

Computerised Information System: Concepts & Applications



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Following are his key achievements in the areas of research and administration:

- Chairman, Board of Studies Accountancy, University of Mumbai.
- Member, Academic Council, University of Mumbai.
- Chairman, Indian Accounting Association, Thane Branch.
- Member, First Court, Central University of Bihar (Nominee of MHRD)
- Member Board of Studies in Accountancy (2011-12 to 2022-23) & Financial Market (2013 to 2016), University of Mumbai.
- Member, BoS in Accountancy for many autonomous colleges of Mumbai.
- Received Samaj Ratna Award – 2018 from National Human Rights & Social Commission.
- Member, College Development Committee.
- District coordinator for last 7 years, DLLE (Extension Activity), University of Mumbai.
- NSS Programme Officer for 5 years at college level.
- Nominee, Joint Director, Higher Education for CAS and direct recruitment.
- Nominee of VC & Subject Expert, University of Mumbai for CAS, direct recruitment, MRP and LIC.
- Successfully guided: 10 Ph. Ds and 15 M. Phils in Commerce in the subject of Accountancy.
- Resource person to YASHDA and UGC – Academic Staff Colleges for Orientation and Refresher Courses.
- Life Member of Indian Commerce Association.
- Award received: Marquies Worlds Who's Who 2012
- Published many books, articles (Scopus) and presented papers at national and international level academic events.
- Having excellent command over rules and regulations of UGC, State Government and University.
- Selected through MPSC as a lecturer to Government Degree Colleges of Maharashtra State.

Preface

It gives in immense pleasure to put forth a book titled “**Computerised Information System: Concepts & Applications**” in the hands of the esteemed readers. The book covers various aspects of Computerized Information System which will immensely benefit to the undergraduate, post graduates and researchers the concepts of CIS, auditing under CIS environment auditing approaches and Auditing and Assurance Standard in CIS environment and applications in banking sectors.

Authors have tried level best to bring together the scattered literature in the field in a concise manner. The book is divided in six chapters which individually cover the various aspects of the issues involved in the study. The present book is an outcome of research study undertaken by authors in the field of audit under Computerized Information System.

The book will help the readers to understand the various approaches to conduct the audit under CIS Environment and manner in which the same can be used in other sectors. Suggestions and Recommendations can be used for several sectors.

Authors

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I wish to make a special mention of my parents, in-laws, husband, brothers and my daughters for their blessings, unconditional support, inspiration and motivation throughout my research.

I am extremely thankful to the learned authors of selected references, whose writings proved the base for this book. I am thankful to the respondents and bank managers for their patience and unconditional support and for responding honestly throughout the research.

I am also thankful to the management of Clara's College of Commerce, Shri Ajay Kaul, General Sectary , Principal and staff of my college, for providing all possible support during the period of my research work.

Above all, I owe it all to Almighty God for granting me the wisdom, health and strength to undertake this research task and enabling me to it completion.

Babita A. Kanojia

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CHAPTER - 1
INTRODUCTION AND RESEARCH DESIGN

1.1 INTRODUCTION

The invention of Information Technology has merely completed five decades, but it has covered the entire world. The use of IT in every walk of corporate life has transformed the way of corporate work. It has an effect on the organizations' Strength, Weakness, Opportunity and Threats (SWOT). IT assets today have become major and essential assets in an organisation. Use of IT has become crucial for the triumph and persistence of an organization. Business uses Information Technology as a strategic response to competition, globalization and pressure on margins. It has broken barriers of time, distance and speed. It has also changed the phases of business in today's competitive market. Dependence on IT is rising because it has the prospective to dramatically change organizational and business practises, thus creating new opportunities and reducing costs. It has an impact on business strategies, financial health and the way an organization functions. The effective and efficient management in IT is vital in the attainment of most organizations.

In today's technological development many organizations are mainly reliant on Computerised Evidence Scheme to bring out their commerce tasks and service transfer and to route, sustain and testimony critical evidence. The organisation operates and provides their services with the application of CIS. Computers are used for information processing, storage, retrieval and transmission. It is rarely possible to convey the required tests manually. Computer based tests and techniques are the solitary means to review and evaluate the computer grounded accounting evidence scheme.

In recent years, information technology over the world has been moving into operational areas. The practice of computer is mainly adopted at a large level in business and industries through the accounting department. It was accepted that the accounting department knows the most about important numerical database machines. By means of computerisation, all the activities of business accounting information are available as a derivative. Accounting Information System is no more a primary information system of the organisation. Use of information expertise has turned out to be so inescapable in many organizations that all the activities have been computerised and integrated using the Enterprise Resource Planning (ERP) System.

A few ages before auditors used to ignore Information Technology and conduct audit just about the computer. Auditors found that there was normally sufficient evidence to audit effectively without directly assessing the controls within the Accounting Information System. Organizations had redundant control over external information system that provided auditors with sufficient assurance that the system was functioning correctly. By the rise in complexity and integration of different system, the amount and frequency of not computerised evidence has been decreasing.

Audit and Accountancy have been revolutionized by computerisation. During the earlier stage of computerisation, batch processing methods were used so that the auditors were not bothered about processing of information and were treating computers as a black box, never bothering to see what was happening inside it. They were getting input and output statements, registers, ledgers accounts etc. and computers were used only to print them. The real power of computers was never understood or utilised. Even accountants and auditors are so overwhelmed today by the use of mainframes that sometimes we get to hear that the auditor has prepared quality audit reports.

It is mandatory for an auditor to perform tasks which until recently did not be existent or were not in the preview of the auditor. If the weaknesses could be controlled in manual environment, then corrective changes could have been easily formulated and suggested which a difficult task to do so. The part of an auditor is changing and a new profession called Information System Auditor (ISA) has emerged. Since, corrective measures for control weakness are difficult to implement, and auditor has to be involved with designing and development of Computerised Information System (CIS).

Auditing in a computerised atmosphere or a manual environment has the identical set of objectives. The computerised environment changes the tools and skills used for audit. Computer based tools and skills are required to enable the auditors to access, analyse and evaluate the data stored on the computers, since it is not possible to review or evaluate and handle the data manually or mechanically. Hence the present study assumes importance of **Computerised information System: Concepts & Applications**.

1. 2 COMPUTERISED INFORMATION SYSTEM

A Computer-based information system is an electronic data processing scheme; the computer plays an important role in this. Computerised Information System comprises of people, technology, facility, data and application. The business events are captured into the information system through technology and people, and processed through data and application to generate output. All these four resources are contained in the computer.

1.2. a Individualities of Computerised Information System:

All system works for pre arranged goals and the system is designed and established on several interconnected and interdependent subsystems or constituents.

- a. General system has a number of integrated and interdependent subsystems or components. No subsystem can function separately; it always hinges on extra subsystems for its input.
- b. Failure of single subsystem or constituent possibly will upshot in the failure of other subsystem because of the interrelations between the subsystems.
- c. Interaction between subsystems means how they work for each other. The fore most drive of interaction between subsystems is to attain the goalmouth of the system.
- d. Achievement of central goal of system is reliant on the work integration of each and every individual subsystem. Goal of entire system is more prior than the goal of individual subsystem.

Auditing in a CIS environment, commonly described as 'Auditing through the Computer', the auditor evaluates the internal controls relating to CIS and on this basis, determines the nature, judgement and amount of applicable procedures.

In conducting both the compliance and substantive procedures the auditor makes extensive use of computers. It is obvious that to adopt this style, the auditor using Computerized Information System needs more information or knowledge of the computers how to plan, direct, administers and analyse the work executed. Advanced skills are acquired by some pursuing specialised courses in computer auditing.

1.2. b Impact of CIS Environment:

The objectives and possibility of an audit does not alter in a CIS environment, only the use of a computer deviates the dispensation, storage, retrieval. Message of monetary data could disturb the accounting and inner control system engaged by the entity. Therefore, a CIS atmosphere may affect:

- The events shadowed by an auditor may affect in gaining a satisfactory consideration of the accounting and interior control systems.
- The auditor's assess the audit risk through evaluation of intrinsic danger and control danger.
- The audit objective computerised information system is based on auditors' strategy and performance of trials of control substantive procedures.

1.2. c Computerised Information System- Audit

Diverse ways of dispensation, recording and directing material has pooled countless previously disjoint utilities which are possible by computer facilities. The probable for material system error has thereby significantly enlarged initiating inordinate price to the organisation. Small errors in computer application may cause very high losses to an organization. For instance, a mistake in the design of income tax to be waged by personnel in a manual system will not occur in apiece case, but once a fault is announced in a computerised system, it will disturb each case. This brand it authoritative for the auditor to test the obscure methods and to detect the exposures in a computer information system, as through faults and indiscretions, the budgets tangled can be large. Processing of organization data has added new scope to the assessment and valuation of interior control to the audit that has increased by the use of computer. In any computerised control system the IT interior controls have great value and the vital chore for an auditor is to see that only tolerable controls occur, but they also makes contrast ration on to safeguard consequences and attain purposes.

Auditing in a computerised setting is not the same as traditional auditing. The IT has taken care of some of the operational risks but has introduced technological risks to the business. In order to define whether the CIS harvests judicious, precise, broad and consistent information outputs, as well as confirming discretion, truthfulness, convenience and dependability of data and observance to appropriate legal and regulatory condition, objectives of which is followed by CIS Audit in an organization:

- c) To understand the usage of information technology to improve its important business processes by glowing management capabilities.
- ci) To understand the pervasive effect of CIS on the organization and its importance in business processes and risks related to these processes.
- cii) To understand how the organization uses CIS for dispensation, storing and announcement of economic evidence and its effect on the interior governor systems and our consideration of inherent risk as well as control risk.
- ciii) To accomplish on the efficiency of control over the information technology processes that has a direct and important impact on the processing of financial information.

The computerised setting delivers rewards over physical scheme in relations of mathematics correctness and unchanging dispensation of dealings. But at the similar period it creates convinced tasks for the auditor in relations of audit jeopardy due to unusual nature and descriptions of Computerised Information System (CIS) environment, where potential for fraud is much more and can be more easily hidden in the digital data.

The entire aim and extent of an audit is unchanged in the CIS environment, nevertheless, the introduction of a computer in business changes the processing, storage, retrieval and message of monetary evidence and may disturb the book-keeping and interior regulator systems hired by an organizations. The approach and methodology to be adopted for the organizational audit in computerised environment is bound to be different and has to be correctly understood by an auditor. One must have a perceptive of the CIS environment and measure the inbuilt and control risk accordingly.

1.3 CONCEPTS & DEFINITIONS

1.3.1 AUDIT

Audit is a self-governing inspection of monetary evidence of any organization, whether business is profit making or not, and it is depends on its scope or lawful form, when such an scrutiny is steered with an opinion to articulating an belief thereon.

1.3.2 CAAT

Computer Assisted Audit Techniques (CAATs) are essential apparatus for the Information System auditor in execution of auditing. It includes numerous types of tackles and methods in information system, such as generalised audit software, effectiveness software, test data, application software outlining and plotting, and audit expert systems.

1.3.3 Audit Software

Audit software entails computer programmes applied by the auditor, as chunk of audit procedures data of audit connotation form of entities accounting system.

1.3.4 Audit Trail

It mentions to the capability to dash distinct dealings through a system form source to completion.

1.3.5 Operations information systems (OIS)

The Operation Information System is processed data generated and used in business operations.

1.3.6 Management Information Systems (MIS)

The Management information systems are computer based support systems to assist executives in making business decisions.

1.3.7 Electronic Data Interchange (EDI)

Electronic Data Interchange (EDI) is a technique used to communicate business transactions between computer systems of different companies and organizations.

1.3.8 Internal Control

It is a policy, procedure, practice and organizational structure intended to deliver a judicious pledge that commerce goals will be attained and that undesired events will be prohibited, detected or corrected.

1.3.9 Accounting Information System

It is a sub-set of the Management Information System. Its purpose is to collect, process and report information related to the financial aspect of the transaction.

1.3.10 Public Sector Banks

Public sector banks are banks where a majority stake (i.e. more than 50%) is detained by the government. The shares of these banks are listed on stock exchanges. The key purpose is to offer social welfare other than maximising profits.

1.3.11 Private Sector Banks

Private Sector Banks are those Banks where the management is controlled by Isolated folks and Government does not have any assert in the management of these banks. The primary aim is to maximise the profit.

1.3.12 Mumbai City

The Mumbai Cosmopolitan Province spreads over an area of 4355 sq. km and comprises of Municipal Corporations of Greater Mumbai, Thane, Kalyan, Navi Mumbai and Ulhasnagar. It has 15 municipal towns and 7 non-municipal urban centres. Mumbai has an unusual topography with a narrow wedge modeld terrestrial enclosed by liquids on three sides.

1.3.13 Comparative Study

Proportional learning is an investigation procedure in the communal disciplines that goal to make judgements cross ways dissimilar aspects.

1.4 GAP ANALYSIS

New communication system and digital technology have made dramatic changes in today's lifestyle and the means to transact in our daily business activities. Businessmen are introducer and user of computers to make, diffuse and stockpile data in electrical system as a replacement for of outmoded paper official papers. It is cheaper, stress-free to stockpile and protect data and also retrieve the date at the fastest rate. Although, people are coping with the benefits which the electronic form of business provides but after introduction of CIS people are unwilling to demeanour business or accomplish contract in the automated form due to absence of appropriate permissible agenda. Automated trade reduces need of paper grounded communications. The twofold principles require which stance in the mode of simplifying automated exchange and automatic authority are the necessities of inscription and moniker for legitimate acknowledgment. At extant many above-board provisions gives importance to the actuality of paper based archives and documents which should bear monograms. The Edict of Proof is conventionally entered upon paper-based histories and voiced testament.

With the passing of Information Technology Act 2000, electronic contracts have become valid contracts. The Reserve Bank of India is implementing India Financial Net (INFINET) which will work as the backbone for Electronic Fund Transfer and electronic commerce. Various Value Added Network Service Providers (VANSP) have come into existence in the last couple of years. Banks are setting up gateways for electronic commerce. All this has changed the scenario in India completely.

In an Information Technological environment, the organize components found in manual systems must still exist. Because of this, implementation of a computer affects the implementation of these components in several ways. Information Technology controls is cast-off to allay jeopardise linked with application systems and the IT environment.

Computerized information systems have distinct appearances, which necessitate different styles of gearshifts. Technological perils are meticulous by General IS controls and business hazards are organized using Application Controls. Even though the controls are poles apart, the intentions of the audit utility do not change whether information is maintained in the computerized environment or a labour-intensive setting; the tools and procedures are diverse.

Information Expertise also influences audit certification, reportage, work papers, etc. Auditing in a computerized environment that assimilates the skills and acquaintance of outdated auditing, info systems, professional and technological menaces and IT bearings auditing, audit planning, audit risk, audit tools and techniques, etc. Since uncovering of risks can now be meticulously done using computer supported tools and techniques, whole audit menaces can be measured and reduced.

The evolution and enlargement in the vicinity of gen expertise is rapid only when the auditors are watchful to such amplifications and take pre poignant action in progression their acquaintance they may come across obstacle in copying with such advancement.

1.5 OBJECTIVES OF THE STUDY

The present study is carried out with the following specific objectives in Public and Private Banks:

1. To understand the concept of Computerised Information System
2. To understand the concept of Computerised Information System audit
3. To study the approaches of CIS audit
4. To study impact of CIS on audit process
5. To find the impact of CIS environment on True and Fair view of financial statement
6. To find out the factor responsible for audit under CIS environment
7. To study ICAI provisions on CIS- audit.

1.6 PROBLEMS OF THE STUDY

With the above discussion in light, researcher has selected and made an attempt of examining meticulously and critically the conduction of “**A Comparative Study of Audit under Computerized Information System in Public Banks and Private Banks of Mumbai City**”. The researcher has formulated the following problems:

1. As CIS-Audit requires proper documentation and training which is a cause of concern in today’s banking arena.
2. The financial constraint plays a key hindrance in deciding CIS audit approach.
3. As CIS requires high internal controls which are not possible without manual audit process in banking sector.
4. CIS- audit provides True and Fair view only when Accounting Software System is symmetric and accurate in banking sector.
5. The centralization of accounting functions in the hands of few persons may lead to certain issues in banking sector.
6. ICAI Provides proper provisions for the functioning of the applications of CIS- audit but it is not yet accepted throughout due to certain internal issues in the banking sector.

1.7 HYPOTHESES OF THE STUDY

In order to study the problems and fulfilment of objectives of study following hypotheses are formulated and tested during the course of study.

1. CIS audit significantly affected by the documentation and training in the banking sector.
2. Application of CIS Audit is significantly affected by the financial constraints in the banking sector.
3. The internal controls in a CIS system significantly depend on the same principles as those in the case of manual system.
4. Poor working knowledge of EDP implementation significantly affects the status of true and fair view.
5. There is a significant difference between centralization and decentralization of accounting functions taking place in the banking sector.

6. The efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector

1.8 SCOPE OF THE STUDY

The present study works in following scales:

- i. Studied recent difficulties in application of CIS audit.
- ii. Studied incorporation of CIS audit process provides “True and Fair view on financial statements.
- iii. Studied and analyzed existing techniques for implementation of CIS audit in an organization.
- iv. Studied review of literature in concerned area.
- v. Studied and analyzed the impact of CIS audit in different areas in an organization.
- vi. Studied training and development programme undertaken by an organization to make an effective and efficient audit.
- vii. Studied the accounting and core control systems posh by the CIS environment.
- viii. Studied the significance and intricacy of the CIS audit and it’s the handiness of documents for practice in the audit.

1.9 RESEARCH METHODOLOGY OF THE STUDY

Research Design is the theoretical structure within which research is conducted. Research Design indicates the sapphire design of the collection, depth and examination of data. The design includes an outline of what the researcher plans and frames research work. It explains how samples are selected, sample size determined, how statistics is poised and which statistical methods are used for data analysis.”

Quantitative research approach is being used for the study as a quantitative research enables the researcher to examine association and difference among the variable. In order to carry out research effectively, data is collected from primary sources and secondary sources. The learning is centred on exploratory and descriptive research aimed at finding a solution for the stated problems with the help of formulated hypotheses based on techniques availability.

1.9.1 Sampling

1.9.1.a. Universe of the study

The learning refuges the listed Public and Private Sector Banks of India

Table: 1.9.1.a (1)
List of Public and Private Banks

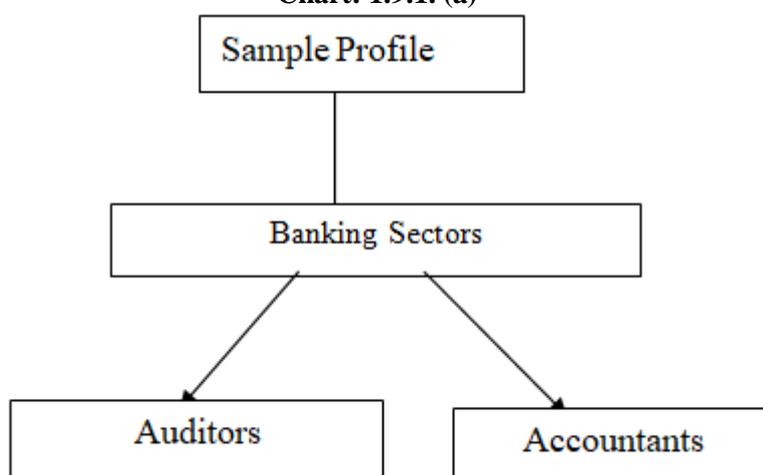
Sr. No	Public Banks	Head Office	Sr. No	Private Banks	Head Office
1	Allahabad Bank	Kolkata	1	Axis Bank	Mumbai
2	Andhra Bank	Hyderabad	2	Bandhan Bank	Mumbai
3	Bank of Baroda	Mumbai	3	Catholic Syrian Bank	Thrissur
4	Bank of India	Mumbai	4	City Union Bank	Tamilnadu
5	Bank of Maharashtra	Mumbai	5	DCB Bank	Maharashtra
6	Canara Bank	Bangalore	6	Dhanlaxmi Bank	Thrissur
7	Central Bank of India	Mumbai	7	Federal Bank	Mumbai
8	Corporation Bank	Mangalore	8	HDFC Bank	Mumbai
9	Dena Bank	Mumbai	9	ICICI Bank	Mumbai
10	Indian Bank	Chennai	10	IDFC Bank	Mumbai
11	Indian Overseas Bank	Chennai	11	IndusInd Bank	Mumbai
12	IDBI Bank	Mumbai	12	Jammu and Kashmir Bank	Srinagar
13	Oriental Bank of Commerce	Gurugram	13	Karnataka Bank	Mangalore
14	Punjab and Sindh	Delhi	14	Karur Vysya Bank	Karur

	Bank				
15	Punjab National Bank	Punjab	15	Kotak Mahindra Bank	Mumbai
16	State Bank of India	Mumbai	16	Lakshmi Vilas Bank	Chennai
17	Syndicate Bank	Manipal	17	Nainital Bank	Uttarakhand
18	UCO Bank	Kolkata	18	RBL Bank	Mumbai
19	Union Bank of India	Mumbai	19	South Indian Bank	Thrissur
20	United Bank of India	Kolkata	20	Tamilnad Mercantile Bank	Tamil Nadu
21	Vijaya Bank	Bengaluru	21	YES Bank	Mumbai

Stratified Sampling

The universe is earliest alienated into a number of echelons or groups. Then from each group certain numbers of items are taken on random basis. The researcher has taken two states Stratified sample to make study more meaningful and exact view about the application of CIS- audit in Banking Sector.

Chart: 1.9.1. (a)



1.9.1.(b) Sample Size of the study

To assess a quality of the study, time limitation, the Universe mentioned above is not possible for a researcher to shelter altogether the banks. Hence, in order to frame the Research Methodology for this research study researcher has approached all the universe of Public Sector Banks (21 Banks as on 31/03/2015) and Private Sector Banks (21 Banks as on 31/03/2015) of Mumbai region and randomly researcher has identified 13 Public Sector Banks ($13/21 * 100 = 61.90$) and 10 Private Sector Banks ($10/21 * 100 = 47.61$) as a respondent.

Researcher approached to Inspection and Audit department of each bank and identified Auditor and Accountant is the key respondent for the study. Accordingly, researcher dropped 30 blank questionnaires in each bank and received satisfactory response from the Mumbai City.

Table: 1.9.1.a. (2) : List of Universe and Sample of the study

Sr. No	Public Banks			Sr. No	Private Banks		
	Universe	Sample	No of Respondent from each branches		Universe	Sample	No of Respondent from each branches
1	Allahabad Bank	Allahabad Bank	13	1	Axis Bank	Axis Bank	18
2	Andhra Bank	Andhra Bank	---	2	Bandhan Bank	Bandhan Bank	---

3	Bank of Baroda	Bank of Baroda	12	3	Catholic Syrian Bank	Catholic Syrian Bank	---
4	Bank of India	Bank of India	10	4	City Union Bank	City Union Bank	---
5	Bank of Maharashtra	Bank of Maharashtra	9	5	DCB Bank	DCB Bank	22
6	Canara Bank	Canara Bank	12	6	Dhanlaxmi Bank	Dhanlaxmi Bank	---
7	Central Bank of India	Central Bank of India	16	7	Federal Bank	Federal Bank	17
8	Corporation Bank	Corporation Bank	---	8	HDFC Bank	HDFC Bank	16
9	Dena Bank	Dena Bank	14	9	ICICI Bank	ICICI Bank	18
10	Indian Bank	Indian Bank	10	10	IDFC Bank		---
11	Indian Overseas Bank	Indian Overseas Bank	---	11	IndusInd Bank	IndusInd Bank	26
12	IDBI Bank	IDBI Bank	17	12	Jammu and Kashmir Bank	Jammu and Kashmir Bank	---
13	Oriental Bank of Commerce	Oriental Bank of Commerce	---	13	Karnataka Bank	Karnataka Bank	---
14	Punjab and Sindh Bank	Punjab and Sindh Bank	---	14	Karur Vysya Bank	Karur Vysya Bank	---
15	Punjab National Bank	Punjab National Bank	13	15	Kotak Mahindra Bank	Kotak Mahindra Bank	19
16	State Bank of India	State Bank of India	20	16	Lakshmi Vilas Bank	Lakshmi Vilas Bank	---
17	Syndicate Bank	Syndicate Bank	---	17	Nainital Bank	Nainital Bank	---
18	UCO Bank	UCO Bank	---	18	RBL Bank	RBL Bank	---
19	Union Bank of India	Union Bank of India	11	19	South Indian Bank	South Indian Bank	---
20	United Bank of India	United Bank of India	---	20	Tamilnad Mercantile Bank	Tamilnad Mercantile Bank	---
21	Vijaya Bank	Vijaya Bank	---	21	YES Bank	YES Bank	17
				22	Standard Chartered Bank	Standard Chartered Bank	15
Total No. of Respondents = 325			157				168

1.9.2 Reference Period of the study

For the purpose of literature review International and national literatures are considered. For the drive of the learning, the researcher has collected the data from the selected areas for the four consecutive years viz. 2014-2015, 2015-2016, and 2016-2017.

