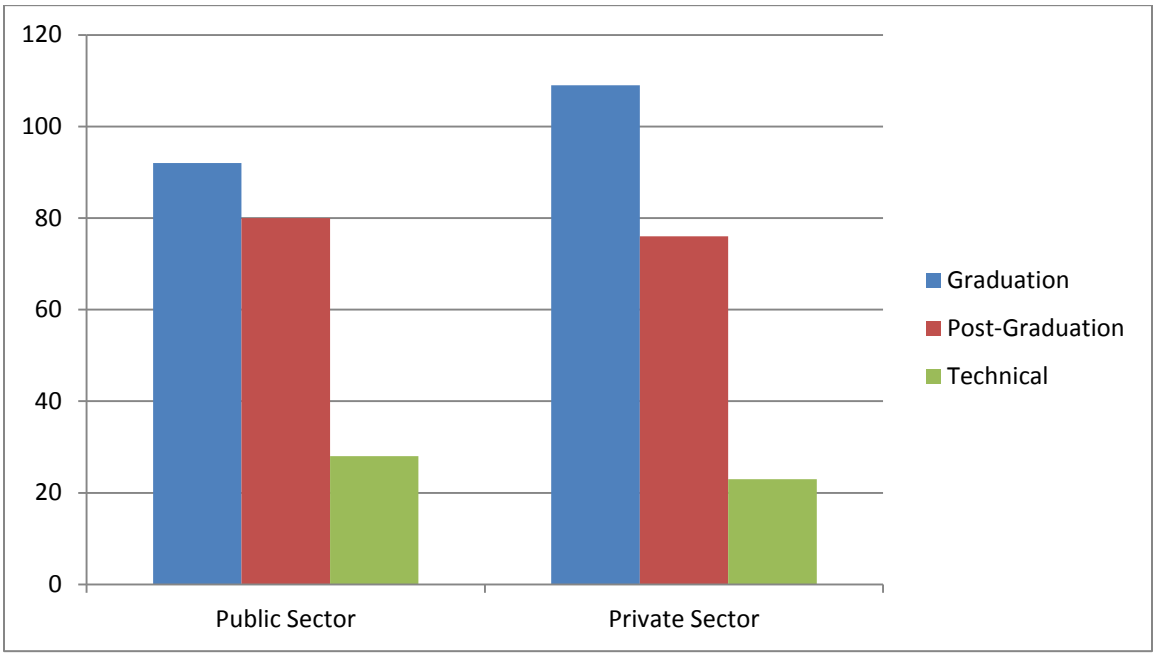
private sector, 101 are graduates, 76 are post-graduates and remaining 23 are technical. Education wise respondents have been presented in the table-5.

Table-5: Education Wise Profile of the Respondents

Sector	**Graduation**	**Post-Graduation**	**Technical**	**Total**
Public	92	80	28	200
Private	101	76	23	200
Total	**193**	**156**	**51**	**400**

Source: Primary data

Graph-5: Graph Showing Education Wise Profile of the Respondents



6. Gender Wise Profile of the Respondents

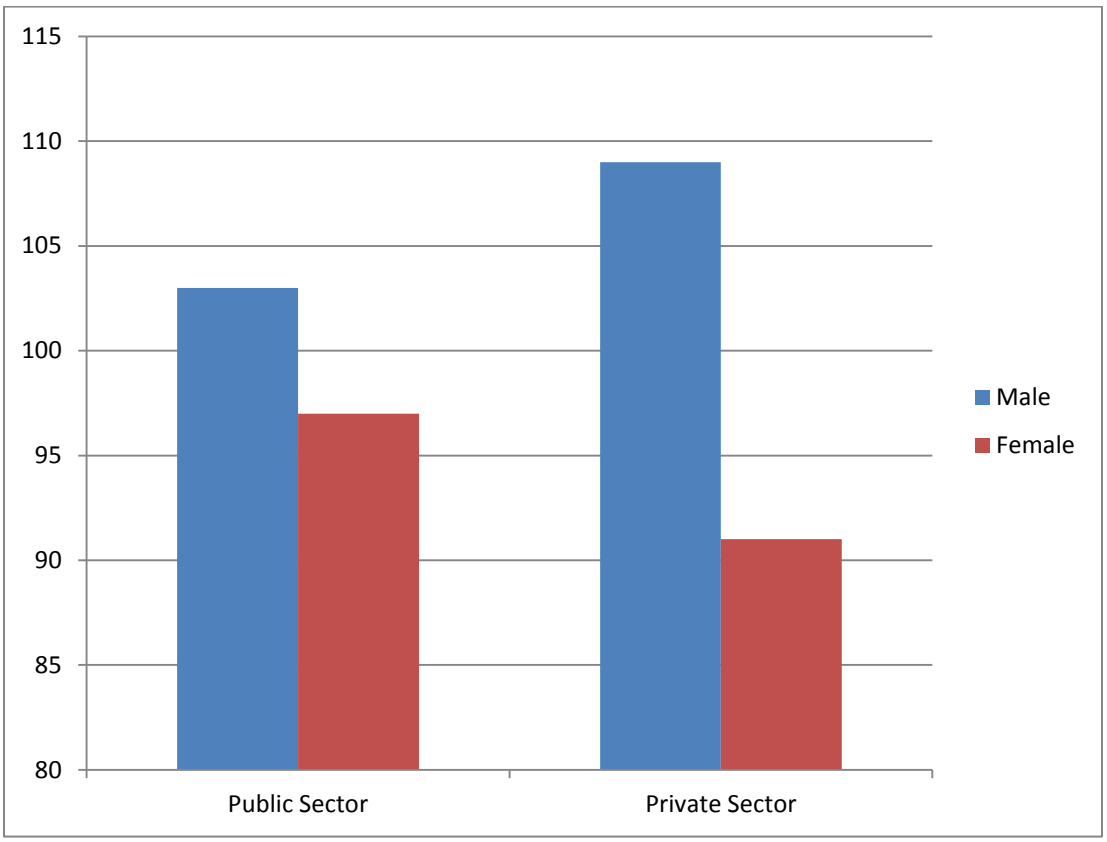
Gender is also an important factor for determining behavioural traits of a person. Therefore, it is important to study the impact of gender on e-learning behaviour. On the basis of the gender, respondents are classified into male and female categories. Out of 200 public sector respondents, 103 are male and remaining 97 are female respondents. Similarly, out of 200 private sector respondents, 109 are male and remaining 91 are female. Gender wise profile of the respondents is presented in the table-6.

Table-6: Gender Wise Profile of the Respondents

Sector	**Male**	**Female**	**Total**
Public Sector	103	97	200
Private Sector	109	91	200
Total	**212**	**188**	**400**

Source: Primary data

Graph-6: Graph Showing Gender Wise Profile of the Respondents



CHAPTER-VI
DATA ANALYSIS AND FINDINGS

This chapter presents results obtained from the analysis of the data by applying different statistical techniques. Statistical tools like mean, standard deviation, t-test, ANOVA, correlation and regression analysis are used to infer the conclusion. Results are presented in tabular and graphical form. As per requirement each table is followed by the narration.

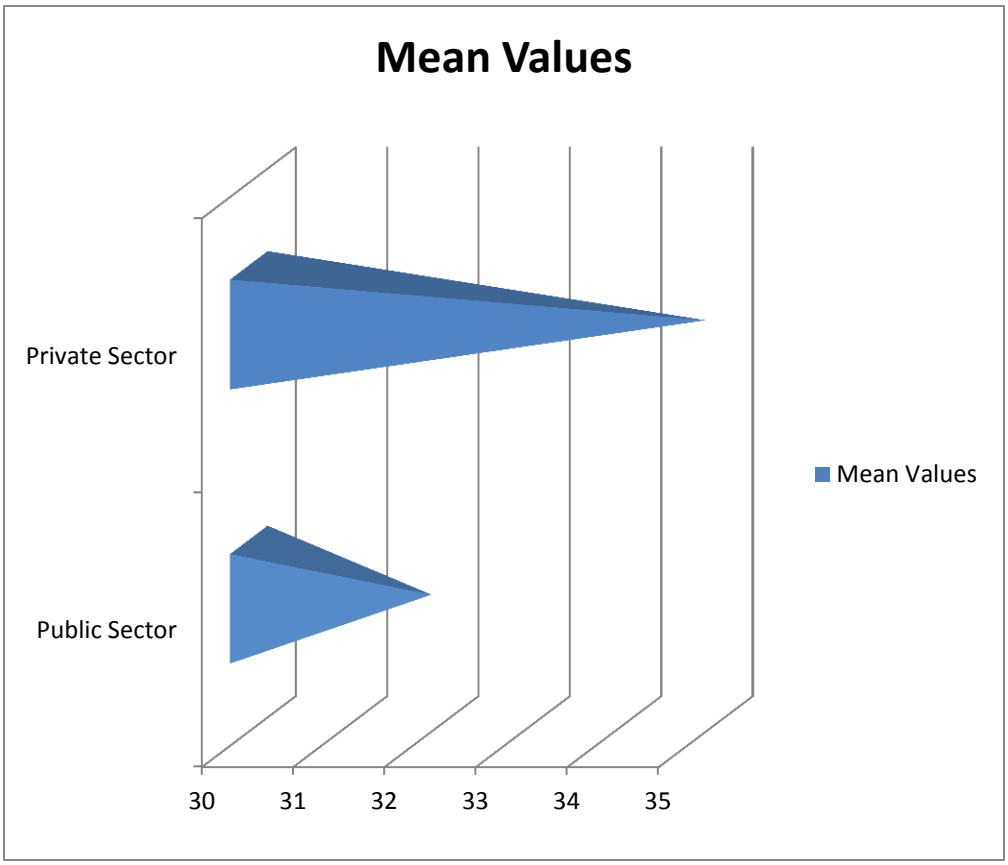
I. Computation of different Indexes

Indexes have been formulated to measure different dimensions relating to e-learning. In order to measure e-resources used in the banks an index has been formulated by adding statements Q1+Q2+Q3+Q4+Q5+Q6+Q7+Q8+Q9+Q10. Perception index has been computed by adding Q11+Q12+Q13+Q14+Q15+Q16 +Q17+Q18+Q19+Q20. On the basis of the responses of all 400 bank officials i.e. 200 public and 200 private sector bank officials mean value of each group has been found out. Administrative support index has been computed by adding statements Q21+ Q22+ Q23+ Q24 + Q25+ Q26+ Q27+ Q28 + Q29 + Q30.

Motivation index has been created by adding statements like Q31 +Q32+Q33+Q34+Q35. Contents of e-learning index have been computed by adding Q36+Q37+Q38+Q39+Q40+Q41+Q42+ Q43+Q44. Similarly, methods of e-learning have been calculated by adding statement Q45+Q46 + Q47 +Q48 + Q49 etc. Likewise, Effectiveness of e-learning index has been computed by adding Q50+Q51+Q52+Q53+Q54+Q55+Q56+Q57+Q58 etc. A composite index of e-learning has been computed by adding all statements i.e. Q1+Q2+Q3+ Q4 +Q5 +Q6+Q7+Q8 +Q9 +Q10+ Q11+Q12+Q13+Q14+Q15+Q16+Q17+Q18+Q19+Q20+Q21 +Q22+Q23+Q24+Q25+Q26+Q27+Q28+Q29+Q30+Q31+Q32 +Q33+Q34+Q35+Q36+Q37+Q38+Q39+Q40+Q41+Q42+Q43 +Q44+Q45+Q46+Q47+Q48+Q49+Q50+Q51+Q52+Q53+Q54 +Q55+Q56+Q57+Q58.

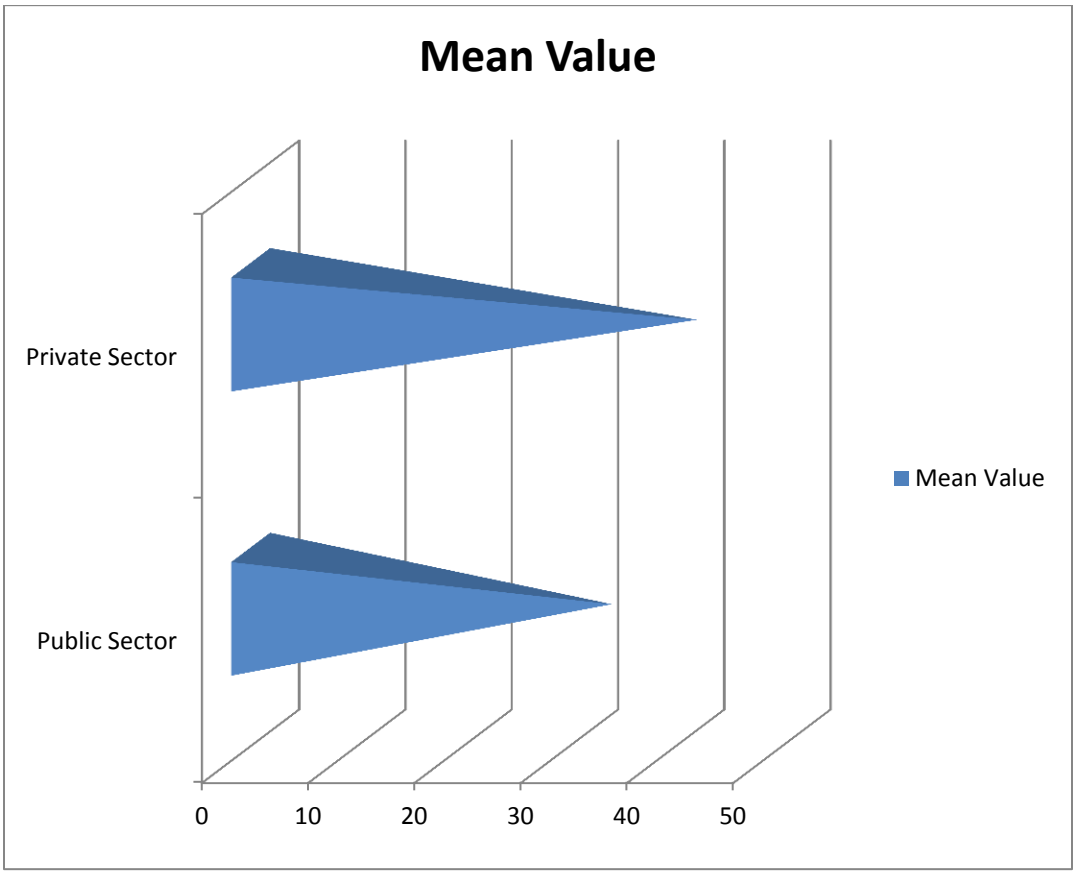
II. Mean Scores of Public Sector and Private Sector Officers on different indexes

Graph-7: Mean Scores of Public and Private Sector Officers on e-resources Index



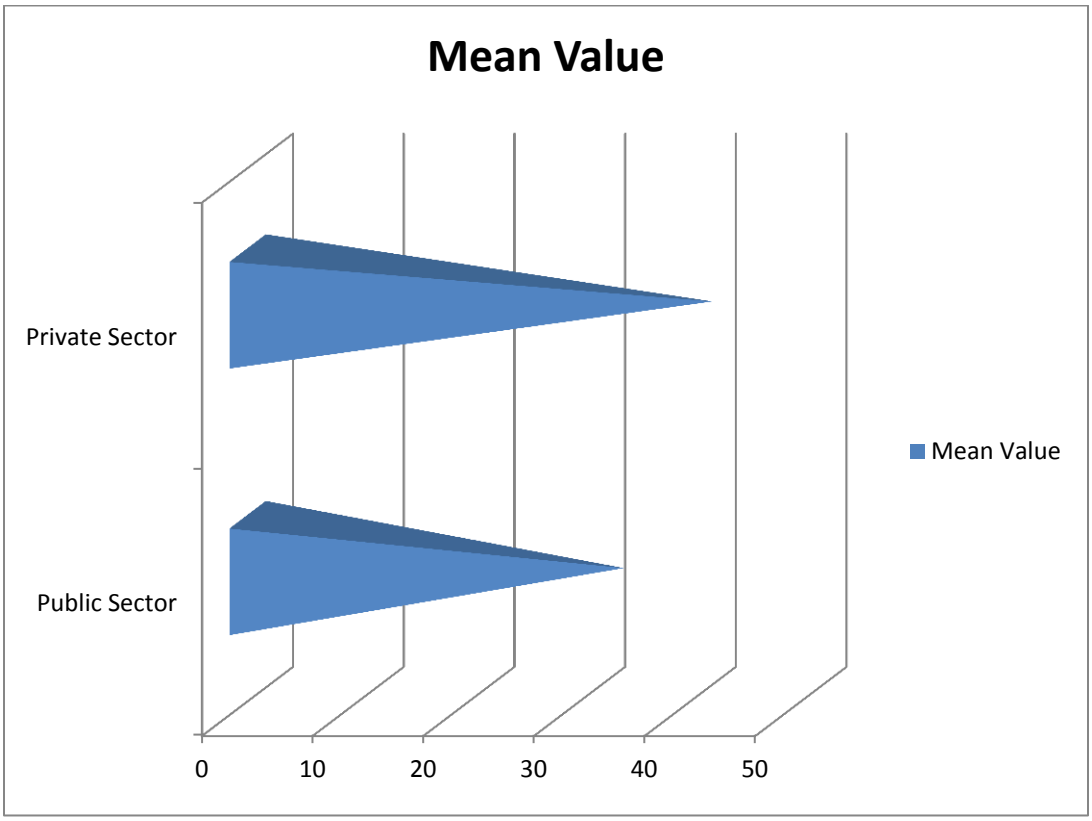
Graph-7 shows the mean value of the public sector and private sector banks officers on e-resources index. As per the result, mean score of private sector bank officers on the e-resources index is 35 and that of public sector is 32. Results show mean score of the private sector is higher than the mean score of public sector bank officers.

Graph-8: Mean Scores of Public and Private Sector Officials on Perception Index



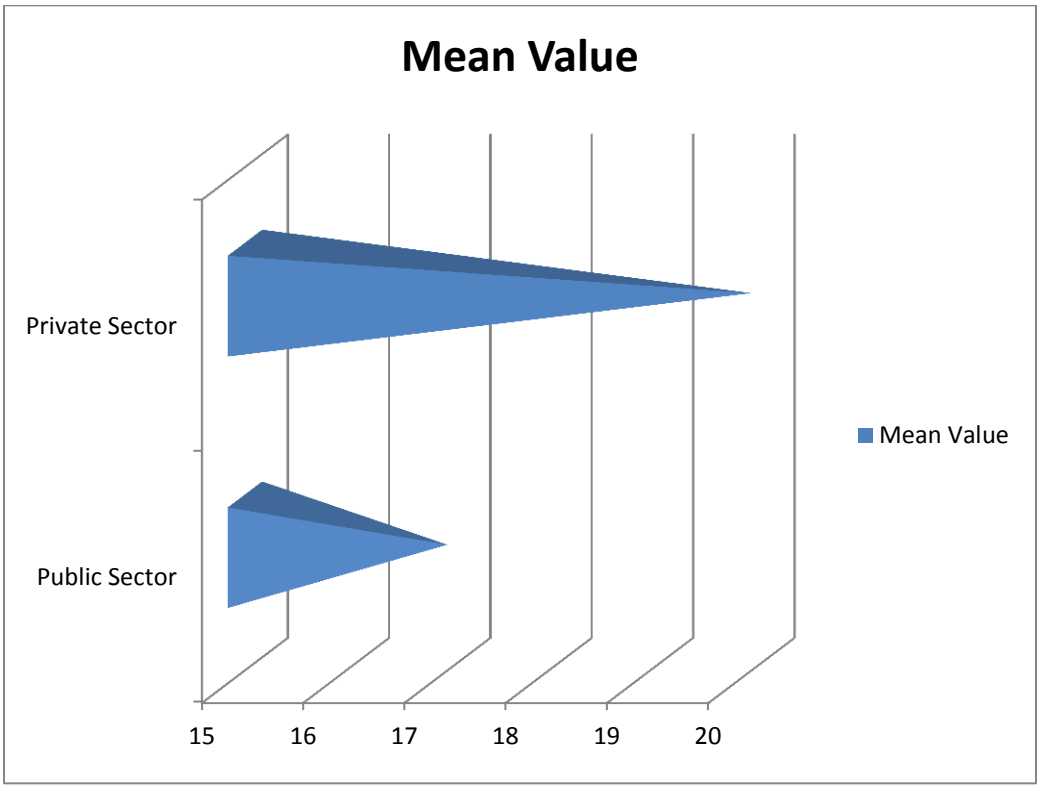
According to the Graph-8, the mean score of public sector bank officers on perception index is 33 as compared to the mean score of the private sector bank officers which has been found to be 40. The mean score of private sector bank officers is higher than the public sector bank officers on perception index.

Graph-9: Mean Scores of Public and Private Sector Officials on Administrative Support Index



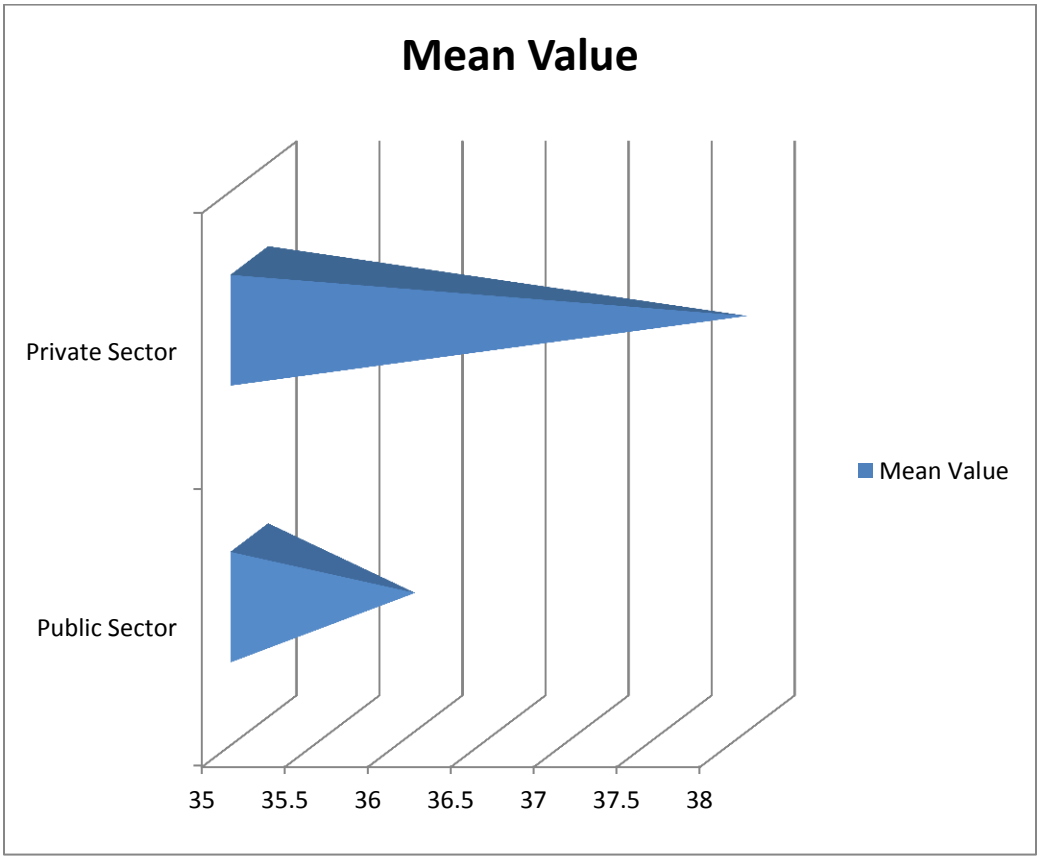
Graph-9 exhibits the mean score values of public and private sector bank officers on administrative support index. It has been found that mean score of public sector bank officers on the same index is 34 whereas the private sector bank officers is 42. This shows that private sector bank officer's mean score is higher than the public sector bank officers.