1.9.3 Techniques / Sources of data collection

The fulfilment of the intentions set forward for the learning has called for data collection from different sources. Hence the researcher has taken acquaintance of amassing the facts through primary as well as secondary source enlightened as under:

a. Primary data

The study requires thorough data about the application of a Computerised Information System on audit. Hence, the researcher decided to collect such information from primary data. To collect such evidence is further time consuming, but it is expected to vintage a more truthful result than a study constructed on secondary data. There are mainly five ways to assemble primary data namely by observation of behaviour, by self introspection, by e-mail and survey. As the researcher wanted to ask the accountant and auditor regarding awareness about CIS audit system, emergence of application of CIS audit system, understanding of behaviour of accountant and auditor to the conventional system of auditing, understanding the auditing provision laid down by ICAI, and factor heartrending the eminence of and it under CIS environment.

Hence, the survey method was selected for assembling the statistics through close and open-ended questionnaire. Seeking the information from the respondents was time consuming and it is complicated to understand the anxiety level and the syndrome in the behaviour of respondents. The researcher wanted to analyze the view point and opinion of accountant and auditor towards the implementation of Computerised Information System under Audit and hence the researcher has prepared one separate questionnaire to recognize the outlook of respondents.

Questionnaire Method

The researcher has prepared one set of questionnaire for Accountant and Auditor for collecting data for the present study. Questionnaire was of structured and non-disguised type. To develop a list of items for framing a questionnaire view of existing literature on related study was undertaken. The opinion poll was pre-tested with 100 respondents including service sector. Thereafter changes were made to the questionnaire with specific reference to wording, sequence and language with reference to stated objectives, problems and hypothesis.

Utmost precautions were taken to make the questionnaire simple and easy to understand, so that the respondents would not find any difficulty in answering questions. Optimal care was taken in working each question to avoid biased responses. The questionnaire was as per order of objective, problems and hypothesis. The respondents are asked to bounce their estimation on option basis of five point Likert scale regarding different characteristics related to the CIS audit implementation. The codes were as follows:

- 1- Strongly Disagree
- 2- Disagree
- 3- Neutral
- 4- Agree
- 5- Strongly Agree

And

1. Yes
2. No

As the respondents are from Mumbai city only, so it was possible to distribute the questionnaire personally and the same were collected as per the convenience.

b. Secondary Data

Issues and challenges before management, accountant and auditor in implementation of CIS audit system. Auditing provision laid down by ICAI, factor affecting the implementation of CIS environment in audit process and view of respondents on different aspects by Secondary data. The secondary source of data collection is based on websites, company reports, audit manuals, books and newspapers.

1.9.4 Statistical Analysis

Statistical analysis of data can be defined as the act of transformed with the aim of extracting useful information and facilitating conclusion. Depending upon the types of statistical methods of chosen. Statistical Analysis is classified as descriptive analysis and inferential analysis. Collected data are being processed by editing, coding and classification. Processed data are tabulated and presented with suitable graphs and tables.

1.9.4.1 Descriptive Analysis

This part of the learning is habitually dedicated on substantiating main purposes of the study. Researcher has used arithmetic tools like mean, median, mode, standard deviation and graphs for analysis of data.

1.9.4.2 Inferential Analysis

Inferential analysis is targeted at simplifying the fallouts attained from the mock up which was drawn for the study purpose. In the present study researcher used this analysis for hypothesis testing. For testing the hypothesis or test of significance, following tests are preformed.

- i) **Wilcoxon Signed test** used to equate binary sets of slashes that come from the same contributors
- ii) **Kolmogorov-Smirnov** test for two independent samples at 95% confidence level
- iii) **'t' test** for one tail test at 5% level of significance the table value is denoted by t. 05v.

For the purpose of analysis, researcher used statistical package SPSS version 2.1. In addition to this, excel add –in Mega Stat is also used.

1.10. SIGNIFICANCE OF THE STUDY

With swiftly progressing technology and a more globalized ethos, the standing of Information Systems has become overriding. The application of Information Systems has made a vast impact on the Banking sector. The business procedures in the Banking sector have been gradually reliant on the Computerized Information Systems over the years. It has now become dreadful to distinct Information Technology from the business of the banking sector. There is a need for engrossed devotion of the matters of the trade ascendancy of the information systems in computerized environment and the security controls to safeguard information and information systems. The enlargements in Information Technology have a remarkable way on auditing. Well-planned and regulated audit is indispensable for menace administration and observing and rheostat Information systems in any organization.

An increasing range of IT vulnerabilities and threats have to be excellently and resourcefully managed. As a magnitude, the concealment, veracity, accessibility and steadfastness of computerised data and of the systems that practice, retain and testimony these data are a foremost imported area of audit. IT auditors gauge the efficacy and proficiency of IT controls in information systems and related manoeuvres to ensure that they are operating as intended.

The variations in resistor and audit gears as well as performances have occasioned in innovative strategies of audit. The inside wheels are plotted onto the technology. These gearshifts and their plotting need to be tacit as also devices to evaluate and test these controls. The auditor must cram new assistances to work effectually in a computerized system.

The auditor should follow a sympathetic of the complication of the data system and also how the data system environment influences the valuation of intrinsic and rheostat hazards decreased humanoid involvement in management connections administered by Computer Information Systems. It can shrink the potential for detecting errors and irregularities. Inaccuracies or indiscretions be falling throughout the enterprise or modification of presentation programs or systems software can endure unnoticed for extensive epochs of time.

The study has focused on the problems, accounting system, audit software and core control system applied by the bank and effect of CIS audit on different aspect of the bank. It helped the researcher to find the solution of the stated problems and hypothesis based on the problems.

Thus, the present study focused on other aspects also such as

- i. It helps in understanding the concept of Computerised Information System audit.
- ii. It helps to know tools and techniques applied in CIS audit procedure followed in banking sector.
- iii. It helps to find accounting and auditing systems used by an organization.
- iv. It helps to understand the accounting and interior regulator systems affected by the CIS environment.
- v. It helps to understand the consequence and intricacy of computer dispensation in CIS audit process.
- vi. It helps to understand the provision lead by ICAI.
- vii. It helps to study the different approaches of CIS audit.

1.11 LIMITATIONS OF THE STUDY

The researcher has set up the following limitations:

- i) Primary data relevant for the study may be much depending upon the co-operation of respondents.
- ii) Respondents' opinion can be biased, which cannot be ruled cost.
- iii) The sample of the study lacks fair representation of the universe.
- iv) The study also consists of secondary source of data. It may be collected through website, journals, books or any other.
- v) The survey was based on convenience sampling and size of the sample was only 325 which are not adequate.
- vi) The geographical limitations for the primary data collection are limited to Mumbai City only.

CHAPTER - 2
REVIEW OF LITERATURE

2.1 INTRODUCTION

With the rapid advancement in Information Technology, most of entities whether large scale or small scale, is increasingly using information system for data processing and maintain accounting records. Extensive use of IT affects the organizational control, flow of documents and manner of information processing. IT system plays a vital part in the dispensation of accounting transactions. A great number of entities have switched over to computerized accounting. Under an EDP environment, the approach and techniques of auditing may change but the auditing principles remain restraint. This sophistication of IT based accounting systems has increased excessive application of Computerized Information System. It may lead to great challenges to the external auditors. Hence the auditor need computer based accounting system knowledge. An auditor should not neglect single sight of auditing principles.

The study focused on objective, problems and hypothesis. The researcher has explored following reviews on the concern area. Basically, the researcher has intended to review available literature pertaining to following aspects:

1. To provide concept of Computerized Information System
2. To provide the concept of Computerized Information System – Audit
3. To provide the available approaches
4. To study the impact of CIS environment on True and Fair view of financial statement
5. To provide factor responsible for audit under CIS environment
6. To provide the ICAI provisions on CIS- audit

The focus of literature review is

1. With the evolution of time the traditional era passed by and the manual work was converted into digital form.
2. The manual work of banks was done by using computers.
3. With the evolvment of IT, task of maintaining documentation became easy.
4. The accounting standards, rules and regulations remained same, but work with evolution of IT became easy.

2.2 BACKGROUND OF CIS APPLICATION IN ACCOUNTING SYSTEM

The application of CIS audit is gaining demand in today's market. The name and fame of Computerized-audit competency is acquiring importance in worldwide market. It helps an auditor to judge the complexity of the records in simple way.

Basically this popularity of CIS application in business organization is contribution of experts and researchers who felt the need of computerized world in business organization, its efficiency, demand, effectiveness in the accounting system. It is contribution of those personnel who realized the need of audit under Computerized Information System. Subsequent are roughly of the review undertaken by researcher in their study with different sources.

Fadzil (2005) sated that the first operational business computer was implemented in accounting and auditing in 1954. General electric is attributed for the initial functioning electric accounting system.

Hunton and Wright (2009) concurred that Information Technology Auditing (IT auditing) has begun as Electronic Data Process (EDP) auditing. They focused on the demand of IT in accounting systems, require for IT control and inspiration of computers on the capability to accomplish substantiation services. During this time only mainframe computers were used and a few of qualified people had backings and amenities to design such computers. They stated that mid-1960s was the founder introductuctor of new, minor and less expensive machines. It led to increase in excessive application of a computer in businesses organization and also increased the auditor concern about EDP concepts in business audit processor.

Naveen Kumar has summarized the study of Abdulah, Al-Fehaid and Andrew Higson about the concept and application of CIS environment in audit. The authors explained that both developed and developing countries are in great demand of CIS environment. They explained the implication of CIS in an entity.

The focus of literature review is

1. Task of auditor becomes very easy with the help of CIS environment.
2. Complexity of records is done in a simple way.
3. As everything cannot be ended physically so this need was recognized by the experts that evolution of CIS system is needed.
4. CIS environment has great impact on an entity.

2.3 INFORMATION SYSTEM USAGES IN BANKING SECTOR

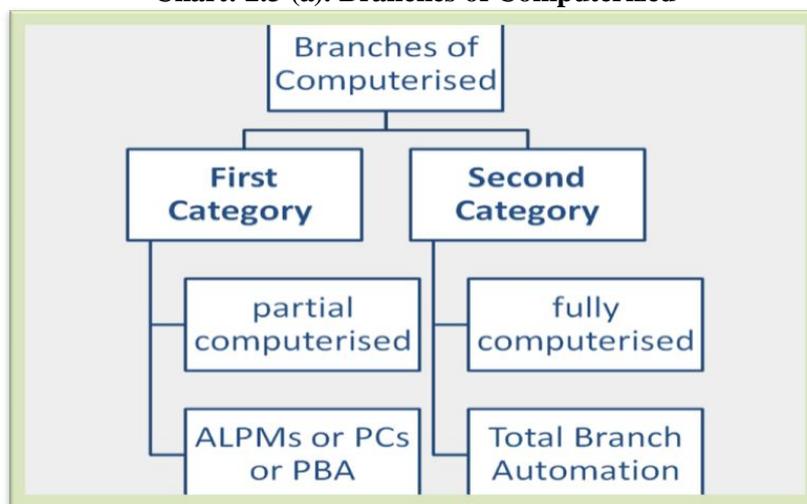
IT application has a great emphasis on Service Sector whether it is Banking, Insurance, Medical, Telecommunication and Trade and Transport. Information System plays an important role in providing services. It aids to preserve their financial records for the stakeholder.

1. A.M. Rawani and M.P. Gupta (2002) have made an endeavour in their study based on role of Information Systems in Banks. They have indicated that Information System play a crucial role in Banking Sector. Study enclosed contribution of Information System in banks and the structure of stance of practical persons in growth and upkeep of Information System. They also focused on the Information System role played in Public, Private and Foreign Sector banks. They also suggested that Information System played a sympathetic part in Public Sector Banks and a tactical role in Private and Overseas Sector Banks.
2. Shyam Ramadhyani (2006) had focus in the study “Audit of Banks operating in a Computerized Information Systems Environment” related to problems arising in audit process. Author emphasized that the solicitation of Information System change the processing, storage, retrieval and communiqué of fiscal information. It affects the bookkeeping and inner control systems of an organization. Author pointed out that the possible for human errors in application of CIS may be superior to in physical systems, due to several levels of detail intrinsic in these deeds. The application of CIS audit would provide us general understanding of Information Systems in bank, managing authentication of users, access control, data security, data integrity, audit logs, testing, accounting accesses, data exodus, web and RDBMS security, business continuity and catastrophe salvage strategies, horseback riding, identification of transaction for sustentative inspection, use of reports generated by system and documentation.
3. K.S. Rajashekara (2004), interpreted on “The application of IT in Banking” in which author had explain about the impact analysis of IT on banking. Author suggested that the impact analysis is difficult due to several factors live convenience, speed and risk. With the support of IT, bank antedate decrease in operating costs through restructuring back office dispensation and abolition of error while physical participation of facts. Banks can mature and instrument erudite risk, information administration system and techniques with more powerful data storage and analysis technologies.
4. Vasant Godse (2005), acknowledged different tasked perform by IT in banking sector. Banks tackled the massive task of re-orienting their expertise setup towards such collaborating conclusion support and data gathering tools, much different from business processing and final bookkeeping. The impact of technology could be on affiliation with information technology benefactors, organizational aspects, banker-customer relationship, control and managerial aspects, new perceptions and processes, which help in further of attainment modest advantage.
5. Harmeen K. Soch and H.S.Sandhu (2003) highlighted that impression of IT on banking was so deep-seated that it would be a crucial contributing factor of triumph or miscarriage in the industry, a key determinant of whether banks as a perceptible alliance endure to exist, and a key determinant of the disparity between contenders in pecuniary amenities. Simple ownership of refined IT would not pledge triumph in forthcoming. The capability to apply IT effectively, i.e. to increase revenues by tumbling

costs or adding value, will be the key. Banks that choose to use IT deliberately would be elongated term heirs of the Information revolution.

6. ICAI has stated that under computerised environment system the auditor duty is not endorse computerised management system. He has to understand that in business entities operational activities are inter-connected through computers and central computerised management system is functional in an organization. As accounting information is generated by every department, it is the obligation of auditor to verify reliability status of information. The quality of audit depends on proficiency of auditor, system and procedure followed by an entity. It has noticed by ICAI that CIS environment will affect the basic quality of auditing. It has significant effect on technique of proof gathering and estimation of quality of audit report.
7. Kamal Gupta has focused on the implication of audit under CIS environment. Author explained that IT will lead to increase capacity by reducing the computer cost. According to author approximately every organisation followed the integrated accounting system i.e. Enterprise Resource Planning (ERP) system.
8. S.K Basu emphasized on the significance of Audit in CIS Environment. According to author technology is the single means to generate financial information quickly which helps accounting and auditing profession in numerous ways. The author was strongly in favor of computerized scheme. It is the best system of safeguarding client's records, control over data processing process and operation techniques.
9. Shubham S., Amit S. Sanket D. and Ashok Thube, had expounded on the relation between internal control and audit. They concluded that the CIS introduction will lead to several changes in audit process and maintaining internal control is equally important for success of audit under CIS.
10. ICISA study indicated that the Government entities are highly dependent on CIS to move out their trade transaction accurately and timely. The study showed that auditor ought to analyse effectiveness and efficiency of IT controls in CIS environment.
11. Atul Khurana has stated that Reserve Bank has taken initiative to computerize the banking to rally patron service, book keeping MIS and productivity. As per author every branch is connected with Core Banking Solutions (CBS). It helps to maintain a central database and update in the central server online which leads to maintaining True and Fair View in financial statement. Author had explained that the RBI has implanted computerization in branches of banks with introduction of various computerized system such as Ledger Posting Machines (LPMs) and Advance Ledger Posting Machines (ALPMs). The Branches of Computerized system are as follows:

Chart: 2.3 (a). Branches of Computerized



The total computerized branch includes Standalone Computerized Branch. The transactions take place in server at branch level and at end of day it is consolidated and sent to Regional/ Head office for further consolidation.

APPRAISAL

Researcher while carrying out review of writings in the range of evidence schemes practice in banking sector, from the above review of literature, researcher has noted out the following key observation(s):

1. Information System played vital role in providing services and maintaining financial records.
2. Information System also played major role in Public Banks, Private Bank and Foreign Banks.
3. Information System has changed the processing, storage, retrieval and communiqué of fiscal information.
4. It has created an impact factor on accounting and inner regulator systems.
5. Information System helped in providing competitive advantage in respect to anything and everything.
6. Banks that elect to use IT cleverly would verify to gain elongated term heirs of the Information revolution of contemporary era.
7. Competency skill of auditor is an important element to undersand software system and reliabilty of the system. Quality of audit is depend on the system used by an entities.
8. Implementation of digitalisation in accounting and auditing process would help an orgnisation to increase productivity by reducing the cost of digitalization.
9. CIS environment system will lead to safegurad the information with several available controlling techniques.
10. CIS Application in audit and accounting system leads to several changes between internal control and audit system.
11. Automatic transfer of data to system leads to improper documentation under computerised system.
12. Private as well as Government organization both are in need to improve quality of audit which can be effortlessly conceivable with the practice of CIS audit process.
13. It shows that with the growth of CIS, member who are difficult in auditing of banks impose to train themselves with IT knowledge to encounter new experiments and adopt a diverse tactic and procedure for bank audit under CIS environment The auditors need to be highly expert. They have to test the accuracy of output with appropriate methodology.

Hence from the above study it is unblemished that Audit under CIS Environment is a demand of every entity. The usages of CIS vary from one period to another and business to business. Training and development program has to be provided to staffs in order to face challenges and issues under digital era. Traditional audit process is completely based on physical evidence which is not seen in computerized system therefore to bring the authenticity in present research researcher has formulated following objective, problem and hypothesis.

Objective 1: To understand the concept of Computerised Information System audit.

Problem 1: As CIS-Audit requires proper documentation and training which is a cause of concern in today's banking arena.

Hypothesis 1: CIS audit significantly affected by the documentation and training in the banking sector.

Therefore the researcher has justified linkages between title, objective, problem and hypothesis of the study. The effort taken on review of literature is worthwhile.

2.4 INTERNAL CONTROL SYSTEM APPLICABLE IN CIS AUDIT

12. Jones and Young (2006) point out that EDP auditor established the Electronic Data Processing Auditors Association (EDPAA). The ambition of association is to harvest procedures, procedures and standards for EDP audits. The first edition was published in 1977. Later on this publication known as Control Objectives for information and related Technology (CobiT). It is bunch of commonly accepted IT control objectives for IT Auditors. In 1994, EDPAA converted to Information Systems Audit and

Control Association (ISACA). With the change in technology from the microcomputer to networking and networking to the internet led to drastically change in IT auditing.

13. Jackson (2005) recommended that pleasing complete trials for protective financial information frequently supports business organization to overtake peripheral audits with confident audit opinions. Peripheral audits may be referred by stakeholder concerned with an organization to invest capital into an organization. An organization may also need to extant Factual and Open-minded audit report to government agencies regarding their financial and accounting practices. This required aptitude to present a stout inner rheostat process and audit imprints relating to accounting software.
14. A.Rafiq (2003) strained on purposes of CIS Audit including apposite controls to be instigated in IT while planned and foreseen by the high-ranking management. CIS Audit was expected to provide reasonable assurance to the management that appropriate controls are designed and implemented in Information Systems supported by Information Technology. CIS Audit involved confirming latitude of audit, categorizing associated principles, accomplish explicit errands and implement audit as per audit levels. CIS auditor covered following areas in IS audit of banking sector:
 - a. Implementation audit
 - b. Environment and physical access controls review
 - c. Logical access controls review
 - d. IS operations review
 - e. SDLC control review
 - f. Business continuity planning review
 - g. Application controls and Data security review
 - h. IT security review
 - i. IT policies review
 - j. Certification of vendor software and IT Training
15. **Diane Janvrin, James Bierstaker and D. Jordan Lowe** have introduced in their study about PCAOB Auditing Standard 5. It provides increased emphasis on examining the effectiveness of an organization internal control system over financial reporting. Authors emphasized that this standard help auditors to inspect the extent of IT in year-end financial reporting process. They also study the Regulatory standards and its codification in excess implementation in an organization and related risks. It may inspire the use of computer-related audit procedures (AICPA 2001, 2002a, 2002b, 2002c).

Hence Auditors are projected to gain a considerate client systems and business methods by probing the following aspects:

- a. Significant dealings backup the client's financial statements
 - b. Procedures used to begin, record, process, and report transactions
 - c. Means by which client's systems capture events and conditions (other than transactions), and
 - d. Processes used to prepare client financial statements (AICPA 2001, AU 319.49-51)
16. (Alkadi, 2010) focused on how Essential Examiners for central examination rheostat in Syria to evaluate internal control. Auditor stated that development of internal controlling system in auditing profession is because of application of inner control Assessment Portal under financial reports as a substitute to financial statement. It helps to identify errors and fraud in the financial statement.

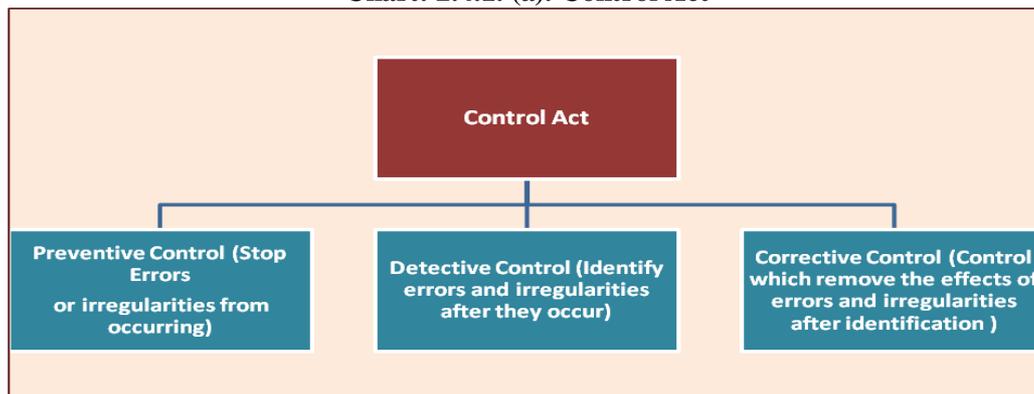
2.4.1 Internal Control for Auditor Competency:

17. S. Anantha Sayana stated that Application Software is applicable in the processes business transactions. It could be a payroll system, a retail banking system, an inventory system, and a billing system or a

united ERP (Enterprise Resource Planning) system. It helps in understanding data with orientation to their commercial setting. Every concern has its own application software. It has distinct rules and regulation related to the concern. Hence, it is essential to auditor to have appropriate knowledge and intelligence regarding the application software applied in particular organization.