Graph-10: Mean Scores of Public and Private Sector Officials on Motivation Index



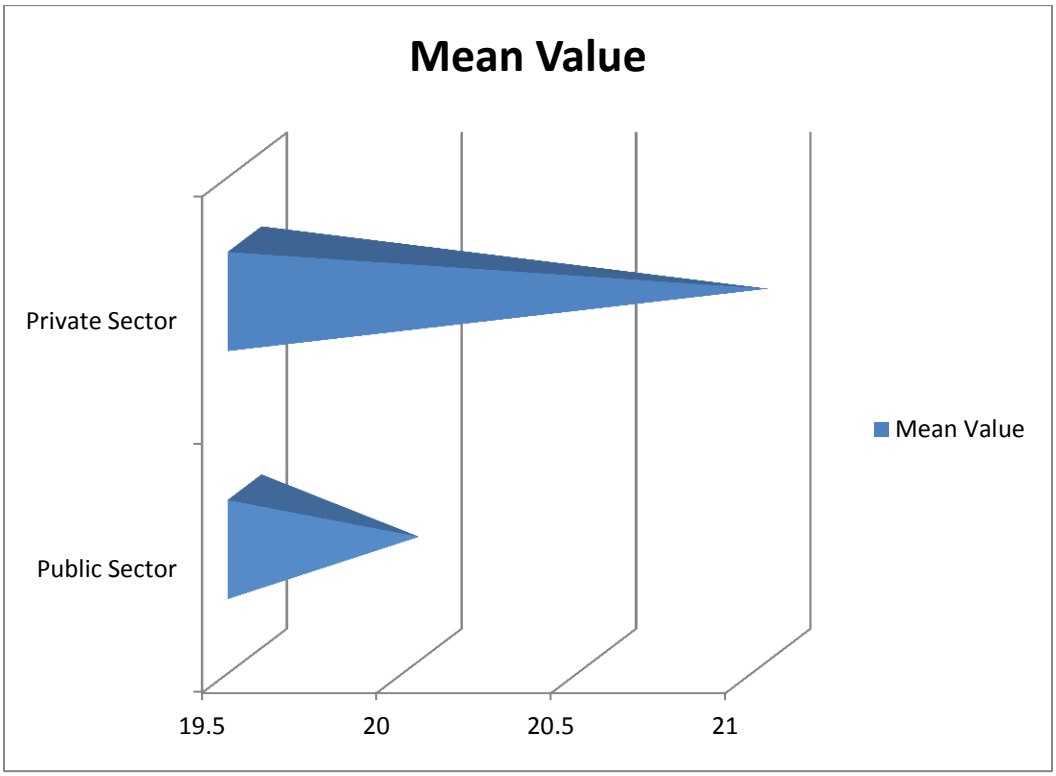
It can be observed from Graph-10 that mean score of private sector bank officers on motivation index is 20 which is higher than the public sector bank officers (17). This indicates that motivation level of private sector bank officers for e-learning is higher than their counter part in public sector banks.

Graph-11: Mean Scores of Public and Private Sector Officers on e-learning Contents Index



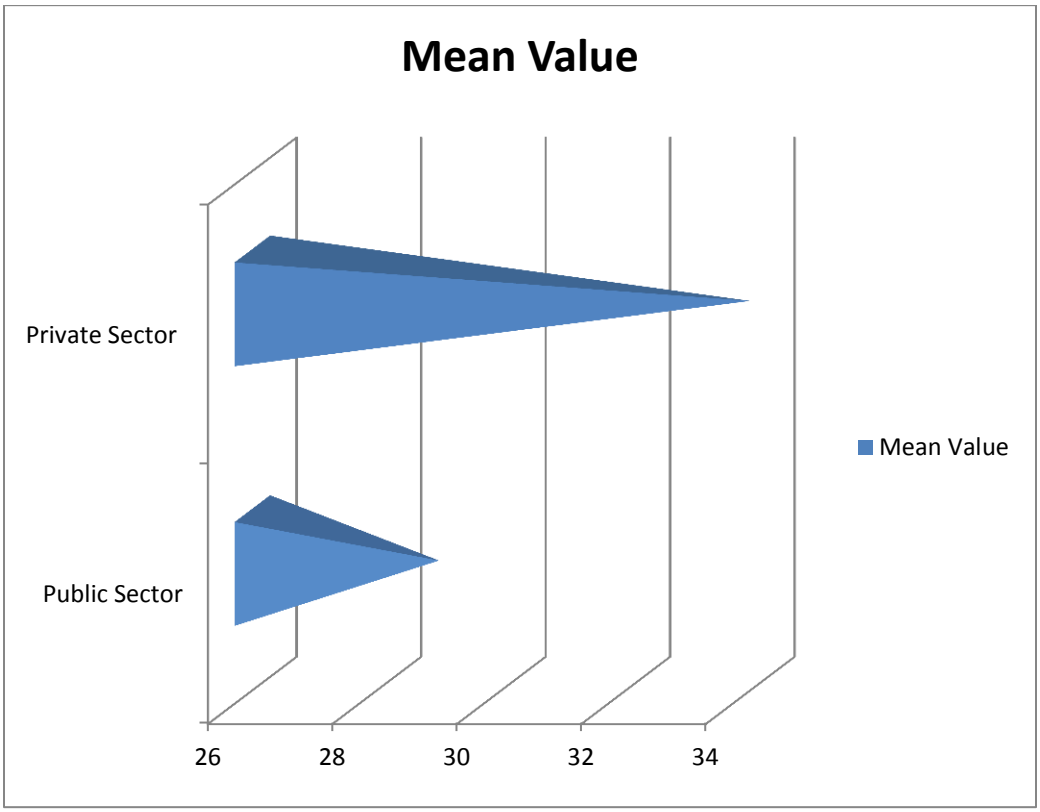
According to the results presented in the Graph-11, the mean score of public sector officers on e-learning content index is 36 whereas mean score of private sector bank officers is 38. The mean value of private sector officers is higher than the public sector bank officers. They are more satisfied with the e-learning contents than the public sector bank officers.

Graph-12: Mean Scores of Public and Private Sector Officers on e-learning Methods Index



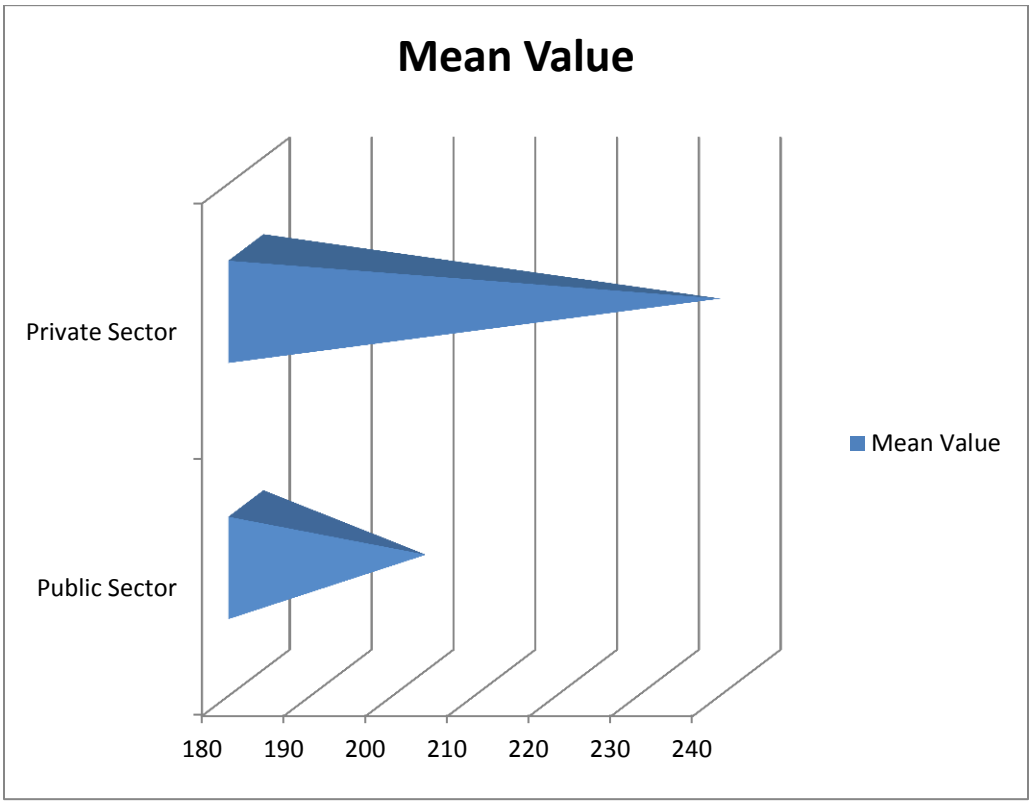
Graph-12 shows the mean score values of public and private sector bank officers on methods used in e-learning in comparison to traditional method. It has been found that mean score of public sector bank officers on the same index is 21 whereas the private sector bank officers is 22. This shows that there is little difference between mean scores of both the groups.

Graph-13: Mean Scores of Public and Private Sector Officers on Effectiveness of e-learning Index



According to the results presented in the Graph-13, mean score of private sector officers on effectiveness of e-learning index is 34 as compared to the public sector bank officers. The mean value of private sector employees is higher than that of the public sector bank officers which is found to be 29.

Graph-14: Mean Scores of Public and Private Sector Bank Officers on Composite e-learning Index



Graph-14 shows mean scores of public and private sector bank officers on composite e-learning index. The mean score of public sector is 202 which is lower than mean score of private sector bank officers which is found to be 238.

III. Comparison of Public and Private Sector Bank Officers on Different Dimensions of e-learning.

In order to compare officials of public and private sector bank, t-test has been carried out. The results are based on the comparison of mean scores of both the groups on each dimensions of e-learning.

i) Comparison of Public and Private Sector Bank Officers on e-Resources Index

In order to compare public and private sector officials on the use of e-resources an index has been computed. t-test was undertaken to compare both the groups of bank officers. As per the result present in the table-7, the t-value (15) has been found to be positive and significant both at .05 and .01 level. This shows that the type of e-resources used in the banks are different. It seems e-resources used in the private sector banks are more as compared to the public sector banks. This inference has been drawn as the mean value of private sector bank officers on e-resources index has been found to be 35 as compared to the public sector bank officers mean on the index (32).

Table-7: Mean, Standard Deviation and t-values of Bank Officers on e-resources Index

Sector	Mean	Standard Deviation	t-value
Public Sector	32	2.8	15**
Private Sector	35	2.5	

Source: Computing **significant at .01 level

The findings present in the table-7 show that types of e-resources used in the private sector bank are qualitatively better as compared to the public sector bank. This result may be due to the fact that private sector banks have autonomy in allotting budget for using different types of e-resources. Although, there are some commonality in the use of e-resources in both the groups yet the quality and quantity of e-resources are different. **This finding supports our first hypothesis that the type of e-learning resources used in the training programme is different in public and private sector banks.**

ii) Comparison of Public and Private Sector Bank Officers on Perception Index

An index has been computed by adding statements from eleven to twenty. Comparison of mean scores between the two groups of officials has been carried out by using t-test. According to the results presented in table-8, both groups of officers differ significantly on their mean scores on perception about the e-learning programmes as the t-value (9) is found to be positive and significant at both .05 and .01 level. **This finding supports our second hypothesis that the perception of officials with regards to usefulness of e-learning is different for public and private sector banks.**

Table-8: Mean, Standard Deviation and t-values of Bank Officers on Perception Index

Sector	Mean	Standard Deviation	t-value
Public Sector	33	6.86	9**
Private Sector	40	8.32	

Source: Computing **significant at .01 level

Further, on seeing the mean value of both the groups one can predict that the perception of private sector officers with regards to usefulness of e-learning is better than that of the public sector bank officers. This is because the mean value of private sector officers on perception index is higher than the mean score of public sector bank officials. The mean value for public sector bank is 33 as compared to the private sector bank officers which has been found to be 40. This finding is mainly because the exposure with regards to e-learning given to the private sector bank officers is better than that of the public sector banks. Even private sector officers feel that without e-learning exposure their career advancement will be at stake. This finding has been supported by the officers at the time of interview. Therefore, they show adequate interest in acquiring more knowledge about e-learning. Thus, the **second hypothesis "Perception of officials with regards to usefulness of e-learning is different for public and private sector banks" has been supported by the results of the study.**

iii) Comparison of Public and Private Sector Bank Officers on Administrative Support Index

Both public and private sector banks are compared on the administrative support extended for the successful implementation of the e-learning programmes in the banks. The mean scores of the officers of the public and private bank on administrative support have been found out and t-value has been calculated. The results are presented in the table-9. According to the result presented in table-9,

one can find that the mean scores of private sector and public sector bank officers are 42 and 34 respectively. The t-value is 12. The t-value is positive and significant both at .05 and .01 level. The result indicates that there is a significant difference between both groups of banks as far as administrative support for the implementation of e-learning is concerned. The difference is because of the fact that management of the private banks has autonomy on budget allocation. They do not require special permission as required in case of public sector banks. This finding has been supported during the interview with branch managers. **Therefore, third hypothesis which reads administrative support extended by the management of public and private sector banks for creating effective e-learning environment is different has been supported by the findings**.