18. Kunkel (2004) ensured that EDP systems execution at many organizations has led to amplified audit jeopardy due to mechanical interdependencies among business procedures, and incorporated relational database. With the technological developments in accounting software direct auditors to upgrade knowledge and competency concern with CIS audit processor. The auditors should extend their technological acquaintance and skills with the intention of implement effectively and efficiently in audit functions.
19. S. Sridharan (1990) believed that “EDP affects the auditor not only in his acquisition a sympathetic of the accounting system, but also in his understanding of the related interval controls. The auditor need not be a computer expert but should have reasonable computer knowledge to judge and analysis EDP controls.
20. Jagdish Pathak (2005) has demonstrated the influence of technology junction on inner control apparatus of an organization. It is an imperative responsibility of an auditor to know security dangers faced by financial or entire organizational information system. The author specified contemporary auditor as a multifaceted, trained, scaled and eclectically educated person. Since most of the skilled audit organizations anticipate auditors to possess skills in both the system either conformist aspects of financial systems or in the eclectic compass of acquaintance related to the Information Technology and Management, Safekeeping and Forensics, Sociology, and Professional judgment.
21. Atul Khurana had focus that in the fast growing technology era auditor needs to recognize approach and methodology under CIS. Internal controls and accounting systems are integrated in IT. It is vital in the digital era which is not apparent as a manual system.
22. CA Pankaj has focused the possessions of a control and plan needed to formulate control act, to prevent, detect or correct errors. **The auditor should focus on following Control Act:**

Chart: 2.4.1. (a). Control Act



The author also stated while evaluating reliability of accounting and inner control system, the auditor should reflect whether CIS system provides followings:

- a. Availability of legal, accurate and wide-ranging data for processing.
- b. Opportune discovery and alteration of errors.
- c. Existence of data recovery arrangement and backup system.
- d. Passable statistics refuge contrary to fire and other catastrophes, erroneous processing etc
- e. Prevention of unauthorized amendments to the program.
- f. Provision for offsite processing in the incident of tragedy.

- g. Harmless guardianship of cradle cipher of application software and data files.
- h. Precision and wholeness of harvest.
- i. Prevention of loss of data while disruption of the work due to supremacy, mechanical or processing miscarriage.

2.4.2 Internal Control for CIS Environment:

23. Kamal Gupta (2005) has indicated the auditor’s concerns regarding internal controls system. Author stated that the financial auditor should have controls in CIS environment that affords realistic oath on auditing procedure. Author suggested that the reasonable assurance can be achieved with following controls in CIS environment:

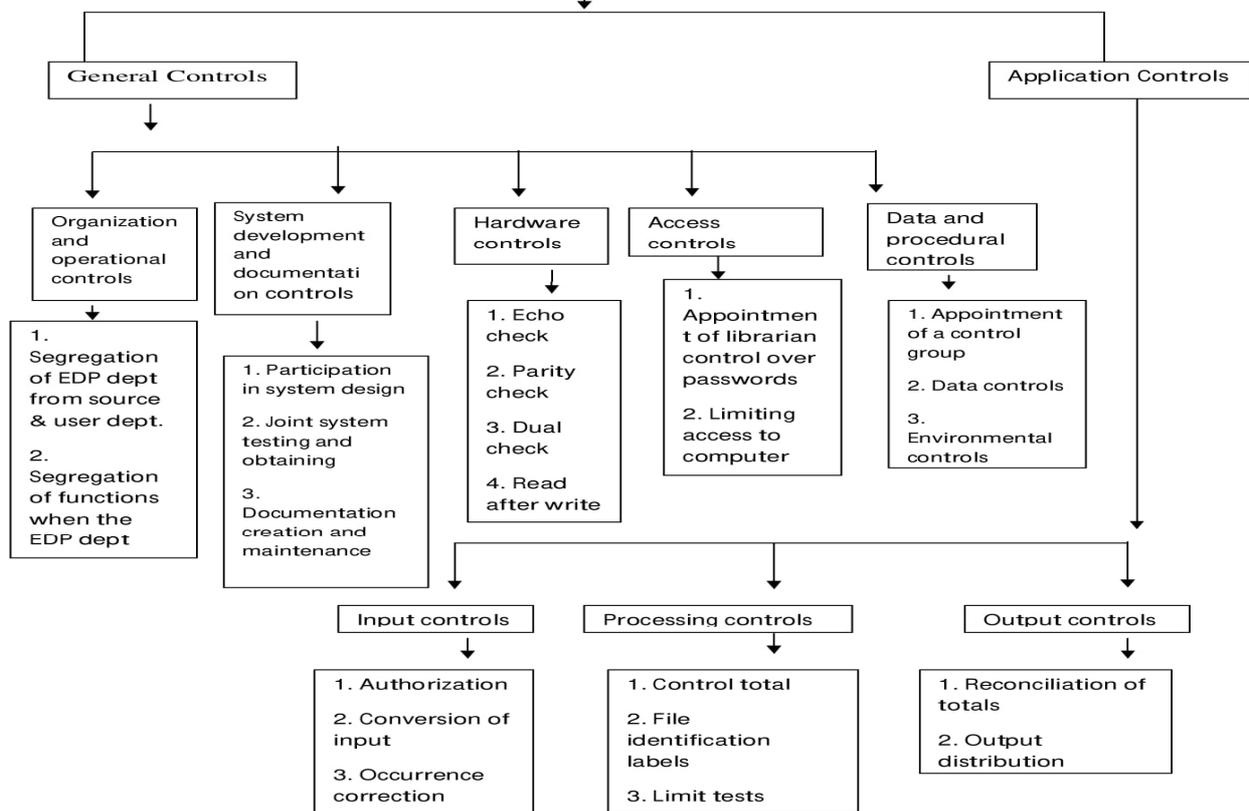
- a. Authenticity
- b. Accuracy
- c. Completeness
- d. Non-redundancy
- e. Asset safeguarding
- f. Presence of Audit Trail

Further many of the authors have recommended that audit control procedures are classified into:

- a. General CIS control
- b. Special or CIS application control

24. Aruna Jha explained the internal control system with following chat. She had covered all the aspect of CIS environment needs to consider in audit process.

Chart: 2.4.2 (a): Types of Internal Control in CIS Environment
 TYPES OF INTERNAL CONTROL IN CIS ENVIRONMENT



General CIS control

1. ICAI has mentioned that General CIS control related to overall control over CIS activities. Basically in this controlling system auditor need to concern about each and every element of audit procedures. It is basic control which requires to be present there in both the audit whether it is manual or computerized audit procedure. It is comprises of the following aspects:

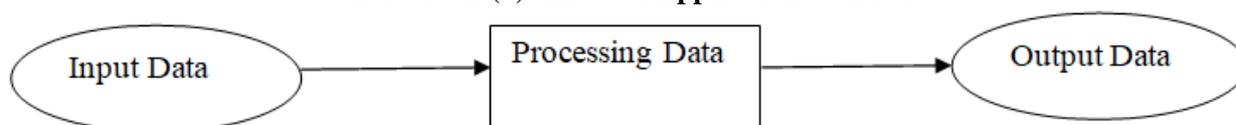
Table: 2.4.2 (i): Parameters of General Controls

Parameters of General Controls	Areas/ Aspect to be Control
Organizational Controls	Systems Analyst, Programmer, Computer Operators, Librarian
System Development and Documentation Controls	Development, testing and parallel running, program changes, documentation of the system software
Access Controls	Authorized user
Hardware Controls	Diagnostic check, parity check, dual read and read-after write, echo check
Procedural Controls for file Retention and Protection	Backup and recovery procedures, environmental controls

Special or CIS Application Control:

As general controls influence the overall CIS audit environment and CIS applications. Besides these controls some aspect has to be design to operate appropriate controls over the CIS application. The CIS application comprises of three areas as follows:

Chart: 2.4.2 (b): Areas of Application Control



25. Kamal Gupta has noted that at each stage of CIS application there is various terminal and server. Hence need to study and evaluate the controls at each of these stages. The auditor should understand the audit trail. Proper audit track can be maintained electronically by retaining appropriate data regarding various transactions. Accomplishment of appropriate audit trail is depending on the CIS application. Hence the following aspect has to be taken into consideration:

Table: 2.4.2 (ii): Stages of CIS Application

STAGES OF CIS APPLICATION		
Input Data (Authorization, entirety and correctness of input data)	Processing Data (Properly proceeding of transactions, absence of duplication of recording, detection and prevention of errors immediately)	Output Data (Results of processing accurate, restricted to authorized personnel)
Authorization for Processing: Authorization of input documents like transfer of funds or route slip	File Labels: It helps in accurate processing. Incorrect accounts or older versions can create invalid output and wastage of time and effort. Hence file labels provides accuracy by using external and internal labels. It must be readable form.	Accurate Results: Auditor should examine whether audit trail relating to output captures the output, authorized personnel. Accurate and completeness output depends on accuracy and completeness of input and processing of data.
Batch Numbering: Serial number on related transmittal or route slips eg. sale invoices, cash receipt etc.	Run –to – Run Controls: It is applicable where more than one computer run, the control totals during each entry and agreed with input totals in the computer file.	
Pre-Processing Review: review for completeness and correctness of data before feeding into computer.		

Batch Stamping : Stamping on documents after feeding of data		
Batch Control Tools: Obtaining assurance about the completeness of the input through batch control totals are record counts, financial batch totals and hash totals.		
Check Digit: To protect against the transposition or transcription errors.		
Edit Tests: Edit test comprises of validity test, format tests, completeness test and range tests		

26. Author focused on the most common input controls are edit controls. Following elements are included:²⁹

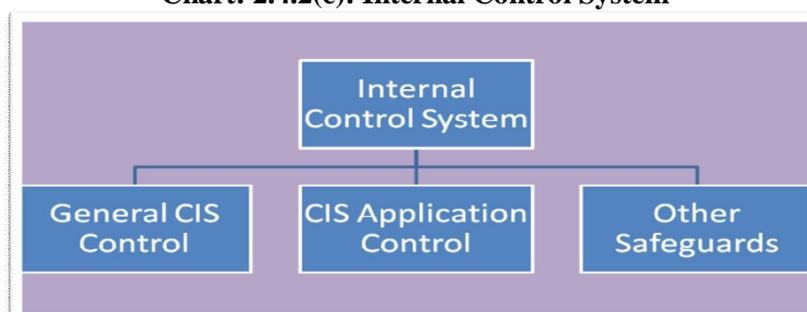
Table: 2.4.2 (iii): Types of Edit Controls

Types of Edit Controls	Description of Control	Objective
Missing field checks	Checks that all essential data entered are present and are of the right length.	Ensures accuracy of the processed data. Without data, transactions cannot be processed further.
Valid character checks	Checks that data entered should be as per the system available e.g. combination of character, numerical or mixed.	Ensures accuracy of input data
Limit checks	Checks that data falls within encoded reasonability limits. For instance time limit i.e. 5 hours.	Ensures correctness and validity of recorded information
Master file checks	Checks that all codes match those on master files for instance employee's number matches an employee number on the personnel file.	Ensuring accuracy of data by checking keystroke errors
Checks digit	Applies an arithmetic operation to the code number and compares the result to the check digit.	Ensures that all documents are input.
Document count	Agrees the number of input records in a batch with the total on the batch control form.	

27. CA Pankaj Garg has explained that internal control consists of both accounting controls and administrative control. The primary role of internal control is that transaction processed is complete, valid and accurate.

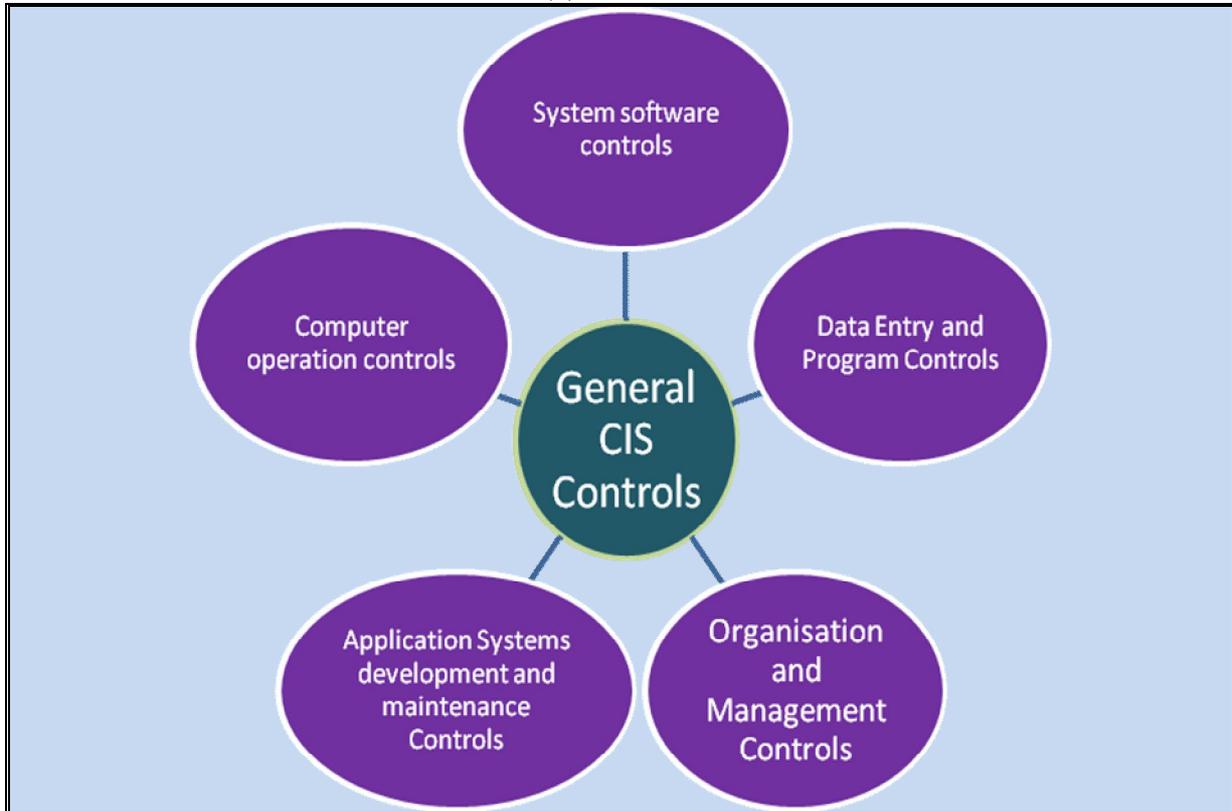
The Internal controls in computer based system are as followed:

Chart: 2.4.2(c): Internal Control System



General CIS Control: It helps to establish framework of largely control over the CIS activities and to provide a realistic level of comfort that the overall objectives of internal control are achieved. General CIS control further consists of the following important controls:

Chart: 2.4.2 (d): General CIS Control



CIS Application Control

It helps to establish the explicit control measures over accounting applications to provide sensible pledge that all connections are official and recorded and are processed completely, accurately and timely. Application control consists of the followings:

Table: 2.4.2 (iv): Application Control

Control over input	Controls over processing and computer data files	Controls over output
Authorising of transaction Accurate conversion of transaction Control over omission, duplication and completion of transaction Reconciliation of transaction has to be done timely	System generated transaction has to be appropriately performed by the computer Processing errors should be identified and rectified immediately	Accurate result Access to output restricted to authority Transfer of data on time.

Other safeguards: The following areas of controls are essential, along with general and application controls system:

1. Official Back up of data and computer programmes
2. Recovery measures for use in the occurrence of burglary, loss, intentional or accidental destruction
3. Provision for offsite processing in case of disaster

CA Pankaj G had also focused on Control to be evaluated by auditor in CIS audit:

Organisation structure and controls: Verify errands of apiece Job locus in relation with CIS function and certify that employee understands the duties, authority and responsibilities. Separation of duties in order to achieved internal control.

Documentation controls: Adequate documentation for approval of system, any changes has to be authorized.

Assess controls: System denies accessibility to unauthorized assesses.

Input controls: Only properly authorized and approved data should be inserted.

Processing controls: Processing validation checks should be applied

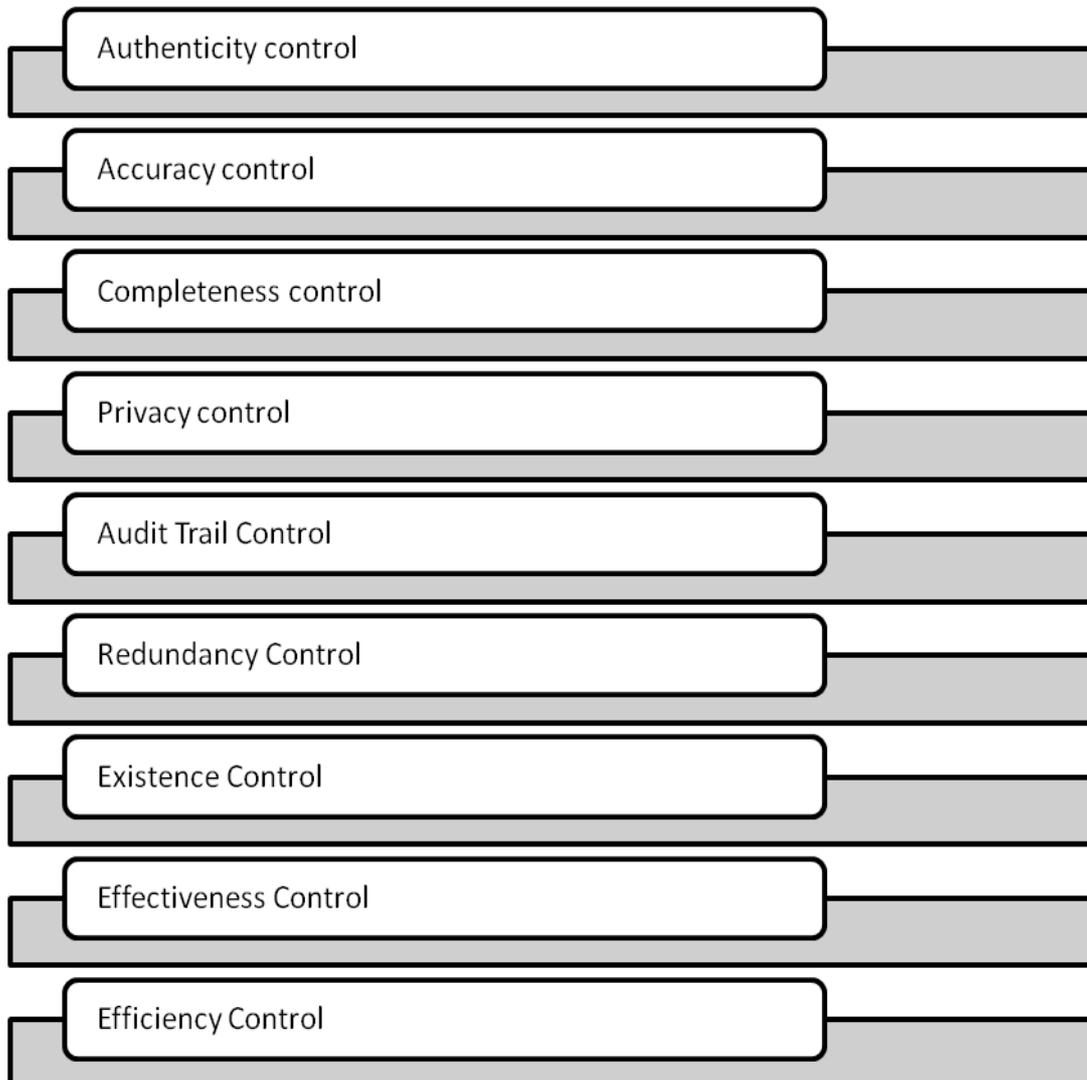
Recording controls: The records to be kept free of errors.

Storage controls: Examination backup and revival services to ensure the proper data availability to the management.

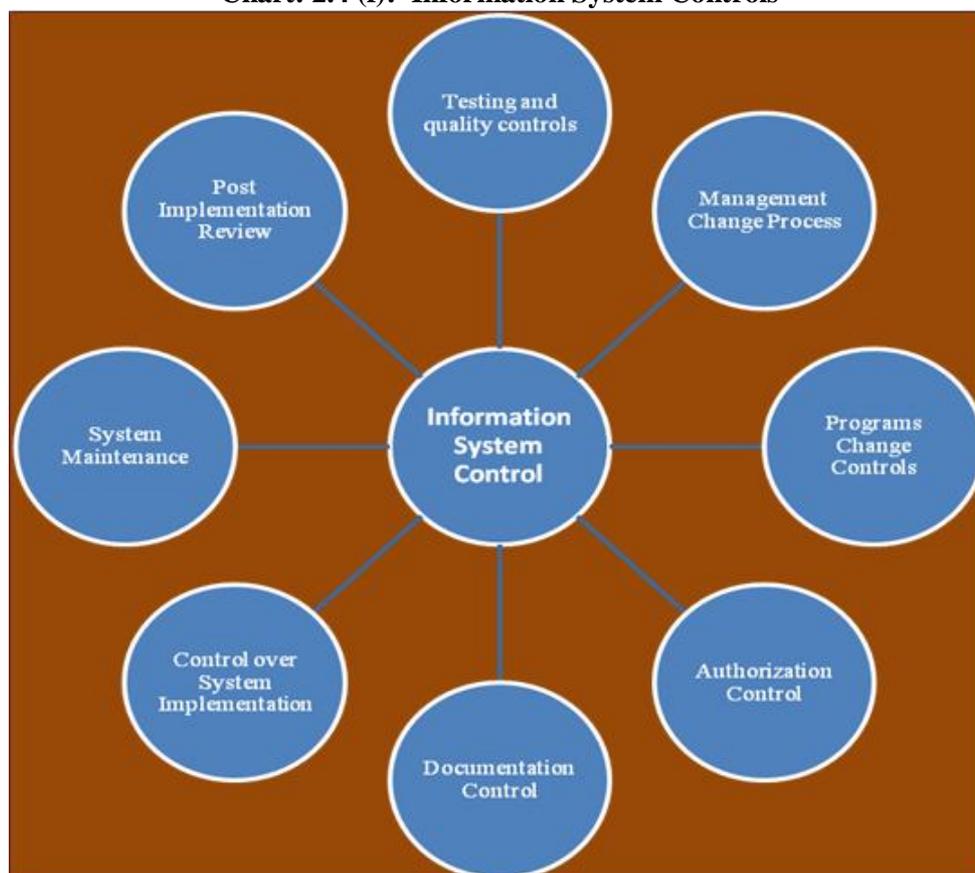
Output controls: Examine the audit track related to availability of outcome.

Following are the major clauses of controls to be evaluated:

Chart: 2.4.2 (e): Major Controls to be Evaluated



28.CA Devang Dalal and CA Amit Tated had explain the significance of information system control on several levels such as :

Chart: 2.4 (f): Information System Controls

According to authors, “Information System Auditing” is the process of attesting objectives that focus on asset safeguarding and data integrity, and management objectives that includes achieved objective, effectiveness and efficiency objectives.

Strong controlled environment due to the information system security is an essential obligatory for any types of business organization for externally and internally. Several factors are responsible for influencing the controlling system of business entities. Such as:

Table: 2.4.2 (v): Factors responsible for influencing the Controlling System

Sr. No	Factors	Impact / Reasons
1	Organisational cost of data lost	Affects the ability to adapt and survive in a changing environment
2	Incorrect Decision Making	Accurate data requires for quality decision making
3	Costs of computer abuse	Leads to destruction of system
4	Value of Computer system and personnel	A realistic impact on its infrastructure and business competitiveness
5	Maintenance of privacy	Maintaining data in the system is an essential
6	Controlled evolution of computer use	Due to complex computer system it is complicated to evaluate the system.
7	System effectiveness & efficiency objectives	It can be identified only with the use auditing characteristics and objectives of the system.