Table-9: Mean, Standard Deviation and t-values of Bank Officers on Administrative Support Index

Sector	Mean	Standard Deviation	t-value
Public Sector	34	6.1	12**
Private Sector	42	6.6	

Source: Computing **significant at both .05 and .01 level

iv) Comparison of Public and Private Sector Bank Officers on Motivational Index

In order to measure motivational level of bank officers for e-learning, an index has been computed by adding statements from thirty one to thirty five. The mean scores for both the groups of officers for motivational level for e-learning have been found out. Then, t-test is used to find out the differences of means, if any, between the two groups. As per the result presented in the table-10, the t-value is 7. It is positive and significant at both .05 and .01 level. That is, both groups differ significantly on their mean scores on motivational level for e-learning. On comparing the mean scores of both the groups, it can be observed that the mean score of private sector officers is higher than the public sector banks. Further, it can be stated that adequate administrative support for implementing e-learning extended by the private sector management encourages the officers to participate more in such e-learning programmes. On the other hand, since job is secure in public sector, they do not give much importance for the same unless somebody has personal desire to do so. In the promotion too, it does not play significant role. But for, private sector bank e-learning provides sufficient opportunities at the time of promotion or at the time of switching over to other jobs. This finding has been supported by the facts obtained during interview with the officers of both groups of banks.

Table-10: Mean, Standard Deviation and t-values of Bank Officials on Motivation Index

Sector	Mean	Standard Deviation	t-value
Public Sector	17	3.3	7**
Private Sector	20	3.4	

Source: Computing **significant at both .05 and .01 level

Above finding **supports fourth hypothesis that motivational level of officials of public sector and private sector banks as regard to avail e-learning programmes is different.**

v) Comparison of Public and Private Sector Bank Officers on e-learning Contents Index

As regards to the contents of e-learning with reference to traditional method, an index has been computed. It intends to measure how

respondents react to the e-learning contents with reference to the traditional method. On the basis of the results, it is observed that the mean scores of both the groups of officers have less difference. The mean scores are found to be 36 and 38 for public sector and private sector officers respectively. The t-value has been found to be not significant. The finding indicates that both groups perceive in a similar way. Both groups of officials agree that contents of e-learning are much better and attractive than the traditional methods of learning. The contents of e-learning are easy to understand than the traditional methods. It is concluded from the mean scores obtained by the public and private sector officers. In fact the mean scores are 36 and 38 which lie between the agree (9X4=36) and strongly agree (9X5=45). The statements are framed on the basis of the comparison between the contents of e-learning and traditional methods of learning. Higher scores indicate more preference for e-learning methods than traditional methods.

Table-11: Mean, Standard Deviation and t-values of Bank Officers on e-learning Contents Index

Sector	**Mean**	**Standard Deviation**	**t-value**
Public Sector	36	4.2	1.8
Private Sector	38	4.7	

Source: Computing

vi) Comparison of Public and Private Sector Bank Officers on e-learning Methods Index

In order to examine responses of the officers with regards to different methods used for imparting e-learning methods. Based on this statements are framed. Statements from forty five to forty nine are added to compute an index. Findings are presented in table-12. As per the findings presented in the table-12, the t-value is found to be not–significant. This finding shows that officials from both public and private sector banks feel methods used for delivering e-learning contents are very useful and inspire for learning. In fact the mean scores are 20 and 21 which lie between the agree (5X4=20) and strongly agree (5X5=25). The statements are framed on the basis of the comparison between the delivery methods of contents used in e-learning and traditional methods of learning. The t-value has not been found to be significant. There is no difference between the two groups of officers as far as the methods used in delivering e-learning are concerned. Further, as per the findings presented in the table-12, the respondents feel e-learning content delivery methods are more effective than the traditional methods of learning.

Table-12: Mean, Standard Deviation and t-values of Bank Officials on Methods of e-learning Index

Sector	Mean	Standard Deviation	t-value
Public Sector	20	2.6	1.8
Private Sector	21	2.9	

Source: Computing

Results presented in the table-11 and table-12 show that both public and private sector bank officers have no difference of opinions with regard to the e-learning contents and delivery methods of the contents. This inference is drawn from the t-value of both the groups. In fact, the mean scores for the methods used for e-learning delivery are 20 and 21 which lie between the agree (5X4=20) and strongly agree (5X5=25). The statements are framed on the basis of the comparison between the delivery methods of contents of e-learning and traditional methods of learning.

Further, the mean scores for e-learning contents are 36 and 38 which lie between the agree (9X4=36) and strongly agree (9X5=45). The statements are framed on the basis of the comparison between the contents of e-learning and traditional methods of learning. Higher the mean score better are the e-learning contents than traditional methods. Similarly, the mean scores are 20 and 21 which lie between the agree (5X4=20) and strongly agree (5X5=25). The statements are framed on the basis of comparison between the delivery methods of contents of e-learning and traditional methods of learning. Since the mean scores are higher it can be stated here that content delivery methods are more effective in e-learning than traditional methods. Bank officials from both groups are of the same opinion. **These findings support the fifth hypothesis that contents and methods of delivery of contents in e-learning are more effective than traditional methods.**

vii) Comparison of Public and Private Sector Bank Officials on Effectiveness of e-learning Index

As far as effectiveness of e-learning is concerned, an index has been computed by adding statements from fifty to fifty eight. The mean score of public sector bank officials is 29 and private sector bank officers is 34. The t-value has been found to be 12 which is significant at both .05 and .01 level. As far as both groups of managers are concerned, the opinions differ significantly. From the results it can be stated that private sector bank officers feel e-learning is very useful for them. Since encouragements and inspirations are made to the officers in the private sector bank, they

feel it is more useful. Public sector bank officers say the same but the intensity is less than the private sector bank officers. Following table shows the mean score, standard deviation, and t-value of both public and private sector bank officials on effectiveness of e-learning index.

Table-13: Mean, Standard Deviation and t-values of Bank Officers on Effectiveness of e-learning Index

Sector	**Mean**	**Standard Deviation**	**t-value**
Public Sector	29	3.18	12**
Private Sector	34	4.32	

Source: Computing **significant at both .05 and .01 level

viii) Comparison of Public and Private Sector Bank Officials on Composite e-learning Index

A composite e-learning index is computed by adding all fifty eight statements starting from Q1 to Q58. The mean scores, standard deviations and t-value are presented in the table-14.

Table-14: Mean Scores, Standard Deviation and t-value of Public and Private Sector Bank officers on Composite e-learning Index

Sector	Mean	Standard Deviation	t-value
Public Sector	202	15.2	20**
Private Sector	238	20.30	

Source: Computing **significant at both .05 and .01 level

From the results presented in table-14, it can be observed that mean score of private sector bank officers is greater than the mean score of public sector bank officers. The mean scores are found to be 202 and 238 respectively for public sector and private sector bank officers.

The t-value is 20 which is significant both at .05 and .01 level. Thus, it can be inferred here that private sector bank officers perceive e-learning programmes as valuable, useful and growth oriented for them and also for their organization.

III. Comparison of Different Demographic Groups of Respondents on Effectiveness of e-learning.

In order to measure effectiveness of e-learning an index has been computed by adding statements from fifty to fifty eight. Irrespective of sector of the banks respondents are grouped into different categories. On the basis of the age, respondents are grouped into four categories i.e. below thirty years, between thirty one to forty years, between forty one to fifty years and fifty one and above years. As far as income is concerned, respondents are grouped into four categories i.e. below 30,000, between 31,000-60,000, between 61,000 to 90,000 and 91,000 and above. Similarly, on the basis of experience, respondents are grouped into four categories i.e. below ten years, between eleven to twenty years, between twenty one to thirty years and thirty one and above years. Likewise, on the basis of gender, respondents are grouped into male and female respondents.

i. Comparison of Bank Officers of Different Age Groups on Effectiveness of e-learning

ANOVA was undertaken to compare means of bank officials of different age groups on effectiveness of e-learning. The mean score and standard deviations are presented in the table-15.

Table-15: Mean Scores and Standard Deviations of all Four Age Groups of Bank Officers on Effectiveness of e-learning

Groups	Mean	Standard Deviation
Below 30 years	34	5.4
31-40 years	33	4.9
41-50 years	32	4.4
51 and above	31	3.8

Source: Computing

Graph-15: Graph Showing Mean Scores of all Four Age Groups of Bank Officials on Effectiveness of e-learning

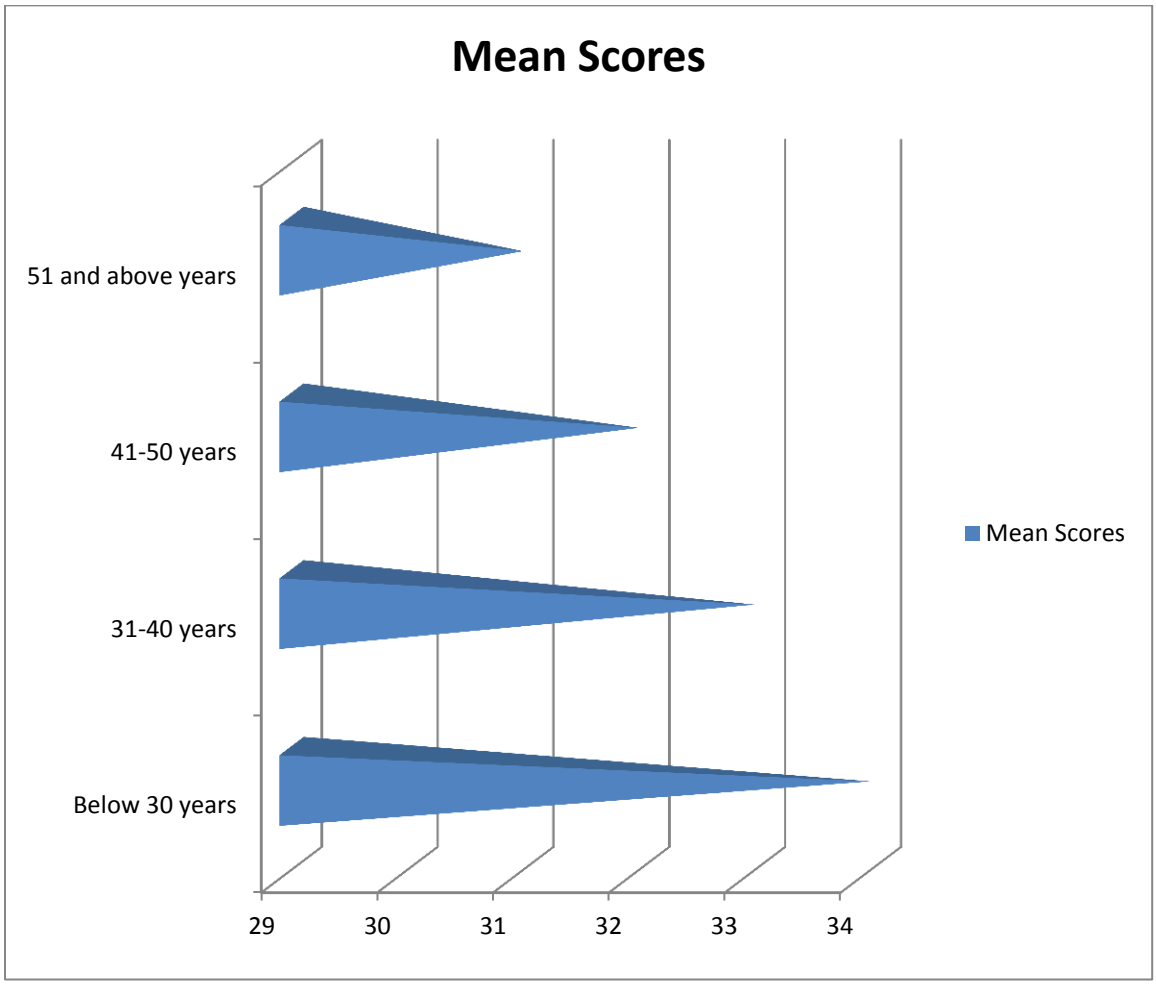


Table-16: Results of ANOVA of All Four Age Groups of Bank Officers on Effectiveness of e-learning

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	55.007	17	3.236	4.39**	.000
Within Groups	294.743	382	.772		
Total	349.750	399			

Source: Computing F is significant at .01 level

Results presented in the table-16 shows the result of ANOVA of four different age groups of bank officers on the effectiveness of e-learning. According to the results presented in the table-16, the four groups differ significantly on the effectiveness of e-learning. This has been inferred because of the ANOVA result i.e. 4.39 which has been found to be significant at .01 level. On analyzing the mean scores of four different groups, it can be observed that the younger group i.e. less than thirty years group feel e-learning is more effective than the traditional method as its mean score is 34. It is followed by the mean scores of thirty one to forty years group (mean score =33). This is followed by forty one to fifty years group (mean score=32). The mean score of 51 and above year group is 31. The

results indicate that younger generation feels e-learning is more effective as compared to the older people. It can be stated that e-learning must be designed in such a way that even older officers find it effective.

ii. Comparison of Bank Officials of Different Income Groups on Effectiveness of e-learning

In order to compare means of bank officers of different income groups on effectiveness of e-learning, ANOVA is carried out. The mean score and standard deviations are presented in the table-17.

Table-17: Mean Scores and Standard Deviations of all the Four Income Groups of Bank Officers on Effectiveness of e-learning

Groups	Mean	Standard Deviation
Below Rs 30,000	32	4.0
Rs 31,000-60,000	34	4.9
Rs 61,000 -90,000	33	4.7
Rs 91,000 and above	31	3.7

Source: Computing

Means scores and standard deviations of all four income groups of bank officers are presented in the table-17. As per the results officials whose monthly salaries are between 31,000 to 60,000 and between 61,000-90,000 are in opinion that e-learning is more effective than the traditional learning method. Younger officials come third in the row followed by the older people whose salaries are 91,000 and above per month.

Graph-16: Graph Showing Mean Scores of all Four Income Groups of Bank Officers

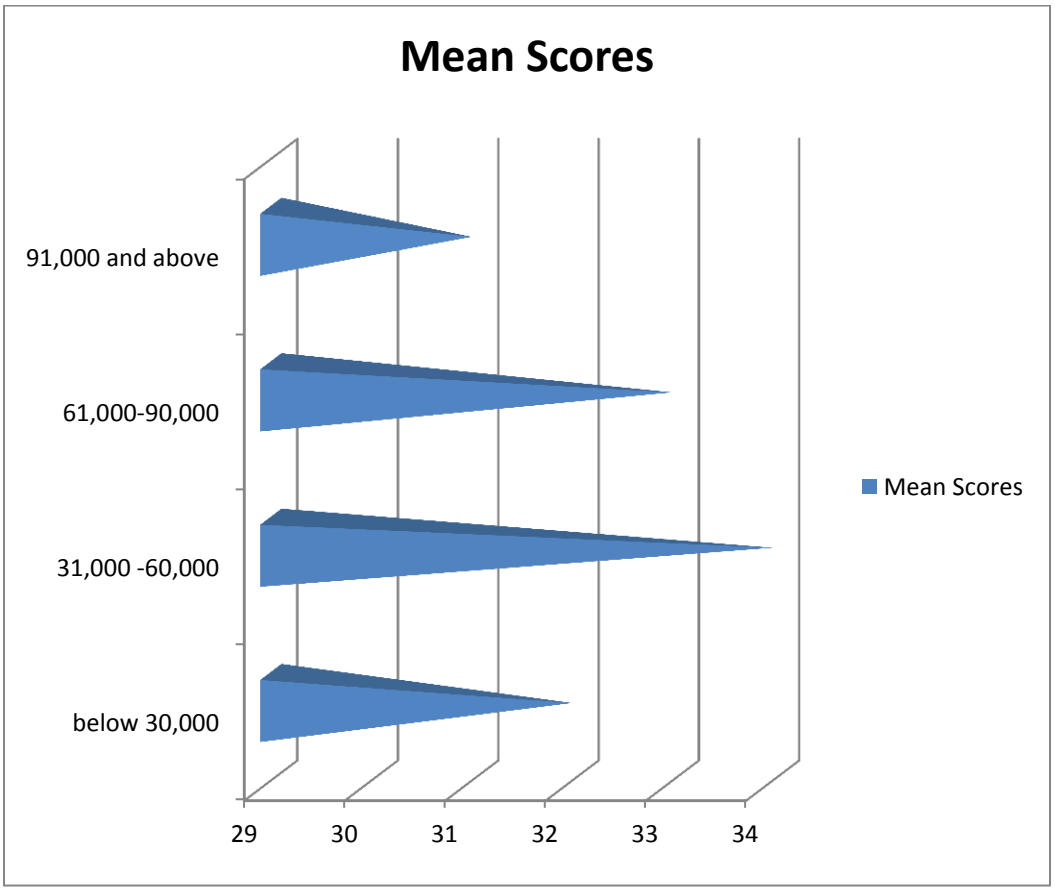


Table-18: Results of ANOVA of All Four Income Groups of Bank Officers on Effectiveness of e-learning

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	59.361	17	3.492	4.99**	.000
Within Groups	325.399	382	.852		
Total	384.760	399			

Results of ANOVA of all four income groups of bank officers on effectiveness of e-learning is presented. The results show that the F value is significant at .01 level. It shows that all four income groups of bank officials have different opinion as regards to the effectiveness of the e-learning. Although all four groups feel it is effective than the traditional method yet officers getting salary between Rs 31,000 to 60,000 feel e-learning is more effective. This is followed by the respondents getting salary between Rs 61,000 to 90,000.

iii. Comparison of Bank Officers of Different Experience Groups on Effectiveness of e-learning

ANOVA was undertaken to compare means of bank officials of different experience groups on effectiveness of e-learning. Bank officials are grouped in to below 10 years, 11-20 years, 21-30 years, and 31 and above years. The mean score and standard deviations are presented in the table-19.

Table-19: Mean Scores and Standard Deviations of all the Four Experience Groups of Bank Officials

Groups	Mean	Standard Deviation
Below 10 years	32	5.03
11-20 years	34	4.91
21-30 years	33	4.41
31 and above	31	4.22

Source: Computing

According to the result presented in the table-19, mean score of below 10 year experience group is 32, between 11 to 20 years group is 34, between 21 to 30 years is 33 and the group 31 years and above is 31.

Graph-17: Graph Showing Mean Scores of all Four Experience Groups of Bank Officers

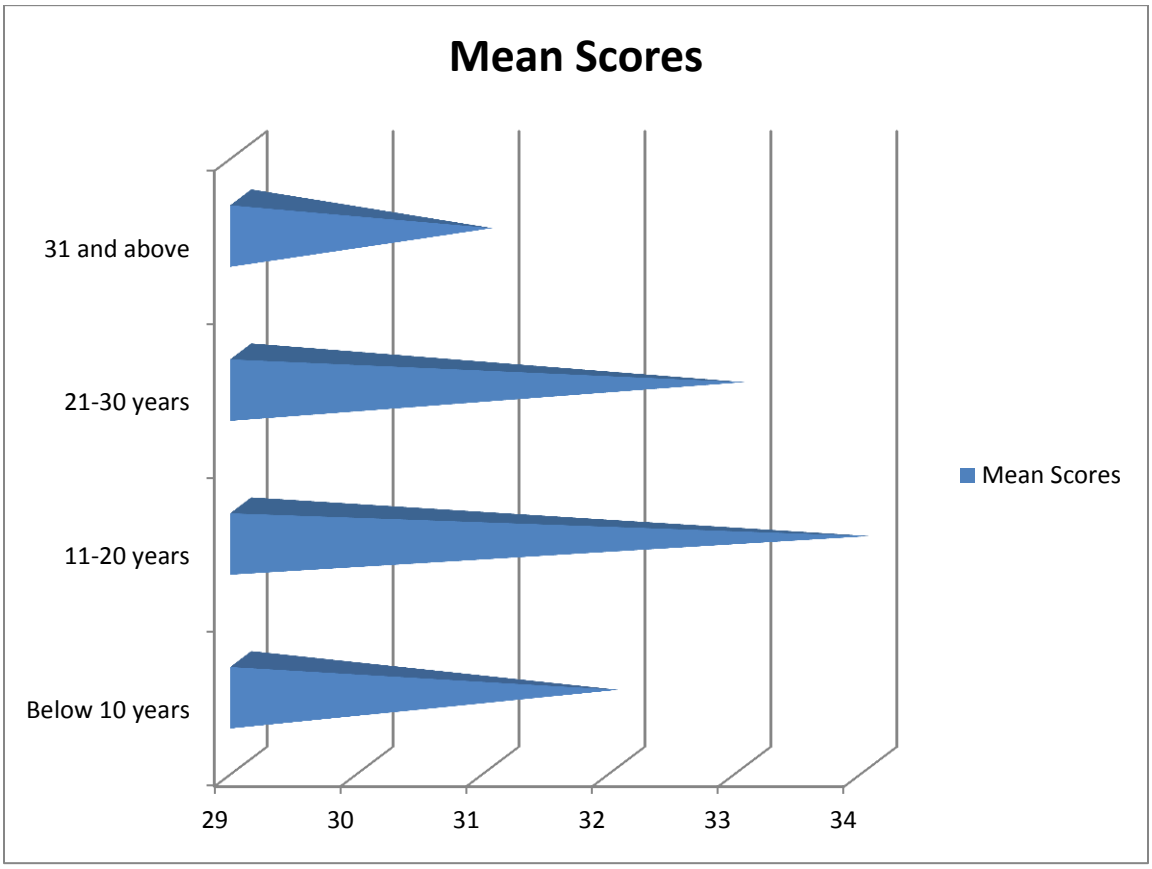


Table-20: Results of ANOVA of All Four Experience Groups of Bank Officers on Effectiveness of e-learning

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	67.988	17	3.999	4.87**	.000
Within Groups	346.372	382	.907		
Total	414.360	399			

Source: Computing

As per the results presented in table-20, the F value of all the four groups is 4.87 which is significant. This shows that all the four groups of different experience level are different as far as their opinions about the effectiveness of e-learning is concerned. Among all the four groups the mean score of 11-20 year experience group is highest i.e. 34 which is followed by 21 to 30 years group whose mean score is 33. This is followed by below 10 years group. The last group is the 31 years and above group whose mean score is 31.

iv. Comparison of Bank Officers of Different Educational Groups on Effectiveness of e-learning

On the basis of the education, respondents are grouped into three categories i.e. graduation, post-graduation and technical. In order to compare means of bank officials of different education groups on effectiveness of e-learning, ANOVA is carried out. The mean score and standard deviations are presented in the table-21.