Internal control is required for Computerized Audit System and manual audit process. Following are the areas of internal control:

1. Record maintenance
2. Access to assets and records

3. Management control and review
4. Isolation of duties
5. Workforce
6. Authorization Procedures

They also suggested the following interrelated components to maintain internal control in an organization which are as follows:

1. Control environment
2. Information and Communication
3. Risk Assessment
4. Monitoring
5. Control Activities

Auditor Competency is essential to understand the Changes to evidence collection and evidence evaluation.

29. Aruna Jha said Internal Control Questionnaire (ICQ) and Internal Control Evaluation (ICE) both are essential for an organization. Auditor concluded that control check list in ICE is more than a summary of key control factor and is no substitute for ICQ. Author had explained Internal Control System under CIS Environment. Author explained the different Internal Control System required for smooth function of audit under CIS audit.
30. R.C. Bhatia quantified that the inner rheostat is required for several purposes under CIS system such as control over administration, computer operators, development system etc. Such Control is very much essential in CIS audit process to complete it on time and without any errors and frauds.

APPRAISAL

Researcher while carrying out review of literature in the vicinity of high internal controls in CIS environment, from the above review of literature, researcher has noted out the following key observation(s):

1. EDP auditor established the Electronic Data Processing Auditors Association (EDPAA).
2. The association is said to draft strategy, procedures and principles for EDP audits.
3. With the alteration in technology form microcomputer to networking and networking to internet led to change in IT auditing.
4. PCAOB Auditing Standard 5 provides increased importance on examining the effectiveness of an organizations' inner control system over monetary reporting.
5. Application Software is applied in the processes commerce connections because this help in understanding business context.
6. EDP system has led to enlarged audit risk as this leads to an automatic interdependency among business processes.
7. In order to avoid risk, auditors should develop their technological skills and relationship in order to perform efficiently.
8. If the software's are being used to make work easy it is duty of an auditor to realize security dangers that could be faced by financial department or entire organization.
9. The auditor must comprehend the system of management; security level and he should be able to use his professional judgment.
10. The auditor should have intense awareness about available approaches under CIS and they should have in position to identify level of relation between internal control and accounting systems.

11. The level of reliability of accounting and internal control system is based on preventive, detective and corrective control.
12. Financial assessor should to have proper control over CIS environment.
13. Few factors are described in order to maintain control over CIS environment.
14. Audit control procedures are classified into:
 - a. General CIS control
 - b. Special or CIS application control
15. Proper audit trail is to be maintained electronically by retaining appropriate data.
16. Internal Control System is vital to achieve objective of audit under CIS Environment. Every controlling system contributes in the achievement of accurate and authentic audit process.
17. Several factors are responsible for improper controlling in the CIS environment such as organisational cost, decision making process, cost to technology, maintenance of privacy, level controlled on evaluation of computer use. Understanding of evaluation system must be known by the auditor.
18. ICQ and ICE are equally important for an organization but to control check list of ICE is more than ICQ.
19. Administrative, operational and development control are essential to compete on time without any errors and frauds.

Hence from the above study it is understood that internal control system is an essential requirement for banking sector at same time dependence on manual system is hidden aspect under CIS environment. Therefore to bring the genuineness to present research, researcher has framed the following objective, problem and hypothesis.

Objective 3: To study impact of CIS on audit process.

Problem 3: As CIS requires high internal controls which are not possible without manual audit process in banking sector.

Hypothesis 3: The internal controls in a CIS system significantly depend on the same principles as those in the case of manual system.

Therefore the researcher has justified linkages between title, objective, problem and hypothesis of the study. The efforts taken on review of literature are worthwhile

2.5 DISPARITY BETWEEN AUDIT UNDER CIS ENVIRONMENT AND AUDIT UNDER MANUAL SYSTEM

31. Jelali (2006) stated that IT application in financial reporting and processing requires additional concern and IT control as compare to manual audit processor.
32. Kamal Gupta (2005) had discussed about the approaches of computer auditing are 'auditing around the computer' or 'the black box approach' and other is 'auditing through the computer'. Author stated that auditing around the computer was used in initial stages when an auditor was inefficient in computerized system. This system was relatively in the same track as manual audit system. The disparity between manual and computerized system was under manual audit process auditor had to examine hand written books of account and in computerized system he had to concern with computer printout.

Author has stated that the CIS audit process is more correct and trustworthy in terms of errors and frauds in manual system. According to him there are several aspects of audit under computerized information system which is different from manual audit.

33. Peterson et al (1996) stated four propositions emerge regarding the impact of computers on accounting Systems. He focused four important collision of computers on accounting Systems:

1. The preliminary impact of computers is indirect. Their primary impact is to strengthen the manual accounts, which organizations continue provide platform to rely upon.
2. Computers promote effectiveness reforms by changing procedures, rather than efficiency reforms by accelerating the through out of data with existing procedures.
3. Computers do not initially promote document processing but initially do improve data processing.
4. Computers do promote elementary analysis.

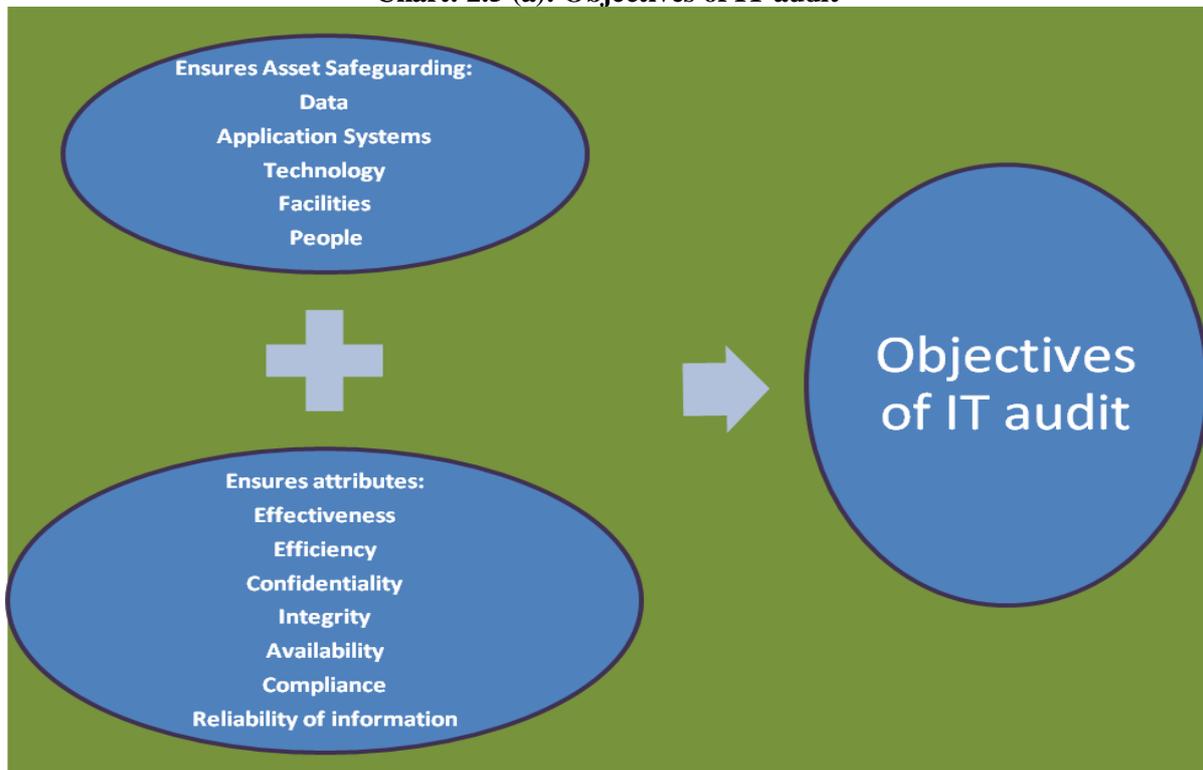
Both examiners and accountants are using modern digital for fraud detecting and preventing. The internal auditor may change ways for examiners to conduct investigations this may affect external auditor to conduct investigation fairly. In such situation an auditor need to expert in computerized versions. He should analysis risk based on neural, networks and any other.

34. Joseph F. Brazel had said that many times auditors find themselves working in the midst of an ever changing workplace, with computerized method changes. Most difficult aspects are application of computerized techniques like digital scrutiny, electronic evidence collection, data mining, and computer forensics. In reality, computer based fraud recognition involves a surfeit of different technologies, methodologies, and aims. Some techniques require a strong background in computer science or statistics, while others require understanding of data mining techniques and query languages.

In such case author's experience, as discussions about computer based fraud detection techniques in most accounting circles are revolve around the use of Benford's Law to discover false invoices or other fraudulent amounts in corporate databases. Analysis of data against Benford's distribution is useful, but it is only one of many computer based fraud detection techniques. It should be used by professionals.

35. Sarens and De Beelde (2006) have conducted their study in two subsidiaries of US companies. They concluded that there is lack of internal control and risk factor in management system. They introduced some recommendations for improving internal control system as an integral valuable part of the assurance role. It is also observed there is a lack of efficient and effective professional standards in CIS audit processor.

Chart: 2.5 (a): Objectives of IT audit



The objectives of IT audit consist of assessment and evaluation of processes which are as follows:

a) Ensures asset safeguard

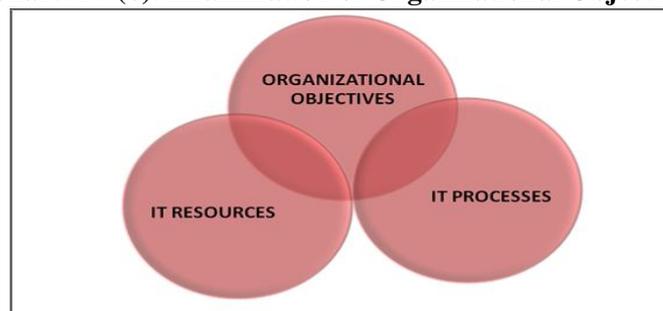
1. **Data:** Data objects include external and internal, structured and non structured, graphics, sound, system documentation etc.
2. **Application Systems:** The sum of manual and programmed procedures is known as Application System
3. **Technology:** Technology includes hardware, operating systems, database management systems, networking, multimedia, etc.
4. **Facilities:** It covers resources to abode and sustain information systems, supplies etc.
5. **People:** It is human efforts such as Staff skills and proficiency, vigilance to plan, organize, acquire, deliver, support and monitor information systems and services.

(b) Seven attributes of data or information are as follow:

1. **Effectiveness** –It deals with information significant and relatable to the business procedure as well as existence delivered in a timely, correct, consistent and usable manner. Effectiveness deals with System effectiveness. It helps in evaluating whether the IT system meets the overall objectives of top management and users or not.
2. **Efficiency** – mainly focused on provision of information through the optimal (most productive and economical) usage of resources. It also deals with system efficiency. Efficient system means use optimum resources to achieve the stated objectives.
3. **Confidentiality** – focused on protection of sensitive information from not permitted disclosure.
4. **Integrity** –it is related with the exactitude and extensiveness of information as well as to its validity in accord with the business' set of values and expectations.
5. **Availability** – it deals with information being available as when required. It also focused on the safeguarding of resources.
6. **Compliance** – it is concern with complying with those laws, regulations and contractual arrangements to which the business process. It is essential that systems need to operate within the sphere of rules, regulations and/or conditions of the organization. It is responsibility of the IT Auditor to make out that the work practices are in tune with the laws of the land such as the IT Act promulgated by the Government of India.
7. **Reliability of Information** – it deals to systems providing management with appropriate information. It is use in operating the entity and providing information to the financial user of an entry. It helps in providing information for reporting to the regulatory bodies regarding compliance with laws and regulations.

Under digitalised environment IT plays a major role. Hence the effectiveness of IT audit is essential. IT Audit is all about examining whether the IT processes and IT Resources combine together to reach at the intended objectives of the organization. It helps to ensure Effectiveness, Efficiency and Economy in its operations while complying with the extant rules. This can be depicted diagrammatically as follows:

Chart: 2.5(b): Examination of Organizational Objectives



36. Atul Khurana has explained that audit under CIS environment differs from physical system in term of reckoning exactness and unbroken processing of transaction. Author also stated that due to adoption of computerized system auditor has to understand audit risk which leads to increase the potential of hidden frauds in the digital data. As CIS audit does not make any difference in the complete objective and possibility of an audit but it may affect stipulations of changes in the processing, storage, retrieval and communiqué of financial information and may disturb the accountings and inner control systems hired by the bank.

The author has explained that audit trails present in computer are for short time or readable form only. Several accounting entries are logically in built in the system hence an error in a system cannot be detected by manual procedures. As computer system has uniform processing instructions but it may not be possible to give same instructions to all transaction as manual audit process. As in manual audit system procedures can be performed by different individuals which is not possible in computer system hence it may be irreconcilable.

The authenticity of generated report is constructed on the extent of the accuracy, correctness and completeness of the reports is based on other dependence control system. Sometimes due to wrong or faulty logic, inaccurate functionality or manual intervention by bank staff before handing over the report to auditor.

37. CA Pankaj Garg had explained that though CIS has several positive sign but still there is disparity shown in CIS audit process and manual audit process. The following are the aspect where CIS audit system not match with manual audit system:

Separation of duties: Not possible in CIS audit process.

Delegation of authority and responsibility: Due to use of resources by multiple users, it becomes difficult to delegate authority and responsibility in the precise manner. It may not be possible to trace the person making unauthorized changes in it.

Competent and trust-worthy persons: It is difficult to find and retain competent and trustworthy personnel to take charge of their CIS set up.

System of authorization: As against the manual system, automation of the authorization procedure is an important feature of CIS system. Many changes take place automatically.

Adequate documents and records: As the data processing assets and records are concentrated at a place, the risk of loss and unauthorized access is high.

Physical control over assets and records: Centralization of processing and recording leads to high risk.

Adequate management supervision: Supervision can be taken place remotely:

Comparing records with physical assets: Unauthorized transaction program or data files, difficult to allocate the physical existence of documents.

It was stated by CA Pankaj G. that collection and evaluation of audit evidences is very much needed. According to author collecting evidence on the reliability of computer system with reference to manual system is more complex for which author had given following reasons.

- 1) Manual system does not consist of several diverse and complex range of internal control as in computer system.
- 2) Huge and rapid developments in IT sector.
- 3) Cryptographic (Encoding and decoding of data) controls to protect the privacy of data.
- 4) Collection of audit evidence through manual is not possible.

With above limitation auditors have to perform with computer system. Such system also cannot be reliable if there is lack of information. Similarly, he stated that it is problematic to evaluate the evidences in CIS Environment. He had given the following reason for that:

- A. Increasing complexity of computer system and control technology.
- B. Access of single input data by multiple user lead to inappropriate understanding.
- C. Consequence of errors in a processor system is a serious matter as errors in computer system tend to be deterministic, i.e. an invalid program will always perform data inaccurately.
- D. Errors are generated at high speed. The efforts to correct and transform program may leads to high cost.

Based on this above points author focused that the requirement of internal controls and ensure high quality computer system should be design implemented and operated upon. The auditor must safeguard that these controls are tolerable to uphold monies preservation data integrity; system efficacy and system competence and those they are in situation and operational.

38. ICAI had highlighted the following difference between manual audit process and CIS audit process.

Lack of transaction trails: increases the risk of auditor as errors embedded in an application's program logic may be difficult to detect on a regular basis by manual procedures.

Elimination of clerical errors: normally related with manual processing. But programming or other systematic errors may arise.

Lack of segregation of function: many control procedures that would ordinarily be performed by separate individuals in manual system may become concentrated in a CIS environment. Thus, an individual who has access to computer programs, processing or data may be in a position to perform incompatible function.

Potential for errors and irregularities: dormant for hominoid fault in the expansion, conservation and accomplishment of CIS may be superior then in traditional system.

Automatic execution of transactions: CIS may help the capability to execute certain types of transactions automatically which is not possible under manual system.

Dependence of other control over computer processing: computer may produce reports and other output that are used in performing manual control procedures.

39. In the articles on Auditing in CIS environment published by CA in club India, the authors have informed that due restraint of audit follow in CIS environment, CIS lacks manual prudence. The CIS of an organisation can only be effective if it has reasonable level of audit facilities. The authors had suggested that during the auditing the auditor can use certain manual methods due to several issues under CIS. Such as:

- a. Lack of segregation of functions: Many control procedures that would ordinarily be performed by separate individuals in manual systems may be concentrated in CIS. Thus, an individual who has access to computer programs, processing or data may be in a position to perform incompatible functions.
- b. Potential for errors and irregularities: The latent for hominoid fault in the growth, upkeep and implementation of CIS may be bigger than in blue-collar systems, moderately because of the level of detail inherent in these activities. Also, the potential for individuals to gain unauthorized access to data or to alter data without visible evidence may be greater in CIS than in manual systems.

In addition, diminished human participation in handling dealings administered by CIS can reduce the potential for observing errors and irregularities. Mistakes or indiscretions occurring during the strategy or modification of application programs or systems software can remain unnoticed for long eras of time.

- c. Initiation or execution of the transactions: CIS may include the competence to recruit or cause the accomplishment of certain types of transaction, automatically. The authorization of these transactions or procedures may not be documented in the same way as those in a manual system. Management's authorization of these transactions may be implicit in its acceptance of the CIS design and subsequent modification.
- d. Dependence of other controls over computer processing: Computer present reports and other output that are used in performing manual control procedures. The effectiveness of these manual control procedures

can be dependent on the efficacy of controls over the wholeness and exactitude of computer processing. In other terms, the effectiveness and consistent operation of transaction processing controls in computer applications is often dependent upon efficiency of general CIS controls.

- e. Potential for increased management supervision: CIS can offer management a variety of analytical tools to review and supervise the operations of the entity. The availability of these additional control system leads to enhance the entire internal control structure.
 - f. Potential for the implement of Computer-Assisted Audit Techniques (GAATs): GAATs help in processing and analyzing of large quantities of data by applying general and specialised computer audit techniques and tools in the execution of audit tests.
 - g. As compare to manual audit system, CIS audit system has a greater impact on the auditor's assessment of risk, nature, judgement and degree of audit procedures.
40. The study indicates that shifting from manual to computerized leads to several changes in the audit process. Such changes may affect accounting and auditing procedure in several ways. The authors stated the following changes:

A. Primary Changes

- a. **Process of recording transaction:** The procedure recording transaction from basic document to prime book and finally to principal book is not seen under CIS environment as in manual audit system. Under CIS environment there is aromatic transfer of data in to several system as per the demand of business.
- b. **Form of accounting records:** Digitalization in audit process rejects most of the primary records. The use of certain electronic data is equally important in CIS audit process.
- c. **Use of loose-leaf stationeries :** Manual system was bounded hand written records which are replaced loose-leaf machine records in electronic form such as magnetic tapes, floppy disks, printout etc. such records need to prevent from destruction or substitution.
- d. **Absence of line between transactions:** Unlike manual system there is completely absence of cross-reference between the basic documents and transaction. This creates distinctive problems for the auditors to hint the transaction which may create doubt about audit trails.
- e. **Use of accounting code:** Alpha-numeric codes are available in CIS environment. It helps to symbolize names and description about the transaction. The user needs to familiarize with such coding which not required in manual audit process.

Recent Change: The rapid change in IT field leads to major challenges for an auditor. The auditor has to upgrade their competency skills to coup with the new invention in IT sectors. Due to development of IT field the numerous recent changes has taken place. The auditors have to understand such while discharging their duties and responsibility.

41. Kamal Gupta has stated that CIS Audit differs from a manual system in different ways such as absence of input documents, lack of visible transactions trail, lack of visible output, ease of access of data and programs. Along with basic differences, several statutory differences also available such as design and procedural aspects which are as followed:
- i. **Consistency of performance:** more than manual due to exact programmed setup.
 - ii. **Programmed control procedures:** due to inbuilt software system in CIS environment helps in total control in audit procedures. Hence high control in audit programmed maintained accuracy and hidden audit trails.
 - iii. **Single Transaction updates multiple files:** CIS system create multiple files with single entry of transaction. This system ensures that all relevant records are kept up-to-date. All the transactions automatically transfer to concern head without being evidence by visible input documents.

- iv. **Vulnerability data and program storages media:** CIS system provides storage benefit higher than manual audit system. But to the some extent it is also possible that computer virus may affect the storage system under CIS.
- v. **Non-redundancy:** CIS system do not consist redundancy as in manual system. There is lack of visible process of cancellation of data, control of financial transaction, count of enter etc.
- vi. **Asset Safeguarding:** Usually all the resources of the computer systems are protected with password or locked from destruction and sleaze.
- vii. **Lack of Audit Trails:** With the lack of audit trail all the accounting transaction is maintain.
 - a) **Lack of transaction trails.** Some CIS are designed so that a complete transaction trail that is useful for audit purposes might exist for only a petite period of time or only in computer readable form. Where a complex application system performs a large number of processing step, there may not be a comprehensive trajectory. Accordingly, errors embedded in an application's program logic may be difficult to detect regularly by manual (user) procedures.
 - b) **Uniform processing of transactions.** Computer processing homogeneously procedures like dealings with the same processing instructions. Thus, the clerical errors ordinarily associated with manual processing are virtually eliminated. On the contrary, programming errors will ordinarily result in all transactions being processed incorrectly.
- 42. The author said the concept and objectives of auditing are same in both CIS audit process and manual audit process but some of the dissimilarities are as follows:
 - a) Due to complexity of accounting system lot of expertise and time is required as compared to manual system.
 - b) Lack of audit trails in complex system under CIS environment. Specially obtaining supporting evidence under electronic system.
 - c) Internal control system is based on accounting system followed by entities. Such as manual system requires high control separation of duties and responsibility while CIS requires high control on authorization, procedures, password file protection device and application control.
 - d) EDP system involves rigid scheduling than manual system. Hence the audit planning should be accurate and to be executed on time.
 - e) The subordinate staff should have knowledge of programming and application controls.
 - f) Consequences of errors in CIS system more than manual system. Error in traditional system can be identify and rectify by clerk or senior but errors in EDP systems can be detected by auditor. It may require extensive redesign and reprogramming.
- 43. Naveen Kumar had compile that a study by different authors on CIS environment. Through the study author has arrived on the conclusion that the audit differences including accounting errors and fraud are more frequent when accounting system was computerized.
- 44. Sheila Shanker has highlighted the variation between manual audit process system and CIS audit system. As per the author there is difference such as in form of speed, automatic calculation, generation of report and training cost etc.
- 45. Nonie Pangcoga stated that computerization of accounting and audit system is integrated and complex. It appear to different from manual system in several ways and introduce several risks such as inadequate audit trails in both hardware and software system, security risk, inappropriate accounting policies linked to capitalization of expenditure and inadequate prevention for unauthorized changes in system etc.
- 46. Mhod Shafif explained the risk involved under CIS environment in relation to manual system are executive transaction automatically, large data are available only in readable form, authorized access and alteration of data. the author conclude that this raised questions of availability, security, integrity, confidentiality, efficacy and proficiency of CIS.

APPRAISAL

Researcher while carrying out review of literature in the area of Disparity between audit under CIS environment and Manual System, from the above review of literature, researcher has noted out the following key observation(s):

1. There are no differences in scope and objective of audit under both the system Computer auditing can be done by auditing around the computer or black box approach and auditing through the computer.
2. In order to maintain efficiency and accuracy, auditing, through computers should be followed.
3. In manual audit process auditor has to examine books of account manually whereas in computerized system the accounts could be checked digitally.
4. The advancement of computerized systems is helping to strengthen the manual accounts.
5. CIS audit process is dangerous in several aspects as compared to manual system such as competency level of individual, delegation of authorities and responsibilities, audit trails, continuous up gradation of technology, storage capacity, and availabilities of evidences.
6. Shifting from manual system to CIS system leads to several changes such as primary and recent changes. Primary changes are related to basic changes during entire audit process such as direct entry in the principal books, no supporting document, and application of accounting coding. Recent changes are up gradation of new invocation in IT sector.
7. CIS system helps to provide the benefits such as consistency of performance, programmed control, generation of multiple files, maintaining security. On the other hand it has several drawback such as long term storages facilities, lack of visible process of audit etc.
8. Due less participation in managing deal process reduce the potential of faults and irregularities but at same time errors or irregularities at initial stage i.e. design of application can be undetected promptly which leads to major problems.
9. Dependence on other control is equally important for effective and regular operation of CIS.
10. CIS application under accounting and audit process leads to generate quick financial and managerial report to take appropriate and fast decision.
11. The programming and application control of CIS should be known by every member of scrutiny.
12. The rectification of errors can be done easily under manual system but in EDP system it will be complicated. It may require redesigning and reprogramming the entire system.

Hence from above study it is vibrant that in spite of lot of factor affecting the CIS audit Process but objective of both the system remain same. Due to Centralized accounting financial process there is issues in terms of delegation of authorities and responsibilities. Less involvement of hands reduces errors and irregularities but it is also taken into consideration that it is grim to recognize errors and frauds occur at the initial stage. To the great extend both are interdependent on each other and several other aspect also. Thus to bring the genuineness to present research, researcher has framed following objective, problem and hypothesis.

Objective 5: To find out the factor responsible for audit under CIS environment.

Problem 5: The centralization of accounting functions in the hands of few persons may lead to certain issues in banking sector.

Hypothesis 5: The delegation of accounting functions and responsibility by high authority to sub-ordinate significantly affects accuracy and transparency of CIS audit.

Therefore the researcher has justified linkages between title, objective, problem and hypothesis of the study. The efforts taken on review of literature are worthwhile.

2.6 CIS APPROACH AND SYSTEM:

Rapid changes in the hardware and software require conceptual change in audit approach also. Earlier auditor did not use the computer for carrying out audit. They were more concern about audit around the computer. Now a day the auditor believes that computer itself as tool for performing audit. The basic approaches of audit under the computerized accounting systems suggested by different authors are as follows:

- a. Auditing around the computer
- b. Auditing through the computer
- c. Auditing with the computer

47. S.D Sharma has focused on the auditing approaches. Author stated that auditing around the computer has been related as the black box. It was used by auditor only for processing accounting data with high speed and taking printout. Auditor traced transactions in to computers and then selected the trail on the other side by examining printout. This approach auditor ignores the detailed procedures and concentrates on examining providing accuracy of initial output. Basically it is established to provide correctness of authorization, description, codification and translation of data into machine language. The procedure system shows this approach is more concern with the manual work. It is totally inclusion of manual task.

According to author auditing through the computer has more reliability and validity then auditing around the computer. This approach provides the detailed examination and final output through the examination of the processing producers. This approach consists of expert EDP system. An auditor must have excellent knowledge about the computer system and programs. It is exclusion of manual task.

Author suggested another approach that is auditing by using computer or with computer. This system focused on the different method like programme control method, simulated problem method and development of special computer audit programme.

48. Aruna Jha has stated that Auditing around computer just treated by auditor as 'black box'. Author assumed if inputs and outputs are correct, processing would be accurate. Author states the merits and demerits of this method or approach. This method is suitable only when the application controls are complicated to understand. And she also suggested another method i.e. Auditing through the computer where author focused all phases of CIS activities i.e. input, processing and output. The reviews and test general and application controls and determines their effectiveness.

49. Srinivasan Anand G described audit approach in EDP environment. Author put up following view on the CIS approaches:

Table: 2.6 (i): Audit approach in EDP Environment or CIS Environment

Point of Comparison /audit approaches	Auditing Around the Computer	Auditing With the Computer	Auditing Through the Computer
What the approach involves	Manual testing for transaction data	Testing of client's data files	Testing of clients is programs
Use of CAATs	No	Yes	Yes
Computer skill required for auditor	No skill required	Knowledge of use of software and programs required	More intensive knowledge required programs should preferred

50. G. Sekar and B. Saravana Prasath have compares the Auditing around the Computer and Auditing through the Computer. The main criteria of comparisons were recognition of computer, audit assurance, use of computers and use of CAATs.

Along with the above approaches many of the authors has suggested Computer Assisted Audit Techniques (CAATs)

51. Computer Assisted Audit Techniques (CAATs) are performances that use the computer as an audit means. It comprises of computer programs and data that an auditor may custom in information system. It is used in compliance procedures and substantive procedures. ICAI's guidance note recognizes that CAAT's may enhance the efficacy and competence of audit measures.

The recommended principles of the Guidance Note are as follows

- a. Contemplations in use of CAAT's:
 - i. Accessibility of adequate IT knowledge,
 - ii. Availability of CAATs, appropriate computer amenities and information in appropriate format,
 - iii. Impossibility of physical trials due to deficiency of evidence,
 - iv. Impact of effectiveness and efficiency,
 - v. Time constraints,
 - b. Application of CAAT's
 - c. Documentation
 - d. Arrangements with the Entity
 - e. Application of CAAT's in small Entities
52. **Diane Janvrin, James Bierstaker and D. Jordan Lowe** has focused that auditors should make use of Computer-Assisted Audit Techniques (CAATs) to check the accurateness of the summarization of a file or to re-perform procedures. The application of CAATs to evaluate these fraud risks (AICPA 2002b, AU 316.52) and identify journal entries and other adjustments to be tested (AICPA 2002b, AU 316.61.)
53. Mohan Bhatia (2002) believed that, the type of Computer-Assisted Audit Techniques (CAATs) that is to be applied and determined by;
- a. Technology being used
 - b. Application to be reviewed
 - c. Level of expertise of people who are going to such techniques

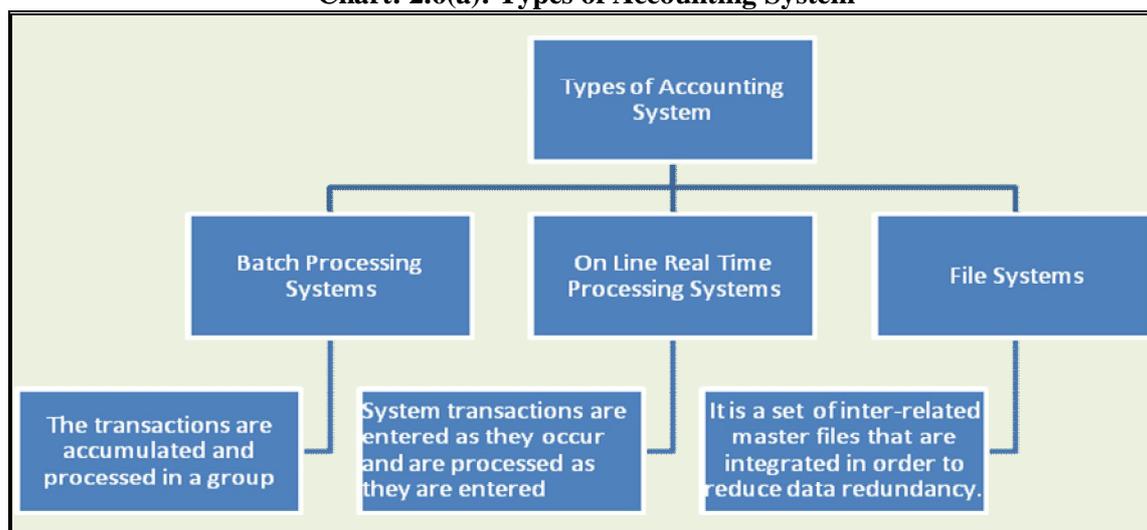
Computer Assisted-Audit Techniques (CAATs) are nothing but the software. The software is either available off-the shelf, or is specifically developed. Several types of Computer Assisted-Audit Techniques (CAATs) are available. The most widely used tool by the auditors to collect and evaluate evidence is Generalized Audit Software (GAS). It enables an auditor to gain entry to data and apply business rules (manipulate) to them to facilitate test the presence and effectiveness of internal controls.

54. Almkhadmh, Alrasheed, (2007) highlighted some selected factors that are predictable to affect the enactment of the auditing process in the Jordanian audit offices. Several factors such as objectives of analytical audit, procedures of analytical audit and constraints which border the submission of analytical audit procedures and these factors have been selected in sight of the literature review for audit on analytical audit procedures.
55. Kamal Gupta stated that auditing around computer has barrier like absence of certain specific internal control system hence to CIS installations requires more susceptible internal control system for detection and prevention of errors and frauds. Further author recommended that in both procedures compliance and substantive, the auditor need to use extensive computer for which author should have specialized computer skills and competency.
56. Kamal Gupta and Ashok Arora has extracted that EDP Environment has two approaches is Auditing Around the Computer and another is Auditing Through the Computer. In first approach auditor generally ignores the fact of utilization of computers for processing of information while determining nature, timing and magnitude of the substantive procedures. In the second approach auditor considers

effects of special EDP controls on nature, timing and degree of the substantive procedures. Under this method an auditor basically use computer for several obedience and substantive procedures.

57. S.K Basu explained the approaches to EDP auditing. Author explained in detail the CIS approaches i.e. Auditing around the computer and Auditing through the computer. According to him CAAT is the special techniques for auditing. Author has emphasized on the consideration in application of CAAT which will affect the audit process.
58. CA Pankaj Garg had explained the CIS is based on types of accounting systems followed by the entities. The author has suggested the types of accounting systems available under computerized system.

Chart: 2.6(a): Types of Accounting System



Due to above system an entity will apply the system. Author has also explained about the application of CAAT. According to author it is auditing techniques that take assistance of a computer for being applied to a review in a CIS situation. Author has emphasized on requisite for CAAT is depend on the following aspects:

1. Deficiency of input documents
2. Generation of accounting transactions by computer program
3. Lack of visible audit trail
4. Lack of perceptible output.

It helps to save time and wastage of prints and other document. It helps to conduct test which is not possible under manual audit process. It can use for both the testing compliance and substantive and also performing various auditing procedures. It can be applicable to both Test data and audit software.

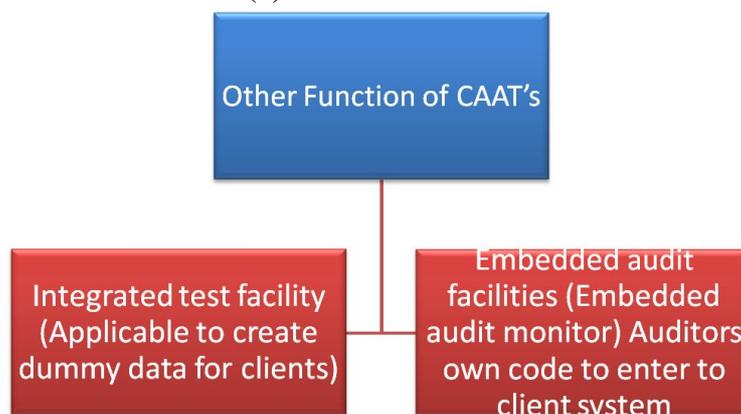
The author had listed the factor responsible for effective application of CAAT's in CIS audit process such as:

- i. Time constraint
- ii. Availabillity of sufficient resources
- iii. Costs of complex system
- iv. IT acquaintance and proficiency
- v. Facilites available
- vi. Impracticability of mannual test
- vii. Impact on effectiveness and efficeincy in extracting data etc.

He also focused on control procedures while using CAAT under both the application i.e. Software and control test applications.

59. Like other authors view, the institution (for student's accountant hub page) had also mentioned the CAATs and its application in audit process. Author also suggested the other techniques / function under CAAT system.

Chart 2.6(b): Other Function of CAAT's



The authors suggested that Round the Machine and Through the Machine method to test. As per the experience of authors, students are not well verse with CAAT hence round machine they used. They try to reconciles input to output with the intention the processing of transactions was error-free. It is a solitary acceptable approach due lack of audit software which is used by smaller computers. But simultaneously to cross-examine the copies of client files, auditor should aware of the audit software.

60. In the articles on Auditing in CIS Environment authors has compare the both system. According to them the audit under CIS environment cannot be carried by traditional (manual) approaches, effectively. Since the processing of transaction in CIS environment is fast and complicated, the audit must be carried out using computer assisted audit techniques (CAAT). This requires a reasonably good amount of IT skills on part of the auditors.
61. K.C Shekar and Lekshmy Shekar have explained the approach in details. They suggested that while applying CAAT following steps need to taken into consideration:
- a. Determine the aim of the application
 - b. Verify the content and convenience of the files of the entities
 - c. Decide the transaction types to be tasted
 - d. Set the procedure to be performed on the data
 - e. Analysis the estimated output
 - f. Identify the audit and computer personal who will be involved in design or application of the CAAT

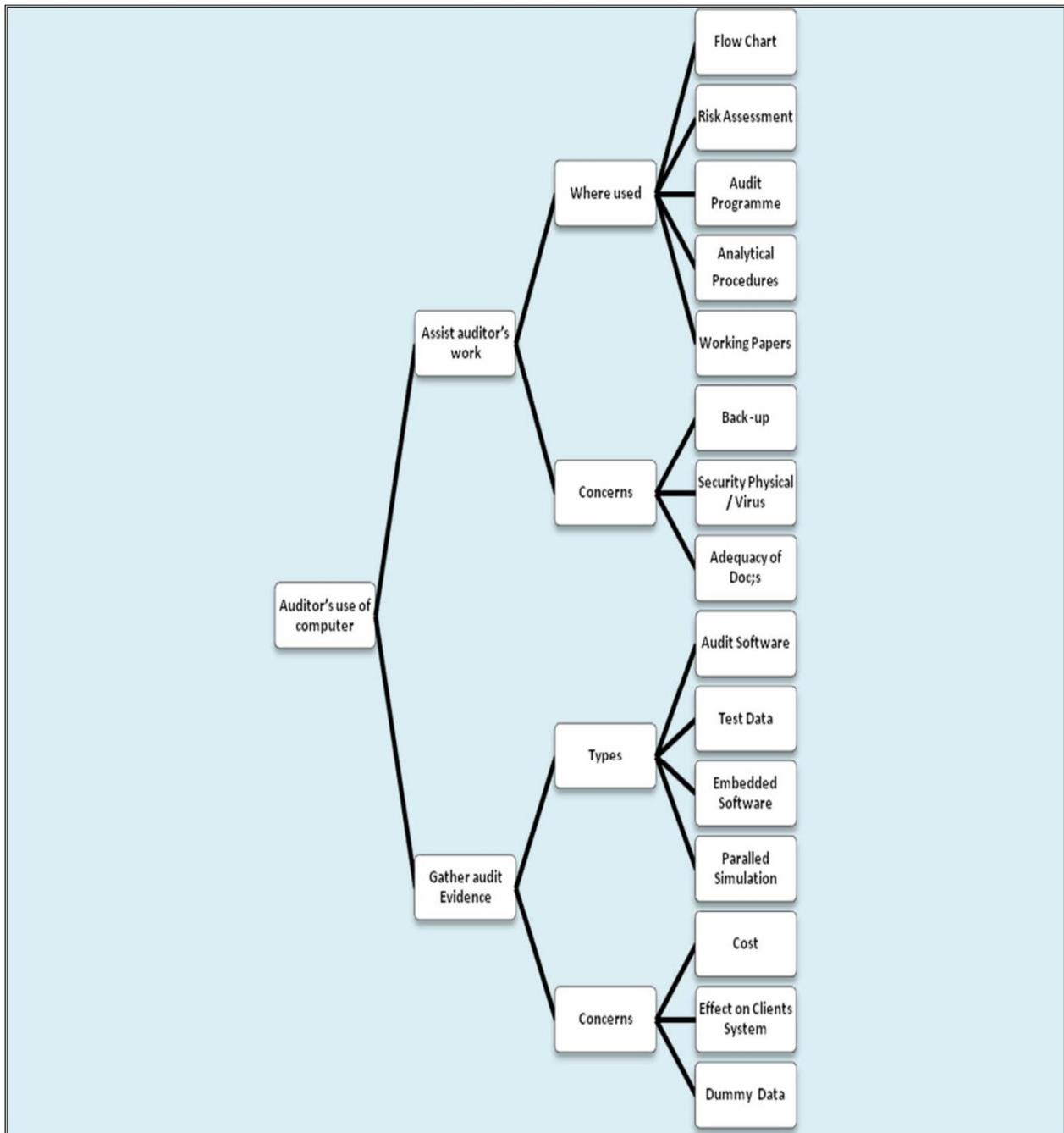
This above points will help in maintain accuracy and authenticity in auditing process.

62. Aruna Jha stated about the approaches to EDP auditing. She stated that the primary disadvantage of the approach includes costs involved and the extensive technical expertise is required for complex systems.
63. Kamil Omoteso has highlighted the two main approaches: auditing around the computer and auditing through the computer. Former approrach, Auditing around the computer was treated the computer as box and assumes the processing steps must be functioning well as long as the actual outputs are correct resultls, expected from given input whereas the latter approach opens the box and auditing through the computer assumes that once the processing system contains sufficient controls, the output can be considered reliable. The audit trail complete and visible, processing operation should be simple, straightforward, proper documentation must be available.

To overcome with the former approach limitation, audit through the computer is in a great demand in digital age. This systems involved assessing internal control within CIS environment to verify and ensure the validity, reliability and security of information.

64. Nonie P. in his article “Auditing in a Computer Information Systems (CIS) Environment: Assurance Principles, Profession Governance discussed about the estimation of acquisition or installation cost for the submission of CIS in accounting and audit process. An organisation should have substantial amount of investment for regular maintenance and update of software. Hence an entity wants to use the approach which has low-cost of develop and maintained.
65. The ICAI has stated that as there is are several factors responsible in the application of CIS in audit. The auditor must confirm following points mention in a chart:

Chart: 2.6(c): Auditor’s Use of Computer



66. According to S.K. Basu, the primary disparity between traditional and computerized systems is speed. It facilitates in quick generation of report, calculation, minimize errors etc. but at the identical stint it leads to hidden cost on an entity in footings of bookkeeping software embrace training and program maintenance. Expenses can add printing and stationary cost along with other general expenses.

APPRAISAL

Researcher while carrying out review of literature in the vicinity of the financial constraint plays a key hindrance in deciding CIS audit approach and available approach, from the above review of literature, researcher has noted out the following key observation(s):

1. Traditional way of auditing was used but not so efficiently.
2. To facilitate the work easier, the computerized systems should be use efficiently.
3. There are many loopholes even in a high-tech scheme and it ought to be resolved by an expert with competent.
4. When a computerized system is used it is more accurate than the manual system.
5. CAAT software is used to check the accuracy and also to evaluate the fraud risks.
6. Audit through computer is in great demand as compared to audit around the computer.
7. Audit through the computer consists of CAAT. It is a technique applied under CIS environment. It has several drawback parenting to audit process.
8. To the some extent CAAT is cost effective in relation to routing process but it is complex, when the questions arise for redesign of programme or trained manpower.
9. Audit around the computer is quite easy and less investment is required where as through the computer is costly and required expertise.
10. The complex audit system adds cost to an entity in way of development and maintains the system active.

Hence from the above study it is vibrant that the financial constraint plays silent role in selection of audit approach. Basically audit under CIS Environment is the need of today's era. There is lack of study to talk about the selection of approaches on the foundation of cost factor. Therefore, to bring the genuineness to present research, researcher has framed following objective, problem and hypothesis

Objective 2: To study the approaches of CIS audit

Problem 2: The financial constraint plays a key hindrance in deciding CIS audit approach.

Hypothesis 2: Application of CIS Audit is significantly affected by the financial constraints in the banking sector.

Therefore the researcher has justified linkages between title, objective, problem and hypothesis of the study. The efforts taken on review of literature are advisable.

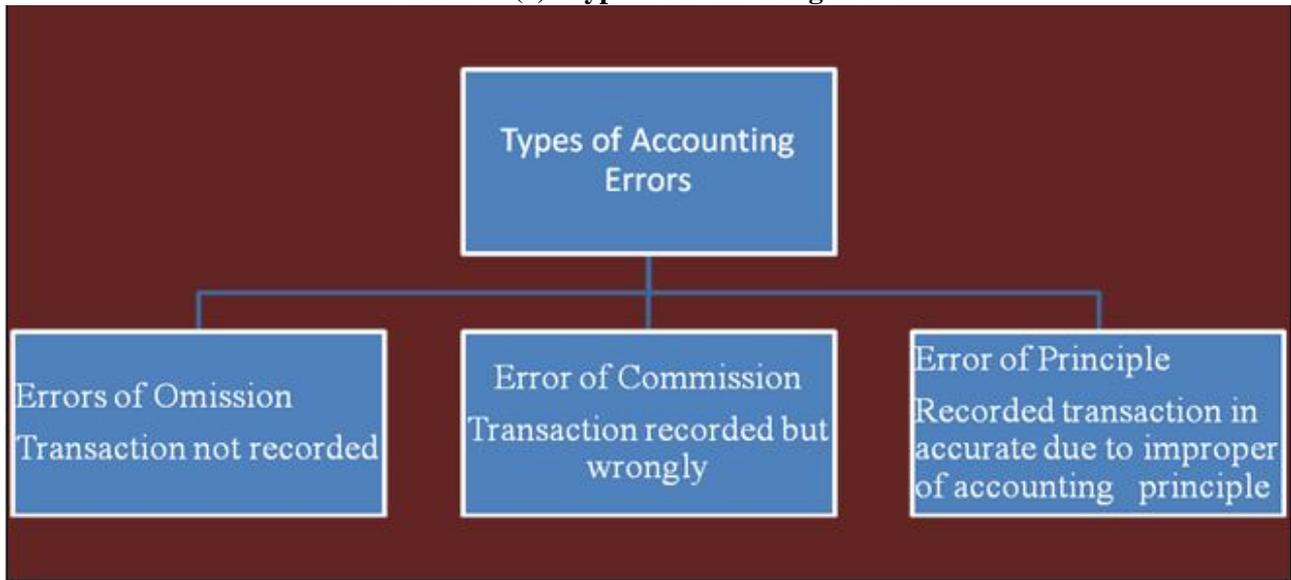
2.7 TRUE AND FAIR VIEW UNDER CIS AUDIT

67. Linda McDaniel, (2005) discussed that the causes of audit vulnerability under audit analytical procedures and the role of such results and its accuracy. The study also focused inadequacy of audit procedures. The study also indicated that cause of improper analytical audit procedures. The auditor unable to followed the correct strength of audit procedures.

The aim of International Standard on Auditing (ISA) is to launch standard and provides guidelines on measures to be trailed to provide True and Fair View. The eavesdropper essentially has sufficient understanding of accounting and Internal Control System. He must investigation inherent risk and control risk through which he can arrives at the management risks. The auditor should have adequate understanding of CIS, how to plan, direct, monitor and re-evaluate the work done by internal auditor.