Table-21: Mean Scores and Standard Deviations of all Different Education level Groups of Bank Officials

Groups	Mean	Standard Deviation
Graduation	30	3.9
Post-Graduation	32	4.6
Technical	34	5.2

Source: Computing

Means scores and standard deviations of all four education groups of bank officers are presented in the table-21. As per the results, the mean scores of bank officers having graduation level education is 30. This is followed by the group of bank officers who are post-

graduates. The mean score of this group is 32. This is followed by technically educated bank officers whose mean score is 34.

Graph-18: Graph Showing Mean Scores of all Four Education Level Groups of Bank Officers

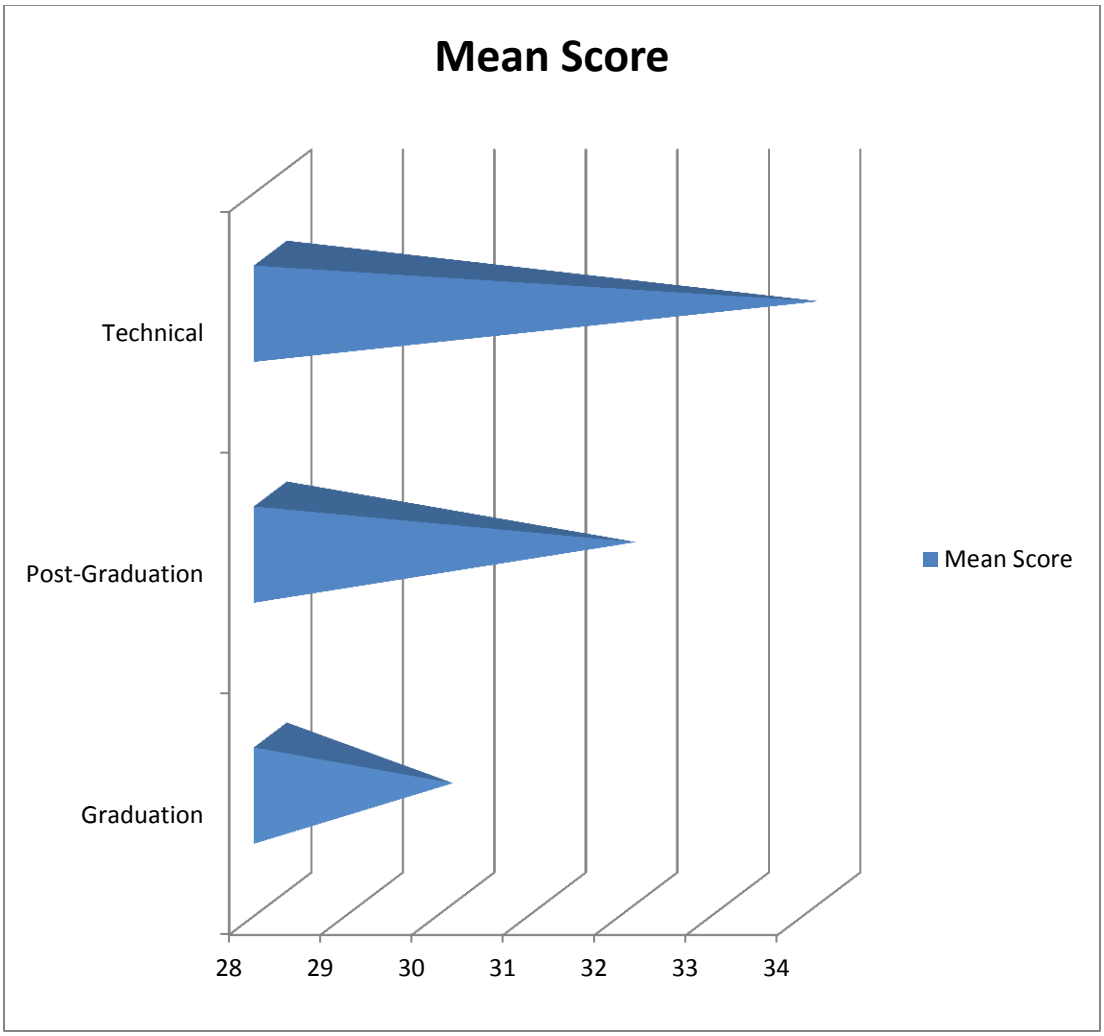


Table-22: Results of ANOVA of All Four Education Level Groups of Bank Officials on Effectiveness of e-learning

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	254.26	3	84.754	4.27**	.000
Within Groups	7849.63	396	19.822		
Total	8103.89	399			

From the results presented in the table-22, it is evident that F- value among the three groups of bank officials is significant (4.27). This states that as far as their opinions with regards to effectiveness of e-learning is concerned is different. The group having technical back ground has more mean score indicating that their rating is higher than other two groups. The mean score of the respondents having post-graduation level education comes next. This is followed by the group which comprises of respondents who are only graduates (mean score=30).

IV. Demographic Factors as Significant Predictors of Effective e-learning.

In order to examine impact of demographic variables as predictor of effective e-learning regression analysis is undertaken. In the present study five important demographic variables are considered for the regression analysis. Results of the regression analysis are presented in the table-23.

Table-23: Regression Analysis with Independent Variables and Effectiveness of e-learning as Dependent Variable

Dependent Variable	Predictors	R^2	F value	Beta Value	t-value	Sig.
Effectiveness of e-learning	Marital Status	.345	34.42	.181	1,519	.130
	Income			.291	2.519	.013
	Age			.564	11.877	.000
	Experience			.216	1.818	.070
	Gender			.014	.303	.762
	Education			.292	3.76	.000

The results presented in the table–23 show that approximately 34.42 % of the variance in effectiveness of e-learning is predicted by two important demographic variables. The two important demographic variables made a significant contribution to the regression model as can be seen by the 't' value. The two important predictors are age and education level.

The standard regression coefficients for each of the predictors are: marital status (β = 1.81), income (β =.291), age (β=.569), experience (β =.216), gender (β = .014), gender (β =.292).

IV. Gap between Actual e-learning Effectiveness and Desired Level e-learning Effectiveness between Public and Private Sector Bank Officers

In order to obtain any gap that exists between actual level e-learning effectiveness and desired level e-learning effectiveness a scale has been computed. This dimension has nine (9) statements. Each statement is rated with a five point scale i.e. strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4), and strongly agree (5). The minimum score is 1x9= 9 and the maximum score can be 5×9= 45. Thus, the total scores ranges from 9 to 45 points.

1×9=9 5×9=45

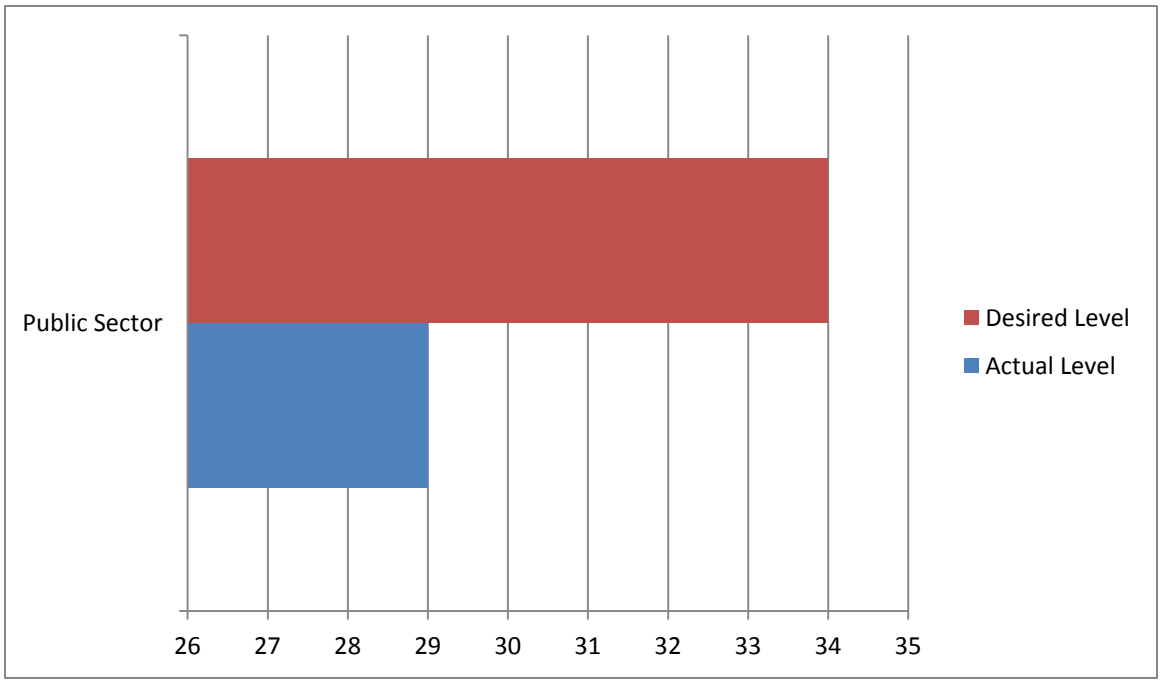
(Minimum Score) (Maximum Score)

On the basis of the minimum and maximum score a scale has been computed. Out of the five points scale, four (4) has been considered as the desired level and five (5) has been considered as the excellent level. Thus, desired level of effectiveness of e-learning = 4×9=36 scores and excellent level of effectiveness of e-learning = 5×9=45 scores. For consideration of desired or excellent level mean scores are considered. Thus, both private and public sector officials are rated against the scale.

Table–24: Actual and Desired Level Effectiveness of e-learning among Public Sector Bank Officials

Level	**Scores**	**Remarks**
Actual	29	Below desired level
Desired	36	

Graph-19: Graph Showing Actual and Desired Level Effectiveness of e-learning among Public Sector Bank Officers

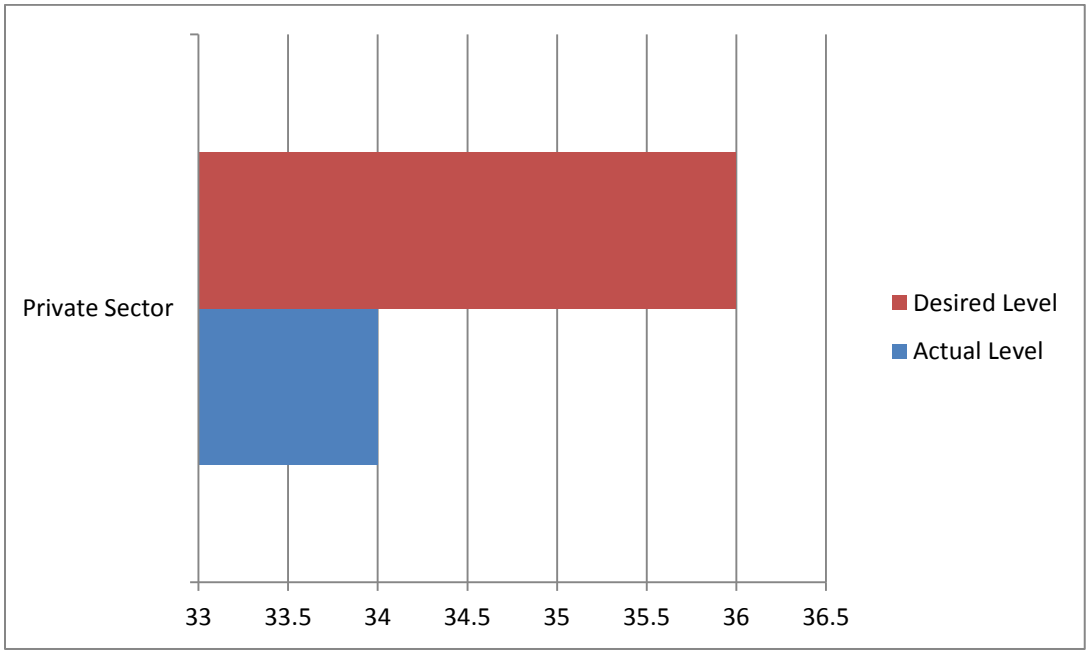


By analyzing table-24 and graph-19, one can infer about the actual level of e-learning effectiveness and desired level effectiveness. Actual level of effectiveness of e-learning is obtained from the mean score of public sector officers. Similarly, desired level has also been calculated. The results presented in the table and also from the graph show actual level of effectives of e-learning is less than that of the desired level. In order to increase the outcome of e-learning and making it more effective, public sector banks need to develop an appropriate and effective strategy.