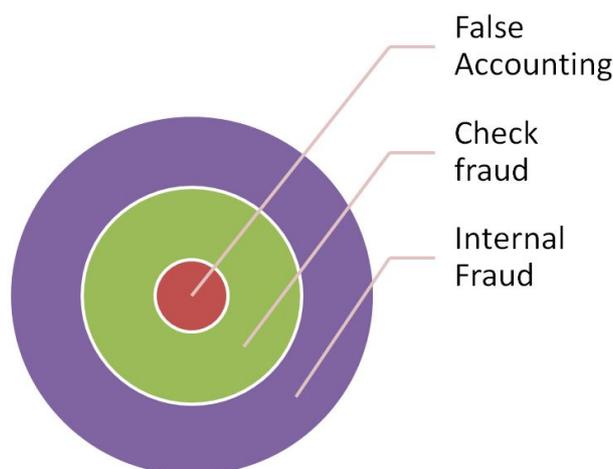
68. Fich and Shivdasani, (2007) stated level of accounting errors and frauds affect the effectiveness and accuracy of books of accounting. The accounting errors are:

Chart: 2.7(a): Types of Accounting Errors



They also suggested the types of fraud which affect the true and fair view. These are as follows:

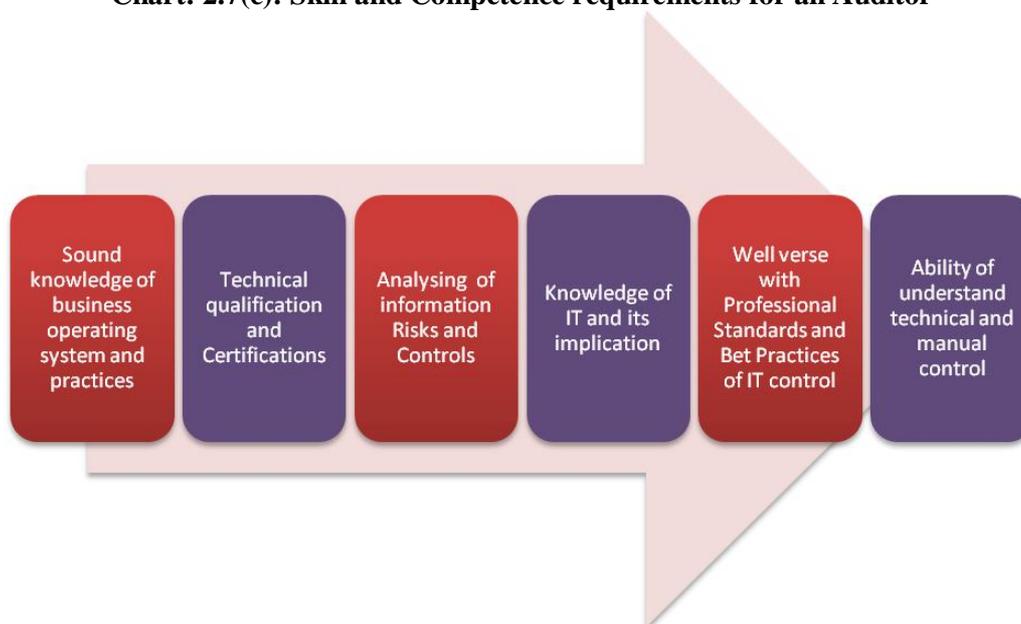
Chart: 2.7(b): Forms of Fraud



- a) **False Accounting:** It is the falsification, concealment or destruction of record. It is commonly used as a way to trap people into parting with money of other property, or to cover up what has already been done by falsifying an account.
 - b) **Check Fraud:** It is used by someone when one or more checks or checking accounts to illegally get money that does not exist within their legal ownership.
 - c) **Internet Fraud:** It is danger signs of internal fraud which include evidence of unnecessary expenditure by staff engaged in cash/contract work, out of place affairs with suppliers, and reluctance of staff to take leave, requests for unusual patterns of overtime and where there seems undue possessiveness of records.
69. POB (2000) and Kinney (2001) have indicated that auditors should enlarge their technical knowledge and skills to perform effective and efficient audits. Hunton came with suggestions that (a) auditors are not apposite to recognize the heightened inherent and control risks present in EDP environments, and (b) there is Accounting Information System (AIS) expertise gap between auditors and CIS (Hunton et al. 2001). Therefore, auditors' AIS expertise levels may affect their planning judgments and their ability to appropriately evaluate audit evidence provided by Computerized Information System lead to affect the True and Fair View of audit.

70. According to Bierstaker et al. (2006) surveyed internal auditors and certified fraud examiners to examine the extent at which they use fraud prevention and detection methods and their perceptions for the effectiveness of these methods. The results indicated that firewalls, virus and password protection, and internal control review and improvement are quite commonly used to reduce fraud. Continuous auditing, discovery sampling, data mining, forensic accountants, and digital analysis software are less often used, despite receiving high ratings of effectiveness due to short of organization resources and their reluctance to invest in fraud prevention and detection control systems.
71. Atul K. had explain that the following aspects need to be considered to accomplish True and Fair View:
- Appropriate understanding of the CIS environment established in the bank. The difference between various sub systems, flow of data, validations and functions of software system etc.
 - Adequate understanding of the consequence of CIS environment on Internal Control System flow of authorized, correct and complete data to the processing centre.
 - Accurate understanding, analysis and reporting under CIS environment.
 - CIS environment impact on audit trails as compare to manual audit system.
 - Resilience of effect of CIS environment on the evaluation of entire audit risk and risk at the account balance and class of transaction level.
 - Design and perform appropriate tests of control and substantive procedures.
72. CA Davang Dala, stated the responsibility of auditor under information system. The authors has list out the skill and competence requirements for an auditor under audit system.

Chart: 2.7(c): Skill and Competence requirements for an Auditor



73. CA Devang Dalal and CA Amit Tated have explained the objectives of Audit Trails under CIS environment.

Objectives of Audit trails are as follows

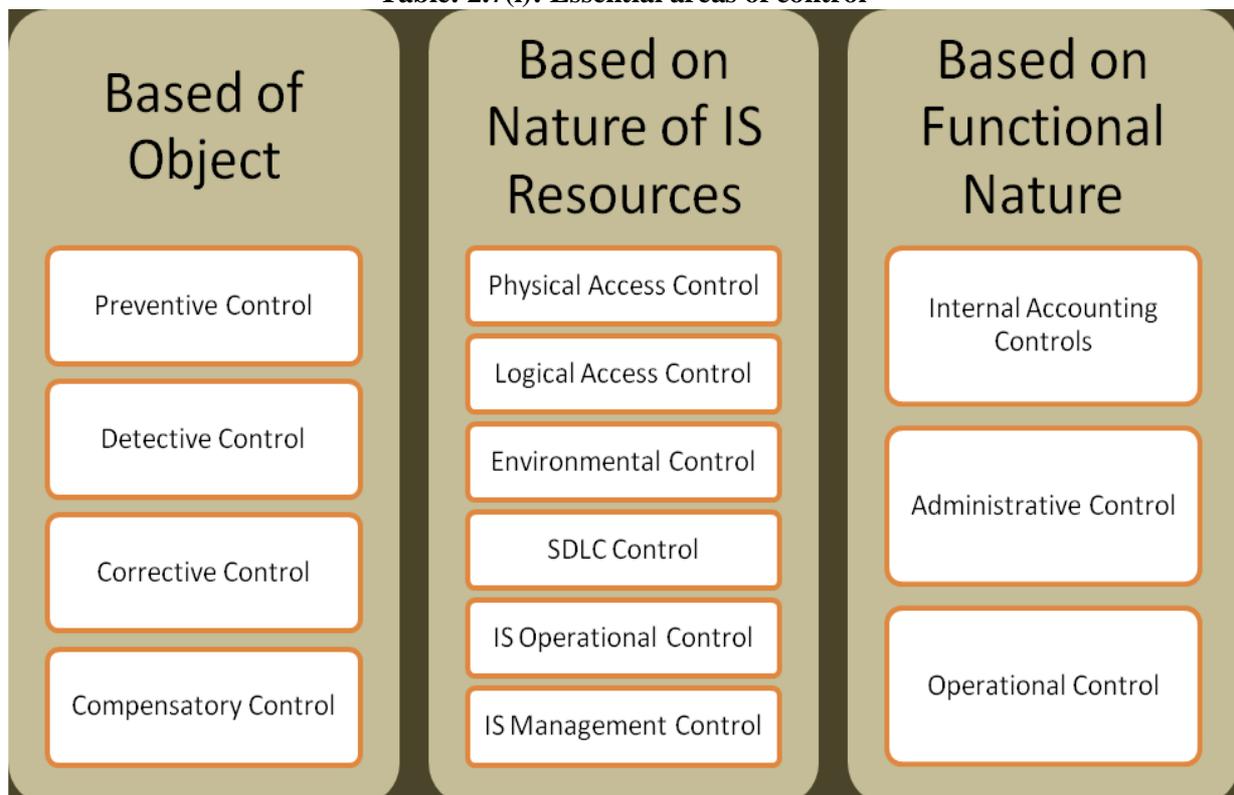
1. Detecting Unauthorized Access
2. Reconstructing Event
3. Personal Accountability

Author has suggested to maintained significant control under computerized environment due to following aspect:

1. Lack of understanding IS risks
2. Inadequate IS control framework
3. Weak general control system
4. Lack of awareness and knowledge of IS risks and available controls among the business users or operator
5. Complexity of implementation of controls in distributed environments
6. Inappropriate technology implementations or inadequate security functionally in technologies implemented

Authors has focused the areas of control which are based on the following aspect

Table: 2.7(i): Essential areas of control



Author had also covered the Access Control Mechanisms. It is associated with identification, authentication and authorization.

As per their study application system controls are undertaken to accomplish reliable information processing cycles that perform processes across the enterprise. Authors had highlighted that user control is equally important like others. The efficacy and competence of user control can be possible only when following control will be maintained:

- a. Boundary Control
- b. Input Control
- c. Processing Control
- d. Output Control
- e. Database Control

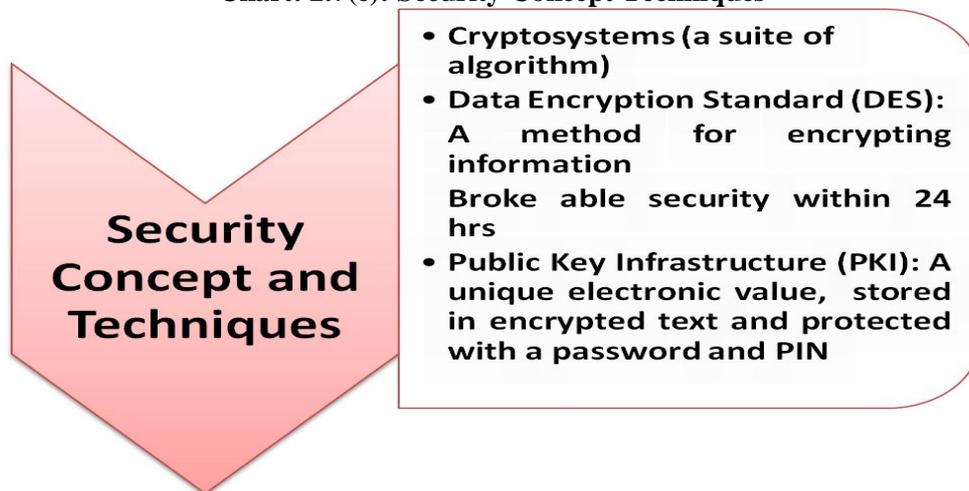
Data integrity controls protect data from accidental or malicious alteration or destruction and provide assurance to the user. The authors have suggested following integrity control:

Chart: 2.7(d): Integrity Control



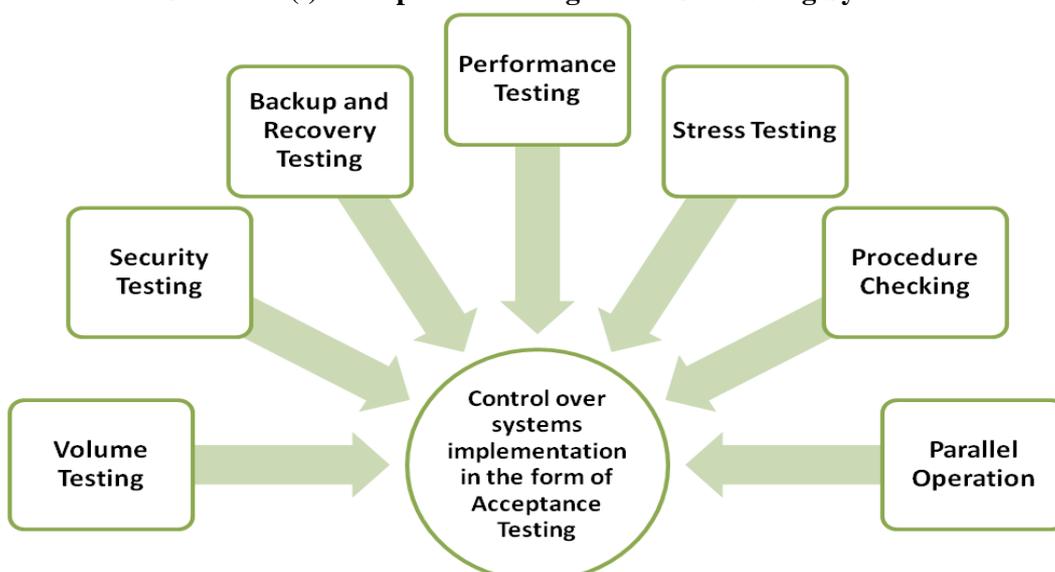
Authors had emphasizes on the effect of Integrity Control and it impact on audit process and how to control. The authors had discussed about the security concepts and techniques. Authors have classified the SCT in the following ways:

Chart: 2.7(e): Security Concept Techniques



74. ICAI has explained that a system is developed and implantation should be control. The Control over System Implementation requires for acceptance testing.

Chart: 2.7(f): Acceptance Testing under Controlling System



75. The authors had stated that True and Fair View status can be obtained only when there will be Quality of Internal Control System maintained in an entity. The success of CIS highly depends upon the involvement of management in improvement and maintenance of CIS. Under CIS environment, the risk of fraud & error is relatively high. Thus higher management supervision and better internal control environment is required.
76. K. Gupta has stated that the primary aim of audit can be fulfilled only when the accounts will be error and fraud free. following are the opinion of author:
 - a. There should be proper procedure for identification and documentation of all errors arising during the input, processing or output of data. The correction of data should be resubmitted only under the authority of a responsible officer. The auditor should review to understand effectiveness of internal control.
 - b. Evaluation of application controls is equally necessary. Application control differs from application to application.
 - c. All the control is need to achieve the primary aim of audit.
77. CA Chetan Dala suggested that the auditor can used CAAT with certain mathematical model or theorems to arrive at more penetrative result. The authors suggested some of the mathematical and quantitative method an auditor can use following digital tools:
 - a. The principle of nanoscience
 - b. Benford's theorem
 - c. Relation radars for detection of red flags
 - d. Forensic test
 - e. Other quantitative methods

The research studied showed that such digital tool helps to obtain the primary objective of auditing.

78. K.C Shekar and Lekshmy Shekar had noted that EDP system several problems such as poor security for master files, complexity of structure of system, data may not be retained for a long duration, insert of data without any evidence may affect the primary objective of auditing i.e. True and Fair View.

APPRAISAL

Researcher while carrying out review of literature in the area of CIS Provides True and Fair View only when Accounting Software System is symmetric and accurate, from the above review of literature, researcher has noted out the following key observation(s):

1. The systems are very much vulnerable to attacks that can take place.
2. When the computerized auditing is done it was being said that auditors should be having fair knowledge of the systems to be used, so that proper use of the software could be done and the system could be prevented from third party attacks.
3. Auditors AIS skill levels might affect their planning judgments and their ability to appropriately evaluate the audit evidence and also will affect the true and fair view of audit.
4. In order to reduce the firewalls should be put on, antivirus software's should be installed and also the files should be password protected.
5. Audit staff should have appropriate understanding about the sub system of CIS environment including accounting system.
6. Effect of CIS environment on Internal Control System has to analyze by the team.
7. Lack of audit trail under this system may affect the accuracy level of books of account.
8. Levels of audit risk may decide the correctness and dependability of accounting and audit procedure.

9. Auditor competency level will be gifted to comprehend the CIS audit process and accordingly one should used.
10. Lack of separation of accountability may leads to extensive errors and frauds in accounting and auditing process.
11. Errors occur at the initial stage of design leads to generate wrong report.
12. Inappropriate technology implementations or inadequate security functionally in technologies implemented.
13. Centralization of powers in few hands may be misused by those people.
14. Extensive internal control system decides the level of authenticity and accountability.
15. Security control plays a very important role. It shall not be decoded by others.
16. Higher management supervision and better internal control environment is needed.
17. Evaluations of all internal control are essential for effective and accurate reports.
18. Budgetary control is equally important like other control to minimize the audit cost.
19. Digital tools and techniques facilitate to attain the basic goal of auditing.
20. EDP system consist of several problems such as poor security for master files, complexity of structure of system, data may not be retained for a long duration, insert of data without any evidence may affect the primary aims of auditing.

Hence from the above study it is vibrant that True and Fair View is not only depend on symmetric and accurate of Accounting Software System but also on several other aspects such as internal control system, control testing, planning, procedures, tools and techniques, competency skill of staff etc Therefore to bring the genuineness to present research, researcher has framed following objective, problem and hypothesis

Objective4: To find the impact of CIS environment on True and Fair View of financial statement

Problem 4: CIS- audit provides True and Fair View only when Accounting Software System is symmetric and accurate in banking sector

Hypothesis4: Poor working knowledge of EDP implementation significantly affect the status of True and Fair View.

Therefore the researcher has justified linkages between title, objective, problem and hypothesis of the study. The efforts taken on review of literature are worthwhile.

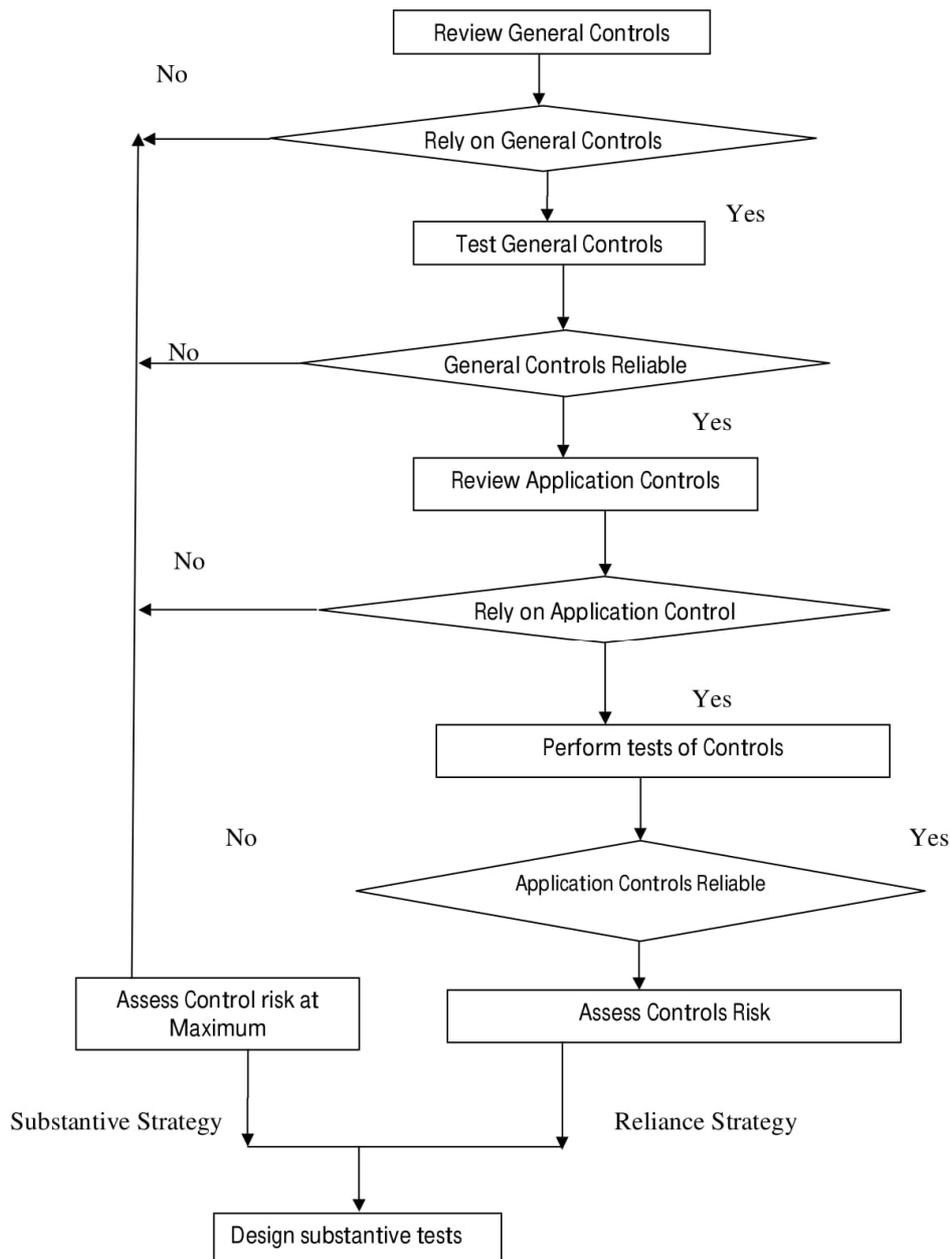
2.8 IMPACT OF CIS AUDIT

Most of the above review highlighted the salient impact of CIS audit. The impact of CIS audit could be positive or negative. It has a great impact on both clients' as well as on auditor. The researcher has tries to replicate view of other researchers on this area.

2.8.1. Positive impact

79. D. A. Watne and P.B Turney (1990) said changes in hardware can be transformed from manual to mechanical and to EDP systems. EDP systems changes consist of changes from first to second, to third, and subsequent generations of computer systems; teleprocessing and real-time systems; and minicomputers and microcomputers.
80. Demski, FitzGerald (et al., 2009) focused that the aid of computerized-audit competency. It helps the auditors summarizes transactions in standard formats. The financial records and systematize data can interpreted in special formats. Computerized- audit competency greatly reduces the tedious work associated with data management and record keeping.⁷⁷
81. Aruna Jha focused on CIS Environment provides decision making process effective and accurately. The decision processes for auditing in a CIS environment explained by her with following flowchart:

Chart: 2.8 1. (a) Process for Auditing



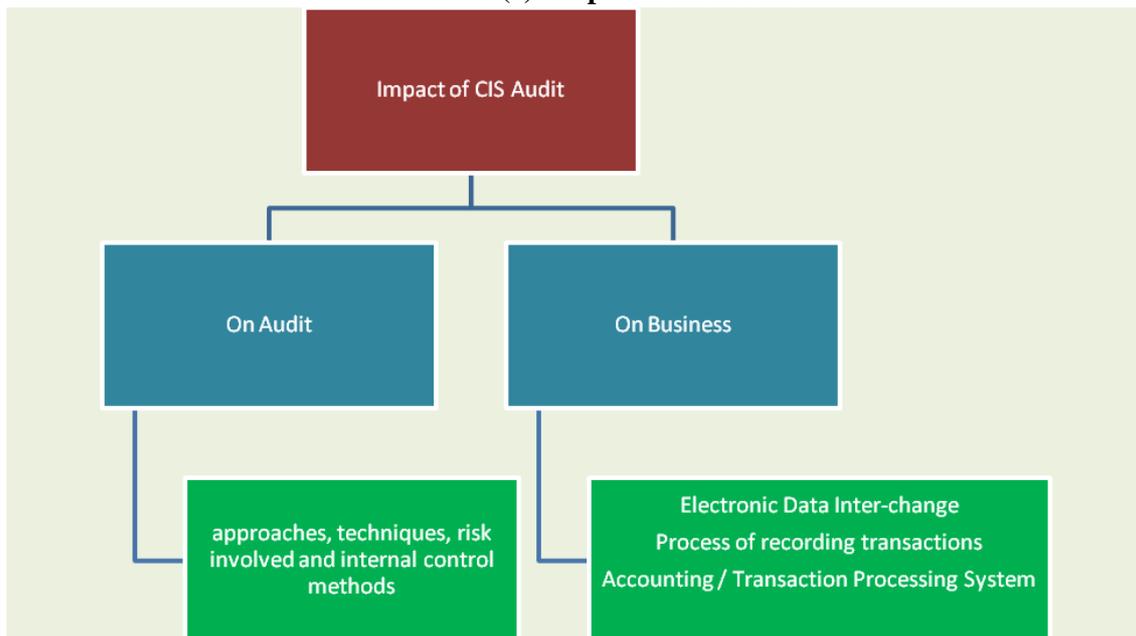
Source: Messier, William, Auditing and Assurance Services- A Systematic Approach, Irwin McGraw-Hill, 2nd ed., page 250.

82. ICAI has focused on the positive impact of computerisation on audit approach such as high speed, low clerical error, concentration of duties, application systems development control.
83. Under AUS 214 “Auditing in a CIS Environment”, the author has highlighted that existence of CIS environment is based on application of types of computer system and size of computer system used in processing by business of financial information. Author has stated that the computer has greater impact on several aspects such as dispensation, storing and communication of fiscal information. Hence auditor needs to be well versed with the system.
84. Atul K. has explained that the application of Audit under CIS environment may affect auditing process in numerous ways such as:

- i. The audit procedures followed by auditor in understanding of accounting and internal control systems.
- ii. Assessment of audit risk based on inherent risk and control risk.
- iii. Designing or selecting of audit planning, procedure and techniques to meet audit objective.
- iv. Satisfaction about existence adequate security control and implementation of such control in the banking.

2.8.2. Negative impact

85. Watne & Turney (1990) have defined that the changes in hardware have been accompanied by changes in software. Such changes in the software have created problems for auditor and others also. These software changes have occurred in several areas such as languages, applications, operating systems and database management systems.
86. Fateh, (2009) showed that the overall objectives and scope of audit will not change when the auditing process is performed in automated data processing environment. Implementation of computerized audit procedures required electronic tool. The auditor must devour such tool in auditing process. Such analytical procedure also requires greater scope for obtaining evidence, proofs detection of errors and fraud. The electronic system adds a greater push in using different programs in the vicinity of analysis using analytical procedures.
87. Atul K had said that in spite of several positive impact of CIS environment there are many challenges faced by the auditors such as:
 - a. Centralization of controlling procedures which was performed by different persons in manual system.
 - b. Lack of basic principle of segregation of duties and allows performance of incompatible functions
 - c. Lack of transaction trail and audit evidence
 - d. Lack of proper documentation
88. Aruna Jha has discussed the problems in implementation of internal control in CIS Environment. The Author listed problems such as separation of duties, lack of precise way of delegation of authority and responsibility due to numerous user of database. Usually, an organisation faced difficulties of appointing proficient and honest staff. Due to deficiency of initiation, execution and recording of transactions, there is not visible audit trail.
89. CA Devang Dalal and CA Amit Tated suggested that without audit trail, it is difficult for auditor to gather sufficient, appropriate audit evidence to authenticate financial accounting etc. The authors had indicated following difficulties:
 - a) **Data retention and storage:** Retention of data is essential for proper reporting. Lack of availability of storage system leads to improper control in relation to data collection and maintains.
 - b) **Audit evidence:** Computerised system generates report automatically without any authorisation sign as in manual audit process. Hence it is essential to maintain the secrecy in the data inputs and process.
 - c) **Lack of visible audit trails:** Some time it is grim to obtain the output of data in such a situation the auditor or third party may access data directly on client's computer which may lead to gaining collection and storage control.
 - d) **Lack of documentation retention of records:** Many a times the operator directly enters the transaction without any supporting document which reduces the supported evidence in connection with the entered transactions.
 - e) **Systematic error:** Computerised data entry and processing is on consistent basis. Usually it is difficult to change the observation of an auditor if he /she found any mistake in the software system.
90. The authors has discussed that the CIS environment has a great impact on auditing and on business. Such as:

Chart: 2.8.2 (a): Impact of CIS Audit

91. K.C Shekar and Lekshmy Shekar had suggested that the True and Fair View of book of account depends on the system and methodology followed by auditor. In the digitalized environment every entities are depends of modern techniques of audit such as CAAT's. The CAAT will provide the result as per the program set. It is mechanical tools. Hence the authors have suggested that while applying CAAT following steps need to be considered:
- i. Determine the aim of the application
 - ii. Verify the content and convenience of the files of the entities
 - iii. Decide the transaction types to be tested
 - iv. Set the procedure to be performed on the data
 - v. Analysis the estimated output
 - vi. Identify the audit and computer personal who will be involved in design or application of the CAAT

This above points will help in maintaining accuracy and authenticity in the audit process.

92. Naveen Kumar had focus on the problem raised due to application of CIS audit which may take into consideration by both entity as well as auditor while applying accounting and audit process. The problems are as followed:
- a. Lack of competency of client's personnel in Information Technology
 - a. Unreliability of accounting software
 - b. Impossibility of recovering modified original data
 - c. Lack of audit trails
 - d. Implication for internal control
 - e. Lack of skilled auditors

APPRAISAL

Researcher while carrying out review of literature pertaining to the factors responsible for audit under CIS environment, from the above review of literature, researcher has noted down the following key observation(s):

- a. Computerized-audit system helps auditors to create the documents in standard formats.
- b. Rather than having manual recordings of the audit, financial records can be maintained in computerized systems and also the storage and finding for the same becomes very easy.
- c. Computerized- audit competency helps in reducing the difficult and complex work associated with data management and record keeping.
- d. The decision making process due to this becomes very easy, efficient, effective and accurate.
- e. CIS environment helps to increase the speed, reduce clerical error and maintained high controlling system.
- f. It has greater impact on several aspects such as dispensation, storing and announcement of monetary data. Hence the auditor must be observant.
- g. It helps to assess the audit risk based on inherent risk and control risk.
- h. It leads to design or select audit planning, procedure and techniques to obtain the audit objective.
- i. If hardware is changed there could be a situation that the change in software might also take place.
- j. Implementation of computerized audit procedures requires electronic tool without which it will not function.
- k. The electronic system has a lot of demand. It has analysed before adopting. The analysing is possible only when specific tools are available for the same.
- l. Incompatible functions due to improper allocation of duties.
- m. Absent of transaction trails and supporting evidence difficult to detect errors and frauds existing in the accounting system.
- n. If coding system is not assigned, many users for same data cannot be identified.
- o. Automated unauthorized report may be misused by third parties and treated as invalid in several cases.
- p. It has impact on entity in term of electronic data inter-change, process of recording transactions in accounting.
- q. Application of CIS affects both entity as well as auditor in footings of skill competency, possibility of original data, audit and accounting trails, system of internal control etc.

Hence from the above study it is flawless that not only centralization of authorities and responsibilities in few hands but also there are other factors which has positive as well as negative impact on the Audit under CIS Environment. Therefore to bring the genuineness to present research, researcher has formulated following objective, problem and hypothesis.

Objective 5: To find out the factor responsible for audit under CIS environment.

Problem 5: The centralization of accounting functions in the hands of few persons may lead to certain issues in banking sector.

Hypothesis 5: The delegation of accounting functions and responsibility by high authority to sub-ordinate significantly affects accuracy and transparency of CIS audit.

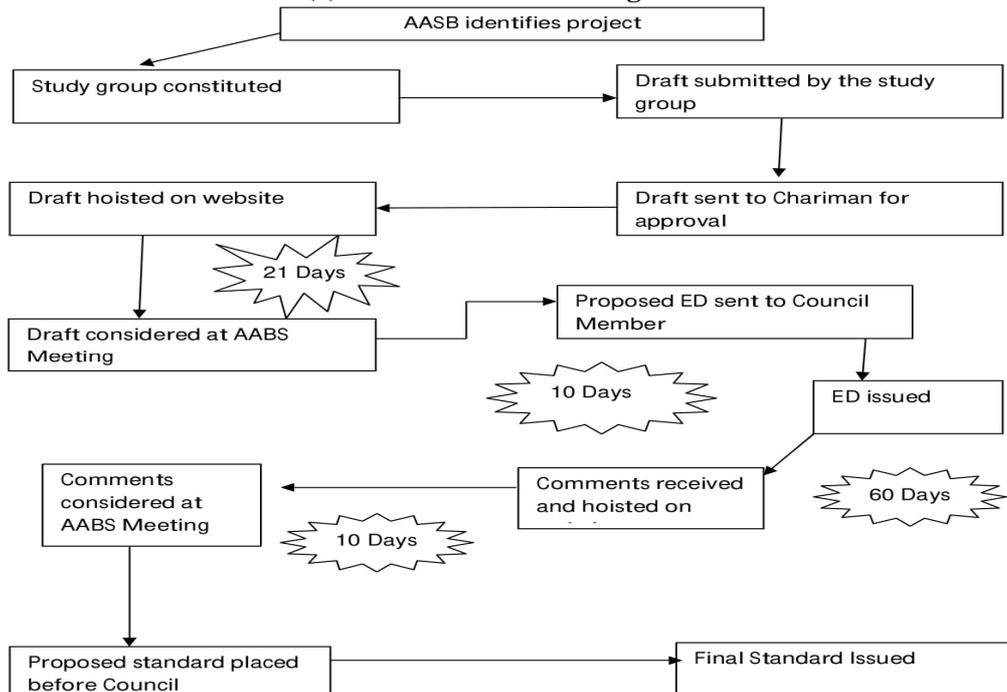
Therefore the researcher has justified linkages between title, objective, problem and hypothesis of the study. The efforts taken on review of literature are worthwhile.

2.9 PROVISION BY ICAI FOR ACCOUNTING AND AUDITING STANDARDS RELATED TO CIS ENVIRONMENT

Auditing is an assessment of financial statement in order to achieve objective of auditing. An audited book of accounting is an asset for both client as well as regulatory bodies. Hence to accomplish the primary aim of auditing ICAI has introduced peer review system in April, 2003. ICAI had developed the guidelines in respect of professional practices, procedures and controls. The ASB committee has been formulated to control the audit practices and procedures. The research has review the study in area of ICAI provision.

93. Mohan Bhatia has informed about Information Technology Act 2000. Author stated that it is based on Model law on Electronic Commerce adopted by the US. This Act was based on different objectives. Such as legality to the electronic transactions and enables filing of electronic documents with various government agencies. This act defines the properties of a system to be called a computer.
94. The American Institute of Certified Public Accountants (AICPA) has recently assured that financial statement auditors should change their audit tactics in response to the all-inclusive vicissitudes in information technology (IT) at their clients (AICPA 2001). IT applications, such as Enterprise Resource Planning (ERP) systems, have significantly changed the way companies operate their businesses. These complex and pervasive IT systems have allowed companies to better manage supply chains, perform business process reengineering, and re-organize their accounting processes along with providing numerous other functions (Brown 1997; Moore and Warrick 1998; Scheer and Habermann 2000). Changes brought about by ERP systems have also affected the conducts in which auditors perform their duties (Helms 1999; POB 2000). For example, the implementation and utilization of ERP systems at many major corporations has increased audit-related risks such as business interruption, database security, process interdependency, and overall control risk (Hunton et al. 2001).
95. Dinesh Madan has focused on Auditing and Assurance Standard 29 on Auditing in a Computer Based Information System Environment. AAS 29 issued by Institute of Chartered Accountant of India (ICAI). Such standard require the auditor to control the consequence of CIS environment on audit. Auditor must have sufficient knowledge of the computer information systems to plan, direct, supervise, control and re-examine the work performed.
96. Atul Khurana had stated that AAS 29 on auditing in CIS environment was applied for all audits related to accounting period commencement on or after 1st April, 2003. As this standard does not affect the complete objective and possibility of an audit under CIS environment but the excess use of computer system affects the accounting and internal control system. Hence the auditor has to check the various controls implemented throughout the system and their existence.
97. CA Pankaj Garg focused on Auditing Standard setting process in India. Indian Auditing Standard is formulated by Auditing Assurance Standards Board (AASB). It is mandatory for each member of the association to abide with the standard. He explained the process of finalisation of audit standard. The process of formulating Audit Standards are as follows:

Chart: 2.9 (a): Process of formulating Audit Standards



As per author the revised preface, applicable from April, 2008 has changed the face of auditing literature, introducing some more fundamental concepts to the existing once.

Author stated several Standards for Renumbering such has:

Table: 2.9 (i): List of Auditing Standards

Sr. No	Title	Standards	
1	Standard on Quality Control	1-99	
2	Standard on auditing	100-999	
	Introductory Matters		100-199
	General Principles and Responsibilities		200-299
	Risk Assessment and Responses to Assessed Risk		300-499
	Audit Evidence		500-599
	Using work of others		600-699
	Audit Conclusion and Reporting		700-799
Special areas	800-899		
3	Standard on Review Engagements (SRE)	2000-2699	
4	Standard on Assurance Engagement (SAE)	3000-3699	
5	Standard on Related Services (SRS)	4000-4699	

98. As per ICAI following are the requirement standards are taken into consideration:

- a. Ethical requirements relating to an audit of Financial system
- b. Profession scepticism
- c. Professional judgment
- d. Sufficient appropriate audit evidence and audit risk
- e. Conduct of an audit in accordance with SAs

ICAI has emphasis on AS 230 (Revised) Audit Documentation (W.E. F 1/4/2009) and CARO, 2015 applicable to banking company. As per the ICAI Documentation is nothing but working papers prepared and obtained by auditors and reserved by him for the execution audit. The aims of such AS 230 are as follows:

1. Assisting the engagement team for audit planning and procedure.
2. Helps to assess duties and responsibility.
3. Helps to quality control with review and inspection.
4. Helps to preserve for legal and other requirement.

99. The articles on “Statement of Auditing Standards 310, Auditing in a CIS Environment”, the author discussed factor affecting CIS system and its influence on accounting and auditing process.

100. S.K.Basu has highted on the International Standard on Auditing: 200 and 240 regarding auditors responsibilities related to Fraud. The accuracy of financial statement affected due to errors and frauds. Hence auditor should follow guidelines given in standards to facilitate achieve the primary objective. The author also focused that an assessment of financial records based on documentary evendence hence, the legitimacy of evidence is essential. In order to know the genuineness of evidence one should evaluate the evidence.

101. D.S Rawat stated that the ICAI has issued Standard on Quality Control on 1st April, 2009. According to him SQC is apply to all the entities. He stated the guidelines and measures will depend upon the size and nature of the entities.

According to the guidance and requirement of firm, the elements will be as follows:

- a. Leadership errands for excellence within the firm
- b. Relevant ethical requirements

- c. Independence
- d. Human resources
- e. Engagement performance
- f. Monitoring

Author has explained several SQC's to improve the excellence of audit. According to author audit should be able to understand the system of internal control in business entities. Author focused on the following five components which auditor should have:

- a. Control Environment
- b. Risk Assessment
- c. Information and Communication System
- d. Control Activities
- e. Monitoring

Author also suggested that the inaccurate use of Information Technology may create specific risk to an entity's internal control such as:

- 1. Reliance on systems or programs that is processing data inaccurately, processing inaccurate data or both
- 2. Unauthorized access to data
- 3. Unauthorized modification in master files
- 4. Unauthorized alterations in system
- 5. Inappropriate manual intervention
- 6. Potential loss of data or inability to access data

103.T.P Ghosh stated the concept of GAAP (Generally Accepted Accounting Principles). Author stated that GAAP consist of the followings:

- a. FASB (Financial Accounting Standard Board) Standards
- b. Accounting Standards Executive Committee statements of opinion
- c. EITF consensuses
- d. AICPA Accounting and Audit Guides.

On which author has given details about the releasing of many standards and it courses. Author also focused on recent development in US GAAP. International Accounting Standard Board and Financial Accounting Standard Board come together with the intention to prepare set of single of high quality in relation to global accounting standards.

In November 2007, response to the Securities and Exchange Commission's IFRS has been introduced. Initially it was introduced for public company. In this book many issues and measures has been shown.

In the Chapter Indian Audit Standards and CARO, author explained details of Auditing and Assurance Standards to ensure the excellence of audit in the financial statement. Author informed that in addition to standards forty two guidance notes available for special audit issues.

CA Devang Dalal and CA Amit Tated stated that the True and Fair View cannot be accomplished without accounting and auditing standard. Hence authors had discussed the following standard and guidelines developed by ISACA (Information Systems and Audit and Control Association):

- i. IS Auditing Standards
- ii. IS Auditing Guidelines

iii. IS Auditing Procedures

iv. COBIT (Control objectives for information and related technology)

Authors also discussed about the international professional association, IIA (The Institute of Internal Auditors) which is basically meant for internal audit. IIA issued Global Technology Audit Guide (GTAG). It provides platform to the management about MIS control, security, and IS auditors with guidance on different information technology associated risks and recommended practices. The following guide note has been stated by authors:

- a. Standards on auditing
- b. ISO 27001: Information Security Management Standards (ISMS)
- c. ITIL (IT infrastructure Library)
- d. Control Objectives for information related technology (COBIT)

GTAG helps to maintain the quality of audit. The standards under GTAG help to control quality of audit.

Following is the list of Global Technology Audit Guide (GTAG):

Table: 2.9 (ii) List of GTAG

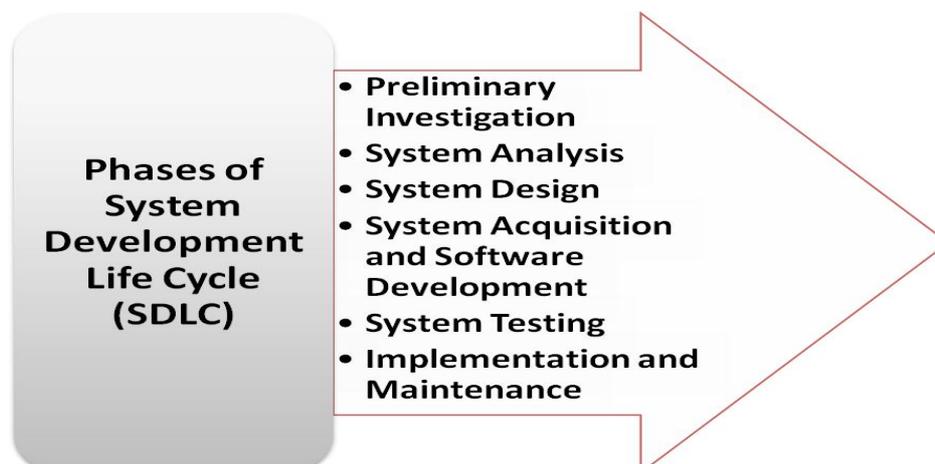
GTAG 1	Information Technology Controls
GTAG 3	Continuous Auditing: Implications for Assurance, Monitoring and Risk Assessment
GTAG 4	Management of IT auditing
GTAG 5	Managing and Auditing Privacy Risk
GTAG 6	Managing and Auditing IT Vulnerabilities
GTAG 7	Information Technology Outsourcing
GTAG 8	Auditing Application Controls
GTAG 9	Identity and Access Management

In the Information Systems Control and Audit, Vol. I by ICAI, author had focused on information technology, management control, securities and Information Systems auditors with guidance on different information technology associated risk and recommended practices:

Information System Auditors need guidance and a different yardstick to measure the 3E's (Economy, Efficiency and Effectiveness) of a system. It is application of professional judgment in audit process. The ICAI has issued AASs covering various aspects. The institute has disclosed or focused on several important standards in relation to audit.

106. The Dinesh Madan has highlighted on System Development Life Cycle Methodology (SDLC) which, is essential to large scale information system and systematic process such as banking information system. He focused on steps for applicable for smooth functioning of an organization which is as follows:

Chart: 2.9(b): Phases of System Development Life Cycle (SDLC)



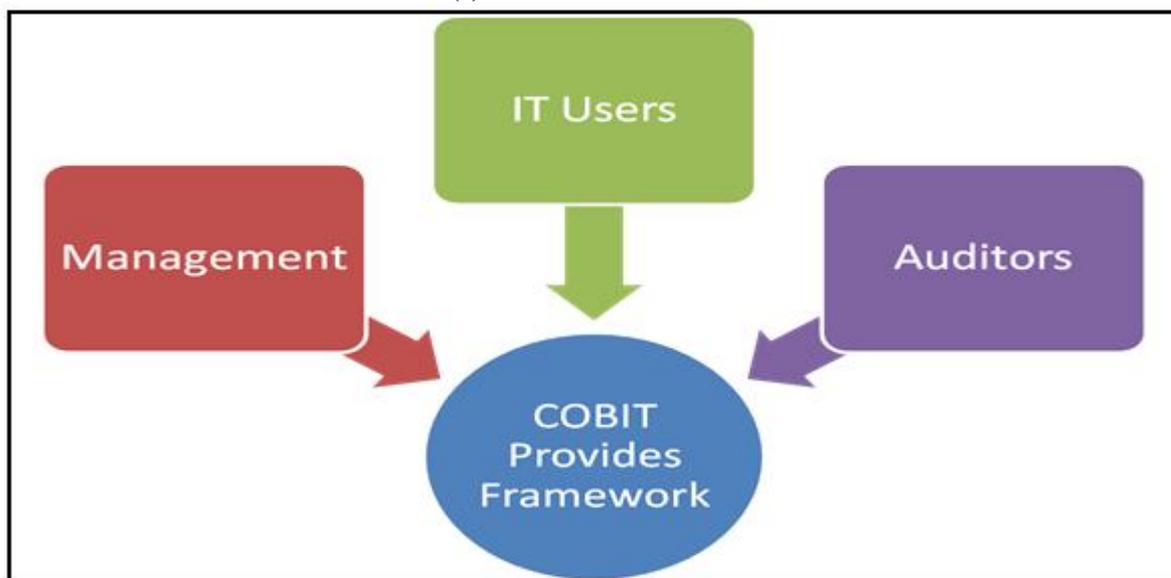
1. Preliminary Investigation steps will help to decide whether to develop a system or not. It requires primary preparation such as identifying problems and scope, conducting investigation, identifying the appropriate option, testing and reporting to the concerned.
2. System analysis helps to provides various steps to locate the exact requirements from new system to be developed. It includes collection of information, analysis of current system, analysis of proposed systems and preparing the management report.
3. System Design is the essential phase of system development. This system leads to design various activities applicable for system design such as input and output design, data storage, data communication and system manual. It is complex and technical phase of software development.
4. System Acquisition and Software Development is applicable after the system design. Under this phase's acquisition of system taken place.
5. System Testing, system developed or acquired will be tested in this phases and the effect of it shown in this steps.
6. System Implementation and Maintenance is the last phase of SDLC, the developed system is implemented by performing several steps such as Equipments installation, Training, system conversion and post implantation evaluation.

Information System Audit and Control Association (ISACA) is a worldwide association of Information System professionals. ISACA has developed system control, audit and security. The control system developed by ISACA is as follows:

1. Internal control framework for Information System
2. Different types of Internal Controls of Information System
3. Various information System Security Concepts and Techniques

The Control Objectives for Information and related Technology (COBIT) is the set of best practices for information technology, management created by the Information System Audit and Control Association (ISACA) and the IT Governance Institute (ITGT) in 1996.

Chart: 2.9(c): COBIT Provides Framework



COBIT provides a usual of generally accepted indicators, processes and best practices to assist them in maximizing the benefits derived through the use of information technology. It has collected Standards from 36 different sources into single framework that have a big impact on the information system profession. It maintained balance between risk and control investment in IS environment.

107. The articles published in Student Accounting Hub Page the author explained the accounting systems of many companies irrespective of size business large and small and level of CIS applied. The author focused that the audit staff should have absolute understanding of the controls in a CIS environment. They should analysis the impact of it, audit risk. They should be well verse with the procedure applicable under CAAT's. The author had highlighted the recent guidance standards:
 - a. ISA 300 (Redrafted) Planning an Audit of Financial Statements
 - b. ISA 315 (Redrafted) Identifying and Assessing the Risks of Material Misstatement Through Understanding the Entity and Its Environment
 - c. ISA 330 (Redrafted) the Auditor's Responses to Assessed Risks.
108. The author has highlighted that the aim of International Standard on Auditing (ISA) is to launch ideals and deliver direction on measures to be shadowed when an audit is steered in a Computer Information Systems environment. For purposes of ISAs, a CIS environment exists when a computer of any category or size is involved in the processing by the entity of financial information of implication to the audit, whether that computer is functioned by the individual or by a third party.
109. Water W had explained the SA 315 and SA 330 related to Controlling System required under CIS environment.