Table – 25: Actual and Desired Level Effectiveness of e-learning among Private Sector Officials

Level	Scores	Remarks
Actual	34	Below desired level but better than Public Sector Bank
Desired	36	

Graph- 20: Graph Showing Actual and Desired Level Effectiveness of Private Sector Bank Officials



From table-25 and graph-20, one can observe that a clear cut gap exists between the actual level and desired level effectiveness of e-learning. As compared to the public sector bank the gap is narrower in the case of private sector bank. This shows e-learning effectiveness is better in the private sector as compared to public sector banks. But, still some effort is needed to improve the effectiveness of the e-learning system in the private sector banks also.

V. Gap between Actual Administrative Support and Desired Level Administrative Support by the Management of Public and Private Sector Banks.

For examining any gap that exists between actual and desired level of administrative support extended by the management for e-learning in private and public sector bank, a scale has been computed. This dimension has ten (10) statements. Each statement is rated against a five point scale i.e. strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4), and strongly agree (5). The minimum score is 1x10=10 and the maximum score can be 5×10=50. Thus, the total score ranges from 10 to 50 points.

1× 10=10 5×10=50

(Minimum Score) (Maximum Score)

On the scores of minimum and maximum a scale has been formed. From the scale at the level of four (4) desired level has been calculated. Similarly, excellent score has been calculated at the point score five (5).

Thus, desired level of administrative support extended by the management has been obtained to be 4×10=40 scores and excellent level of administrative support extended by the management =5×10=50 scores. Both levels consider mean scores of the respondents. Thus, both private and public sector officers are rated against the scale.

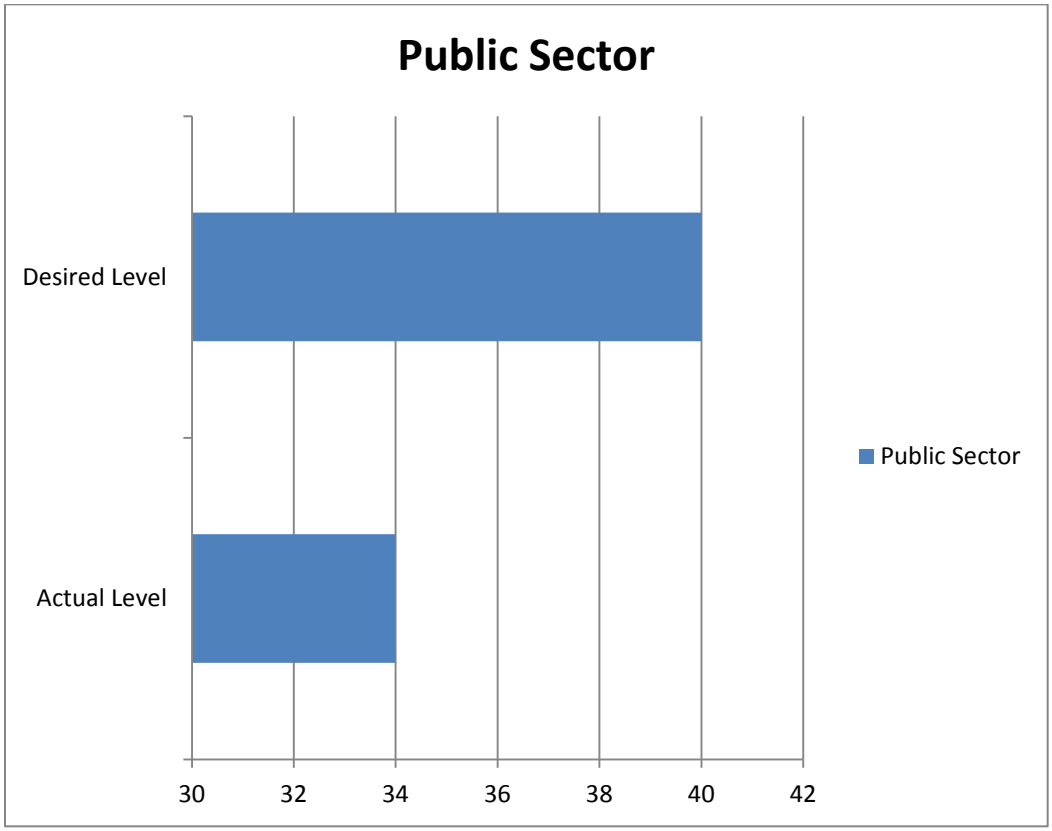
Table–26: Actual and Desired Level Administrative Support by the Public Sector Management

Level	**Scores**	**Remarks**
Actual	34	Below desired level
Desired	40	

Administrative support is essential for the effectiveness of the e-learning programme. This includes administrative support for the implementation and provision of budget allocation for the same.

According to the findings presented in table-26 and graph-21, actual level administrative support extended by the management of public sector is less than the minimum desired level. It can be suggested here that unless management implements the programme in a strategic manner, e-learning programme may not be successful. Its proper implementation is possible when an effective strategy is made from the beginning of the year.

Graph-21: Graph Showing Actual and Desired Level Administrative Support by the Public Sector Bank Management

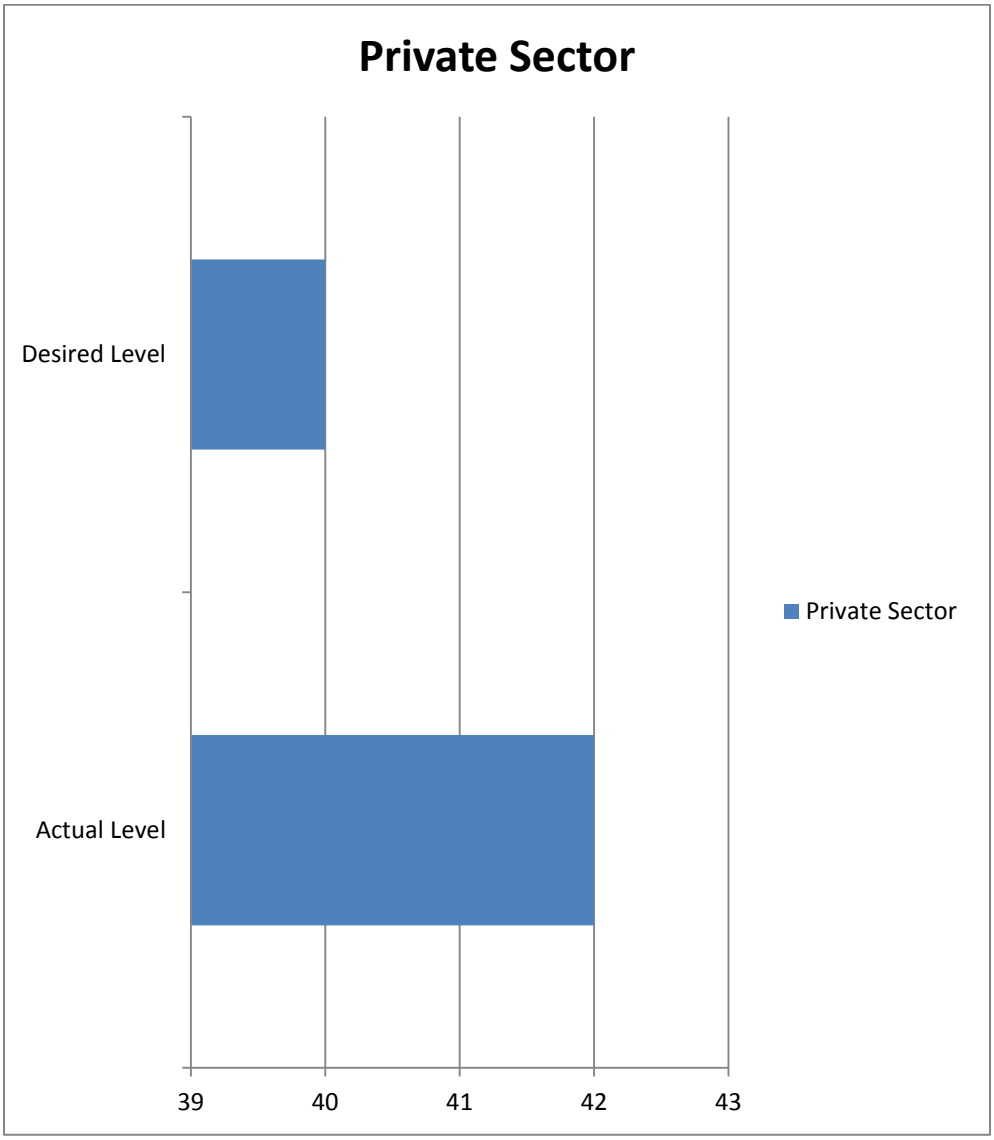


Table–27: Actual and Desired Level Administrative Support by the Private Sector Bank Management

Level	**Scores**	**Remarks**
Actual	42	Above desired level
Desired	40	

According to the findings presented in table-27 and graph-22 actual level administrative support extended by the management of public sector is little higher than the minimum desired level. Although, the score is little higher than the desired level. In a fast changing technology scenario, maximum emphasis should be given to increase the standard and quality of training. Management should make proper strategy to reach an excellent level by establishing an enriching e-learning system.

Graph-22: Showing Actual and Desired Level Administrative Support by the Private Sector Bank Management



CHAPTER-VII

SUMMARY, SUGGESTIONS AND CONCLUSION

The application of e-learning in enterprises provides the advantages of lower training cost, richer learning content, higher information consistency, and easier update of content. Despite the fact that enterprises have the intention to introduce e-learning, a complete framework is not there to which they can refer to ensure the benefits of e-learning for employee training or learning and understand which important factors affect employees' e-learning effectiveness. Relative to the difficulties of introducing e-learning in management practice, the academic achievements in this aspect also seem very limited. Most of the research activities are focused on discussion and survey of e-learning in schools, and very few of them are dedicated to empirical research of e-learning in a corporate environment. Besides, these studies discuss e-learning only at the technical or the individual level without a comprehensive investigation into the factors affecting e-learning effectiveness with multi-level theoretic framework.

For enterprises, e-learning is not simply a training tool but also a performance enhancement tool. Application of e-learning in a corporate environment can enhance employees' skills and knowledge and also motivate self-directed learning along with organizational learning. E-learning is not confined to geographical barriers. Employees can engage in self-directed learning, and learning resources can be repeatedly used. As the training cost is reduced, creation and accumulation of organizational knowledge can be achieved at a lower cost (lower relative resource cost). On the other hand, e-learning provides flexible learning materials and consistent information. The learning content is easy to update, and the enterprise's latest strategic goals can be instantly reflected. By embedding e-learning in knowledge management, enterprises can reshape the learning culture within the organization, facilitate externalization of tacit organizational knowledge, and accelerate knowledge acquisition, storage, and reuse. They can even share a portion of established learning content with suppliers or customers, utilizing e-learning as a strategic instrument to diffuse information of new products (superior relative resource-produced value).

However, in the application of e-learning, domestic enterprises are less proactively involved than foreign enterprises. The main barriers include lack of professionals in e-learning, low e-business level, inability to estimate learning performance, lack of a long-term introduction plan, and lack of budgets for introduction. Even if enterprises have the intention to introduce e-learning, there is no

complete framework available to which they can refer to. Information and research in this aspect also seems very limited. Since e-learning was proposed, a considerable number of papers on related issues have been published. However, most of them are focused on discussion and survey of e-learning in schools, and very few are dedicated to empirical research of e-learning in a corporate environment. A corporate organization is a complicated system and differs significantly from schools in terms of environment and management. Employee training or learning is also extremely different from student learning at school. Therefore, there is really a need to conduct a deeper and more comprehensive research on e-learning for employees to make up for the insufficiency of research in this area.

Present research has been undertaken considering the organizational e-learning system. The focus of the research is based on the crux of corporate e-learning. Questionnaire has been framed considering related key issues like e-resources, perception of the officials about e-learning, administrative support by the management, motivation for e-learning, content of e-learning, methods of e-learning and effectiveness of e-learning.

In order to compare officials of public and private sector banks, t-test has been carried out. The results are based on the comparison of mean scores of both the groups on each dimensions of e-learning. Findings show that the t-value has been found to be positive and significant. This shows that the type of e-resources used in the banks are different. It seems e-resources used in the private sector banks

are different and quality oriented as compared to the public sector banks. Thus, public sector banks need to upgrade their e-learning environment by adding more useful e-resources. The management of private banks also needs to upgrade their e-resources, because technology is fast changing.

Comparison of mean scores between the two groups show that both groups of officials differ significantly on their mean scores on perception about the usefulness of e-learning training. Findings show that the perception of private sector bank managers as regards to usefulness of e-learning is better than the public sector bank officials. This finding is mainly because the exposure given to the private sector bank officials is better than that of the public sector. The private sector bank officials feel that without e-learning exposure their career opportunities will be at stake. Therefore, they show adequate interest in acquiring more and more knowledge about e-learning.

When public and private sector banks are compared on the administrative index, results show that the mean score of private sector and public sector banks are 42 and 34 respectively. The t-value is 12 which is significant at .01 level. The result indicates that there is a significant difference between both the groups of banks as far as administrative support is concerned. The difference may be because of the fact that the management committee of private banks has autonomy on budget allocation. They do not require special permission as required in the public sector banks.

Attempt has been made to examine the motivational level of bank officials towards e-learning. As per the result presented in table-4, both the groups differ significantly on their mean score on the motivational level for e-learning and the mean score of private sector bank officials is higher than the public sector bank officials. This finding may be because of the adequate administrative support of the private sector management that motivates the officials to participate in such e-learning programmes. Further, e-learning provides sufficient opportunities to private sector bank officials at the time of promotion or at the time of switching over to other jobs.

As regards to the contents of e-learning with reference to traditional method, it is observed that the mean scores of both the groups of officials have less difference. Both groups of officials agree that the contents of e-learning are much better, richer and more attractive than the traditional methods of learning. The contents of e-learning are easier to understand than the traditional methods, it is concluded from the mean scores obtained by the public and private sector bank officials.

As regards to the responses of the officials with regard to the different methods used for imparting e-learning training, no difference has been obtained between the two groups of officials. However, respondents feel e-learning content delivery methods are more effective as compared to the traditional methods of learning.

As far as effectiveness of e-learning is concerned it has been observed that the private sector bank officials feel e-learning is most useful for them. It seems encouragements and inspirations are given to the employees in the private sector banks. Thus, they feel it is more useful. Public sector bank officers also opine the same but the intensity is less than the private sector bank officials.

In order to examine the impact of demographic variables as predictors of effective e-learning, regression analysis is carried out. In the present study five important demographic variables are considered for the regression analysis. Results show two important demographic variables make a significant contribution to the regression model. The two important predictors are age and the education level.

Suggestions

The following suggestions are offered to make the e-learning programme more effective and productive:

1. Both public and private sector banks must construct a good "digital environment" within their organization as it is necessary for learning.

2. E-learning managers must realize and even investigate employees' needs for the learning content, responses to the system quality, and suggestions on system improvement.

3. E-learning content should be "customized" as much as possible to provide content needed by each individual user. For instance, new employees need to acquire knowledge of the work processes and methods in a short time, managers need to learn effective leadership and communication skills, and technicians need to know latest innovations and industrial information.

4. The learning content needs to be designed in such a way that participants can be motivated and attracted to continue training by using an e-learning platform.

5. Employees who are more concerned about self-development and career growth will have a stronger need for autonomous learning. Therefore, reinforcing the link between learning activities and career development is a must. The amount of learning content for each level of employees should be effectively planned to enhance their work life.

6. Management must develop a culture that promotes learning**.** It may not be done in a short span of time. However, in the long-run, it can be an intangible power that influences employees' 'thinking and behavior in inconspicuous ways'.

7. It is always better to provide rich, constantly updated, and "planned" learning content.

8. Management of the bank must provide necessary budgetary allocation for organizing periodic e-learning programmes.

9. Supervisors must encourage and motivate employees to participate in e-learning programmes.

10. It should be made compulsory for every employee of the bank to attend at least one e-learning training programme.

Future Implications and Limitations

Present study is limited to the city of Delhi and also limited to one public and one private sector bank only. There are several public and private sector banks. Thus, the findings cannot be generalized/ applicable to all public and private sector banks. The sample size is limited as per the requirement of the study.

Researchers who are interested to undertake similar research in future may get directions/clues from this research. They may take cities from other parts of the countries. They may use wider data and

more number of samples. Data may be collected from other public and private sector banks only.

Conclusion

E-learning and its technological basis - e-learning environments - proved to be an appropriate tool which can support the learning process efficiently, effectively and satisfactorily. In the future they will open up to us new dimensions in the world of learning that we have never experienced before. With their help the right knowledge will be learnt at the right time, by the right person, in the right context and it will become a lifelong learning process in the organizations.

The differences between the information obtained through formal education and the necessary knowledge in the workplace has been highlighted. The development of vocational and professional expertise requires knowledge about the different types of information. Learning is important to ensure continuous efficiency and for the competence development of employees and employers in the banking sector. The banks need to establish a learning environment in the workplace and strive for establishing collaborative training and learning.

The learners i.e. the employees interacting with each other contribute to the formation of the social process of education and development

of skills within an organization. Therefore appropriate multimedia content and compatible learning strategies should be designed in the e-learning design.

In the future learning will move from formal learning to informal learning. Learning will be directly embedded in everyday tasks and include communication and collaboration or interaction with other people because the new devices will support direct information and communication access and collaborative working. That way learning will not only be provided to a single person but to a group or team of people. With this new concept a team of people i.e. employees can be trained to be more efficient in doing certain things and accomplishing certain tasks than a sum of knowledgeable individuals. This kind of group learning will also require new learning models.

The banking staff can be directed in e-learning through motivation and reward. In addition, the employers should be directed to e-learning by informing them about the benefits of e-learning and the development opportunities of e-learning. The support to management and organization provided by the e-learning environment should be highlighted and emphasized. Increasing these trends in the workplace is an important change in the business life of an organization.

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Annexure-1

Confidential

E-Learning Questionnaire

Dear Sir/Madam,

I am a research scholar doing my Ph. D in the Department of Management, Mizoram University. I am conducting a research study on the topic. A Comparative Study on E-learning Environment in the Selected Public and Private sector Banks. The study is for educational purpose only and complete confidentiality will be maintained. Kindly ensure your cooperation in filling up this questionnaire. Your participation in this study is completely voluntary. If you have questions at any time about the survey or the procedures, you may contact Anupama Lakhera at 9717328970 or by email at the email address: lakheraanupama@gmail.com.

Thank you very much for your time and support.

(Anupama Lakhera)
Ph. D Student
Department of Management
Mizoram University
Aizawl, Mizoram

Part – I

1. Name:_____(Optional)

2. Gender: (Tick the appropriate box)

i. Male ( )
ii. Female ( )

3. Age: (Tick the appropriate box)

i. 21-25 years ( )
iii. 26-40 years ( )
iv. 41-50 years ( )
v. Above 50 years ( )

4. Educational qualifications

(i) Graduate ( )
(ii) Post Graduation ( )
(iii) Technical ( )

5. Kindly indicate your experience in the banking sector in years:

(i) less than 10 years ( )
(ii) 11 years-20 years ( )
(iii) 21 years-30 years ( )

(iv) 31 years and above ( )

4. Tick the managerial level at which you are working:

i. Top Management ☐
ii. Middle-level Management ☐
iii. Supervisory level ☐

5. Your monthly income is _____
6. Have you gone through traditional training programme? - Yes/No
7. Have you undergone an e-learning programme? - Yes/No
8. Marital Status - Married/ Unmarried

PART-II

Each part of the questionnaire consists of a set of statements relevant to the research. You are requested to read each statement carefully and give your most appropriate response by giving a tick mark (√) on the five point rating scale.

I. E-Resources

Sl. No.	**Statements**	**Strongly Disagree (1)**	**Disagree (2)**	**Neither disagree nor Agree (3)**	**Agree (4)**	**Strongly Agree (5)**
1.	Most of the training programmes in the organization are computer based.					
2.	Most of the training programmes in the organization are web based.					
3.	Most of the training programmes in the organization are video-conferencing based.					
4.	Most of the training programmes in the organization are Gateway based.					
5.	Most of the training programmes in the organization are portal based.					

6.	E-learning materials are extensively used in the training programmes**.**					
7.	E-contents are used in the training programmes.					
8.	E-mail method is used to have interactions with the participants.					
9.	E-reports are given priority in the training programmes.					
10.	E-management games/ case studies/role playing are also used in the training programme.					
	II. Perception about e-learning					
11.	E-learning is cost effective for the organization.					
12.	It increases job related knowledge of the employees.					
13.	It is less time consuming.					
14.	It increases workforce capability.					
15.	It motivates the employee for active participation in the training programmes.					
16.	It involves optimum use of technology.					

17.	It is liked by all group of employees.					
18.	It helps in building team spirit in the organization**.**					
19.	It helps employees to focus on organizational goal.					
20.	It helps in removing job related communication barriers.					
	III. Administrative Support					
21.	Development and implementation of e-learning plan is fully integrated within organizations broader training programme**.**					
22.	Senior managers in my organizations are committed to implement the e-learning programmes**.**					
23.	Adequate infrastructures are available in the organization for implementation of e-learning programme.					
24.	Adequate financial supports are given by the management for effective – e-learning programme.					
25.	Required human resources are available in the organization for providing e-learning programmes.					
26.	Senior managers in the organization recognize value of e-learning in					

	building workforce capabilities.					
27.	An effective action plan has been prepared by the management for the effective implementation of e-learning programmes**.**					
28.	Advance technology has been used in the organization for e-learning programmes.					
29.	Management has linked proper career oriented incentives for attending e-learning programmes.					
30.	Employees are motivated for attending e-learning programme.					
	IV. Motivation for e-learning					
31.	E-learning motivates employees as it helps in acquiring job related knowledge.					
32.	E-learning motivates employees as it helps in acquiring job related skill.					
33.	It helps in getting promotion in the job.					
34.	Training experience is interesting.					
35.	E-learning motivates employees as it involves the participants during the training programme.					

	V. Contents of e-learning					
36.	Contents of the e-learning programmes are easy to understand than traditional teaching**.**					
37.	Contents of e-learning are designed as per the requirements of knowledge the job than traditional methods.					
38.	Contents of e-learning are designed as per the requirements of the skill relating to job than in the traditional method.					
39.	Contents are based on multimedia projections than traditional methods.					
40.	Designed of the contents are done by experts in the e-learning method than traditional.					
41.	Contents of e-learning contain illustrations and animations which are more interesting than the traditional method.					
42.	Contents in the e-learning are designed for rapid knowledge transfer than in the traditional method.					
43.	Contents in e-learning are delivered					

	by interdisciplinary trainers than in the traditional method.					
44.	There is a scope for continuous upgradation in the contents of e-learning than in the traditional method.					
	VI. Methods of e-learning					
45.	E-learning content delivery methods are multi-media based than traditional method.					
46.	E-learning content delivery methods are based on fast distribution dissemination of new information than in the traditional method.					
47.	E-learning method involves optimum use of technology than in the traditional method.					
48.	E-learning methods provide free choice of learning time to learners than in the traditional method.					
49.	Learning progress in e-learning method is tracked through appropriate methods than in the traditional method.					
	VII. Effectiveness of e-learning					
50.	E-learning methods are liked by all age group of employees.					

51.	It helps in building team spirit in the organization.					
52.	It helps the employees to focus on individual goals.					
53.	It helps the employees to focus on organizational goals and objectives.					
54.	It is mutually beneficial for the employees and the organization.					
55.	It helps improve employee's knowledge and skills.					
56.	It helps improve the performance of the different teams and departments.					
57.	It is cost effective for the organizations.					
58.	It helps in improving communication between the employees.					