APPRAISAL

Researcher while carrying out review of literature associated with ICAI Provides proper provisions for the functioning of the applications of CIS- audit but still not accepted throughout due to certain internal issues in the banking, from the above review of literature, researcher has listed the following key observation(s):

1. According to the American Institute of Certified Public Accountants (AICPA) the financial statement auditors need to bring a change in their auditing and have to adjust according to the changing needs of information technology (IT).
2. Enterprise Resource Planning (ERP) systems have significantly changed the way companies maintain their businesses.
3. Changes that are being incorporated by the ERP systems have created a changing factor the techniques in which auditors perform their work.
4. Auditing Assurance Standards Board (AASB) followed proper procedure while drafting auditing standard.
5. True and Fair View cannot be accomplished without the accounting and auditing standard.
6. The primary aim of the strategies and measures is to maintain the high quality with reference to national and international level.
7. Accounting and auditing standards based on key aspects such as ethical requirements, professional scepticism and judgment, audit evidence and audit risk.
8. Audit should be conduct as per the Auditing Standards.
9. Banking regularity provision are let down by the banking acts which must be followed by each one.
10. SQC are equally important like other standards and auditor needs to understand it properly.
11. The policies and procedures will depend upon the size and nature of the banks.
12. Global Technology Audit Guide (GTAG) provides the platform to the management about MIS control, security, and IS auditors with guidance on different information technology associated risks and recommended practices.
13. Information System Auditors need guidance and a different yardstick to measure the 3E's (Economy, Efficiency and Effectiveness) of a system. It is application of professional judgment in audit process; hence the ICAI has issued AASs covering various aspects.
14. COBIT is introduced by ISACA to built relation between management, auditor and IT users. It helps to keep balance between risk and control investment in IS environment.

Hence from the above study it is revealed that ICAI has made the accounting and auditing provisions for the smooth functioning. There is no clear outcome regarding the application of CIS in bank affects the mindset of people working under the banks. Therefore to bring the genuineness to present research, researcher has formulated following objective, problem and hypothesis.

Objective 6: To study ICAI provisions on CIS- audit.

Problem 6: ICAI provides proper provisions for the functioning of the applications of CIS- audit but it is not yet accepted throughout due to certain internal issues in the banking sector.

Hypothesis 6: The efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector.

Therefore the researcher has justified linkages between title, objective, problem and hypothesis of the study. The efforts taken on review of literature are worthwhile.

2.10 SUMMARY

IT based accounting systems has increased excess application of Computerized Information System which, leads to great challenges to the external auditors. He should not drop single sight of Auditing Principles. Hunton and Wright (2009) concurred that Information Technology Auditing (IT auditing) has began as Electronic Data Process (EDP) auditing. He focused on the demand of IT in accounting systems, the requisite for IT control, and the impact of computers on capability to execute attestation services. A.M. Rawani and M.P. Gupta (2002) have attentiveness on Role of Information Systems in Banks. Shyam Ramadhyani emphasized that the implementation of Information System not only change the processing, storage, retrieval and announcement of financial information but also influence the accounting and internal control systems in an organization.

Diane Janvrin, James Bierstaker and D. Jordan Lowe study the Regulatory standards and its codification in excess implementation in an organization and related risks. Kamal Gupta has indicated the auditor's concerns regarding internal controls system. He stated that the financial auditor should have controls in CIS environment that provides coherent assurance on auditing procedure. Many of the authors has focused that CIS required CIS internal control. They focused on general and special CIS control.

Audit under CIS undergo with different systems. Experts have suggested approaches like auditing around the computer, auditing through the computer and auditing with the computer. Each approach has two faces positive and negative. The application of CIS approaches based on demand and today's demand is auditing through the computer. Many researchers stated that auditing through the computer has more reliability and validity then auditing around the computer. G. Sekar and B. Saravana Prasath have compares the Auditing around the Computer and Auditing through the Computer. The main criteria of comparisons were recognition of computer, audit assurance, use of computers and use of CAATs.

Review emphasized on guidance note provided by ICAI's. ICAI recognizes that CAAT's may enhance the efficacy and efficiency of audit procedures. The aim of International Standard on Auditing (ISA) is to formulate standard and provides rules on processes to be tracked to bestow true and fair view. Many authors has discussed about positive and negative impact of CIS audit. Experts like Mohan Bhatia stated that about Information Technology Act 2000. He stated that it is based on Model low on Electronic Commerce adopted by the US. This Act was based on different objectives.

Dinesh Madan has focused on Auditing and Assurance Standard 29 on Auditing in a Computer Based Information System Environment. AAS 29 issued by Institute of Chartered Accountant of India (ICAI). Although there is evidence to increase professional interest in CIS effectiveness in topical years, the literature is still characterized by a paucity of empirical studies. Various studies were conducted related to information systems usage in organizations.

P. Nuttavong, C. Kriangsak pointed out that though the effective and efficient model has been introduced for effective CIS audit and judgment. It is negotiator in respect of challenges on computerized-audit competency is vast, varied, and evolving. Yet, there is requirement of systematic testing about effects of computerized-audit competency on professional sustainability via audit judgment.

CHAPTER - 3

AUDITING UNDER COMPUTERISED INFORMATION
SYSTEM ENVIRONMENT: AUDITING
APPROACHES

3.1 INTRODUCTION

The crest of digitalisation in the world has made everyone to be techno savvy. None of the organization will exist without accepting incredible enlargement and enhancement in IT sector. Every private and public entity has to adopt it to remain sustain in the global market. Studies have shown that the incorporation of digitalisation has solutions for many issues in day to day life of an organisation. As IT systems substitute the long standing manual accounting and auditing processes. Computerised system overcame the drawback of manual system. The implementation of computer is an essential to a certain level of assurance in working pattern of entities. IT provides inherent advantages of technology along with the new vulnerabilities in accounting and auditing system. It may be a bunch of challenges for non IT user. As IT field is unique of the greatest rapid changing system than others. Auditor needs to modernize by periodic revisions and supplements in turn with the emerging trends. Hence, before the auditor commence audit, it is important that auditor must have a meticulous understanding of CIS environment in bank. Without proper understanding of the functioning of each items or software, auditor would not be in position to complete the task effectively and efficiently. The auditor must have adequate knowledge and expertise of accounting and audit software. One should expect to understand software system adopted by the bank. Auditor needs to consider the following tasks during audit process.

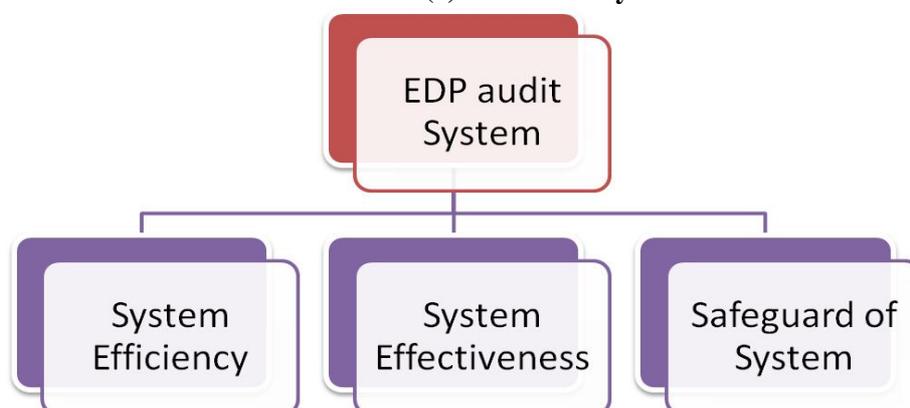
1. Sufficient understanding of the CIS environment
2. Accounting system adopted by bank
3. Effect of CIS environment on bank audit
4. Audit Trails followed under system
5. Controlling system
6. Test used to evaluate the ICS

From the above discussion, it is understood that auditor should have enough information of CIS environment and audit approaches available. Hence, the researcher has put an attempt to highlights the type of CIS audit approaches, their shortcomings and its impact on audit. This topic deals with objectives of the study number 2 and problem of the study number 2.

Electronic data processing is the processing of data or transaction by a computer and its programs in an electronic communication environment. EDP system is used in an audit process by an organization instant of manual audit.

EDP audit or Audit under Computerised Information System environment means an examination of system efficiency, system effectiveness and safeguard of assets of an organization.

Chart no: 3.1. (a) EDP audit system



It helps in smooth functioning of audit process. Most of the works of auditor related to manual system get reduce. The auditor would be able to focus on the excellence of audit. The auditor needs to take precaution in terms of following aspects:

- a. Ensure that data and programme are properly protected
- b. Check whether accurate security exists in the system
- c. Ascertain whether the processing of the data is proper
- d. Ensure that proper design of IT controls is maintained
- e. Ensure that proper allocation of obligations and errands of the software engineers

The implementation of CIS provides concurrent access to users due to shared sever system. It helps to increase the speed of audit process, efficiently and accurately generate report as per need of the management. As the digitalised process is created and implemented. It helps in reducing the costs of managing data by an extremely great amount. Due to this reduction in labour also takes place due to which efforts and duplications are also reduced.

The above description shows that CIS environment provides numerous benefits. This attribute is depends on the scope of audit process such as high speed of CIS audit process, Prevention of clerical error and concentration of duties in the arrows of specialized personnel.

The transformation from traditional or manual audit process to computerised system brings many changes or transformation in areas of audit process, mind-set of accounting and auditing staff an organization. This phase is based on certain aspect such as internal control system, application of software, use of technology etc.

The change in audit approach of computerised accounts as compared to audit of manual accounts is causes of difference between Conventional Accounting System and Computerised Accounting System. Following is the disparity between conventional accounting system and Computerised Accounting System.

Table: 3.1 (i) Disparity between Conventional Accounting System and Computerised Accounting System

Sr. No.	Particulars	Conventional Accounting System	Computerised Accounting System
1	Input documents	Transactions are recorded from source or input documents example bills, invoices, receipts and voucher etc.	Data is entered "live" in an online system during transaction taken place. Hence no input documents are used.
2	Design/ Time required	Easy to design and less time consuming.	Difficult to design hence it requires more time.
3	Effect on organization structure	Accounting and book-keeping functions are centralised in the finance department.	The activities and responsibilities may be centralised in the EDP department, unless all departments are fully computerised and linked by network e.g. (LAN).
4	Complexity	Less complex relationship between sub-systems example: purchases, stores and production etc.	More complex and high degree of inter-relationships between different sub-systems.
5	Reliability	Possibility of collusion in order to override the system cannot be discounted. Hence less reliable.	Due to effectiveness of controls, it is considered more reliable.
6	Audit trail	Fully visible- all ends of the transactions can be neatly and clearly traced.	Due to deficit of input documents and storage of information inside the system, audit trail is less visible.

It shows that both the system has pros and corns but demand of digitalisation and several factors enforced an organisation to adopt Computerised Audit System.

3.2 FUNDAMENTALS SHIFTING FROM TRADITIONAL AUDIT SYSTEM TO COMPUTERISED AUDIT SYSTEM

There is no change until and unless it is in great demand. The requisite of such changes is based on needs of an entity. As in today's generation everyone seems to be modernized with demand of the era which is based on certain parameters. If they do not, it may affect their position in the global market. Similarly, with the development or growth of business, expansion and diversification demands to transform from one aspect to another. There are numerous reasons for the transformation from manual to computerise one. The research has enlightened the **following major causes of shifting from Traditional Audit System to Computerised Audit System.**

1. Application System development control
2. System software control
3. Disappearance of manual reasonableness.
4. Impact of poor system
5. Exception reporting
6. Human- Machine interface

1. Application System Development Control

Application system used in audit process should be develop and designed to provide rational assurance regarding authorisation and effectiveness of system. The developmental stage is dangerous if proper care has not taken. It is difficult to allocate the errors or frauds at during the installation.

The following aspects need to be considered

- i. Testing, conversion, implementation and documentation of new revised system
- ii. Changes to application system
- iii. Admittance to system documentation
- iv. Hire or acquisition of system

2. System Software Control

System software control is based on assurance regarding development of software system. It is authorised and efficient. It is followed by endorsement, challenging, accomplishment and certification of new scheme software. This system control, maintain, restriction of access to system software with proper documentation by authorised personnel.

3. Disappearance of Manual Reasonableness

The demand of manual system is vanishing day by day due to quick and easy availability of accounting and auditing process. The detailed analysis of physical system for renovation into a rational podium is possible with the transformation from traditional to computerised environment.

4. Impact of Poor System

As manual audit system is based on auditing standards developed by several national and international boards. Though there is a common standard for both the system but due to poor planning and execution, it is complicated to accomplish the prime objective of the auditing. Hence, expected standards do not match with the actual one, than defiantly most of the organization, will adopt CIS rather than traditional.

5. Exception Reporting

Audit report serves the purpose of stakeholders. The types of audit report differ from each stakeholder requirement or demand. It is difficult to get report as per the demand of stakeholder timely and accurately. Such reports can be generated with electronic system. In the software system Management Information System (MIS) plays an important role. MIS can serve the purpose of stakeholders. MIS provides accuracy of data which is equally important. The expected report can be transform from one end to another which is difficult in conventional system.

6. Man- Machine Interface

As both the method have two sides of coins, positive as well as negative. The application of traditional system is acceptable to certain extent. Beyond which none of the system work out in a better way. The interface of both the systems based on proposal, assessment and application of communicating computing system for wellbeing of human use. Hence, sense it is “no man without a machine and no machine without a man.” The researcher conclude with modern system is user centric cannot achieve purpose of audit in term of man machine interface.

With the above study it is acceptable to transform the manual audit system to computerised system in order to fulfil the demand of an entity. There are many studies focused on the implication of CIS environment in digitalised world. LPG is solitary important reasons for extensive demand of technology. It is mandatory for each sector to adopt it, otherwise they may fail to face the challenges in the competitive world. Hence an auditor should have sufficient knowledge about the recent changes and development in terms of technology. Auditor should be aware about speedy changes in IT sector.

3.3 RECENT DEVELOPMENT IN AUDIT SYSTEM:

It has been experienced by every one of us that Information Technology is upgrading tremendously. At the single stroke of time moment new innovation and invention has been noticed in every sector respective of nature of business. In such glory atmosphere of IT an auditor should be aware of upcoming trends in IT sectors. An auditor has to observe that every single changes in this felid leads to several changes in the auditing. It may affect the prime intention of audit. The rapid growth in IT field may create obstacles to an auditor. Due to deficiency of competency, knowledge, information, improper judgement the auditor cannot able to accomplish the task as per the provision or norms. An auditor may face several issues in their way. Therefore it's commitment of an auditor to consider the recent changes and developments in digital era.

CA. Vikas Oswal has focused on some the recent changes in the modern era. Such alteration or up gradate has to be occupied into contemplation by the auditor before executing his duties.

The following was the recent changes in field of CIS audit process

- a. End user computing
- b. Diminishing Hardware cost, boost in micro user
- c. Extensive use of Relational Data Base Management (RDBM)
- d. System development and Computer Aided Software Engineering (CASE) equipment accepted by numerous users
- e. Shift form DOS to UNIX and C language
- f. Acquaintance grounded and verdict sustenance system
- g. Augmented data communication and schmoosing
- h. Use of EDI (Electronic Data Interchange)
- i. Scanners and speech recognition system for involvement

The knowledge of recent development or growth in the audit process will help the auditor. Before commence of audit, the auditor will consideration all the changes and accordingly an auditor will prepare his plan, select methods and perform.

The selection of approaches is set up on the nature, size and system followed by an entity. The entity must clearly inform about the software system adopted by them. This will help the audit team in several ways.

3.4 APPROACHES OF AUDIT IN COMPUTERISED ENVIRONMENT

The audit team must keep into consideration that the computerisation of accounting does not change the basic aim and scope of auditing. It expresses the same opinion of The True and Fair view as in traditional audit process. However, the computerisation has brought many changes in an organization, audit procedures and controlling system. This change in computerised environment requires certain modifications in conventional testing of compliance test and substantive test.

The auditors should programme their audit functions to appraisal of core rheostat and examination of records generated by the system. The auditors should perform their duties connected with compliance and substantive test by using various tools and techniques to arrive on conclusion. Auditor has to study the audit risk and internal control system in the entity. The auditor view ensures the accuracy, validity and completeness of data. Accomplishment of such view they have to follow specified approaches. The auditor followed the approach as per their knowledge and expertise in handling computerised data.

Following are the types of audit approaches in computerised environment

3.4.1. Auditing Around the Computer

3.4.2. Auditing Through the Computer

3.4.3. Auditing with the Computer

3.4.1 Auditing Around the Computer

Auditing Around the Computer is oldest method of audit under CIS environment. It is also known as Black – Box approach. In this approach auditor more or less ignores the fact of use of computers for processing of information while determining the nature, timing and extent of the substantive procedures. The auditors mainly concentrate on input - output and ignore the specifics of how computer process the data or transactions. Accordingly the auditor matches the input with output. On the foundation of result obtained, it is assumes that the processing of transaction must be correct. It is similar to a manual system.

Under this method the preference has been given to basis documentation is processed correctly and the auditor verifies this with the output. The software system of the computer is not documented or audited.

In testing Payroll Application the auditor might first examine selected time cards for hours worked and employee earning cards for rates and then trace these to the payroll summary production and lastly associate eras, degree and extensions. The contrast of inputs and outputs may be done physically or with the aid of computer. The auditor is, therefore relying on the controls in user department.

After taking into consideration of the above discussion the researcher has listed the positive and negative aspect of this approach.

The following is positive features i.e. assistance of Auditing Around the Computer:

a. Less audit cost

As this method is just like the manual audit system hence around is no requirement of high level of competency in IT. As audit process is done manually hence no need to update or develop system software.

b. Limited computer knowledge

Due to excess dependence on traditional trails there is less or basic use of computer. The basic task can be done by the person having basic knowledge of computer.

c. Effortlessness of comprehension as a tracing of documents

Unlike computerised system transaction may automatically get transfer to several files as per the programme set, in manual system every transaction gets recorded step by step and supported by vouchers. There is negligible use of computer. Hence it is easy to trace the documents.

d. No demand of in- depth study of application program

As manual process follow a specify process of recording and execution of accounting and auditing. There is no concept of development of application programme due to basic use of computer.

e. Suitable to small scale

Small scale entity may have less transaction which can be manage with mostly manual system hence for this kind of organisation Auditing around the computer is suitable.

Auditing around the computer is initial approach which may be used by every organisation silently. But for the long run and large business unit it may not be possible. It has some drawback also which curb the organisation not to use. **Such hindrances are as follows:**

a. Expensive due printed data requirements

In Semi manual system, auditor works manual in relation to computerised data. Auditors are more concern about the input and output. They may require both for verifying which add the cost to this approach as compared to traditional system.

b. Time consuming

Excess depends on human being may spent more time in several audit task and process.

c. Ignorance of huge potential of computers to help the auditor

Due to lack of knowledge or competency skills the auditor might not able to comprehend the potential of computers in terms of use, application and control.

d. No direct control

Unlike other method, Auditing Around the Computer do not have complete control in the auditing. The rotation of staff may affect the accuracy and accountability. The system can be access by any one due lack of system control.

e. No ascertains about the underlying process

This approach is based on technology cum manual. Mainly everything done manually, only for few aspects computer is used. Hence it is complicated to depict audit process.

With the above observation it is understand that Auditing Around the Computer can be applicable only to small scale business unit but by considering the loophole in it. This system may affect severely due to risk available. Before applying or using this approach the auditor should analysis the risk factor involvement. Most of author had focused on the factor responsible for audit risk such as:

- a. No testing of software system
- b. No audit generated evidence that the programs are working as documented
- c. Impossibility to determine the causes of errors

In order to overcome with several issues auditor should have proper information about the potential of technology. Auditor should prepare blueprint about what, how, when, where, whom. This will create console to conduct the audit. One should take precaution in assist of work and collection of evidences.

Applicable

This approach is suitable when the application controls are difficult to comprehend. The auditor can test the computer processes by feeding hypothetical data in the computer for which manual solution is available. Comparison of such a solution can be made with computer generated output and if no material discrepancies are noted, the auditor can use this approach.

With the emergence of IT sector and to overcome the issues prevailing in system Auditing Around the Computer the other approach used by many organisation is Auditing through the Computer. Researcher has tries to give justified reflection based on available resources.

3.4.2 Auditing Through the Computer

Auditing Through the Computer is moving from batch processing to on-line transaction process. It is budge from mainframe-mini system to LAN, WAN etc. This system has converted the office in to paperless office. Its contain most of data in electronic form which has made to change the audit gears and methods in the audit process.

Auditing Through the Computer includes auditor investigates the system of data processing, and if the scheme is acceptably measured, the auditor follows the system and infer that the information processed by the system is accurate.

Under this approach, use of computer is as “live” and “dynamic devices”, which add value to process of auditing. It is treated as the target of auditing. In the nonstop changing sector audit through computer is essential. It has shown in several studies that the application of different approaches is depend on the necessity of an entity. **Some of the key aspects are as follows for the selection of this method such as:**

- a. On-Line data entry
- b. Elimination or reduction of printouts
- c. Real time files updating

a. On-line data entry

On-line data entry is an essential tasks performed through the computer. Under this system all the data able to be access on-line due to availability storage in computer. Unlike manual system the duplication of work can be reducing. It helps to reduce backlogs and duplication of work.

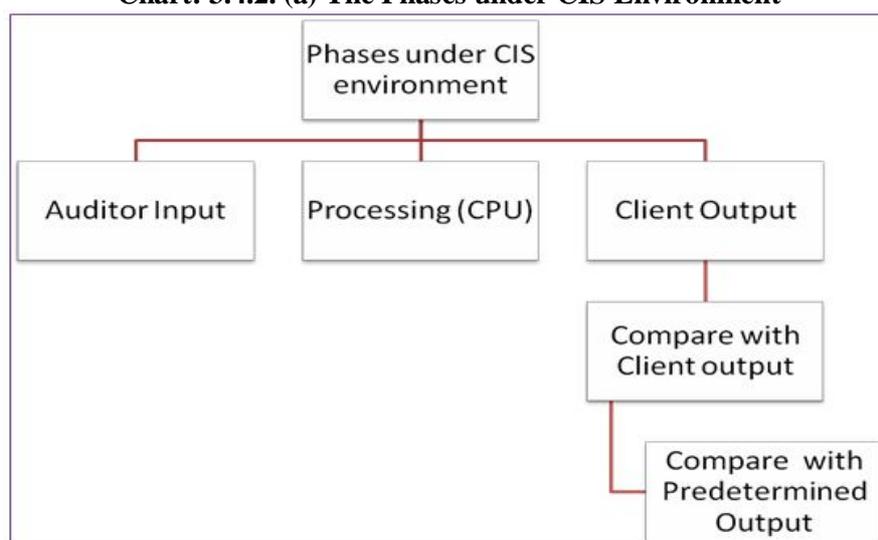
b. Elimination or reduction of printouts

This system eliminate the hardcopy of output requires for several purpose. Again this one of positive aspect for Auditing Through the Computer. Most of the analysis or report generation can be done in system only with the command.

c. Real time files updating

On-line input of data and auto generation of report and analysis helps to completed task on time. As compare to Auditing Around the Computer, Auditing Through the Computer is faster and accurate. This approach is consists of both the procedures compliance as well as substantive. Both the procedures are the indicator of Auditing Through the Computer. This approach gives importance to all the phases of CIS activities. **The phases under CIS Environment are as follows:**

Chart: 3.4.2. (a) The Phases under CIS Environment



Auditing through the computer is also known as the White Box approach. The processes and controls applied in audit environment are subject to audit, processing controls in operating and investigating system. In edict to style this process easy Computer Audit Software may be used by auditor.

Audit Software package may include of the following aspects

- i. Interactive enquiry facilities to cross-examine files.
- ii. It helps to analyze computer security logs for extraordinary usage of the computer.
- iii. It has ability to compare sources and compile program codes in order to locate dissimilarities.
- iv. It facilitates to execute and scrutinize computer treatment of “live transaction” by moving through the processing as it occurs.
- v. It helps in generation of test data.
- vi. It helps in actual and higher level control. It leads to evaluate the compliance testing and substantive testing before an audit report is produced. Such generation of aids shows the logs of application programs.

Auditing through the Computer is addition to Auditing Around the Computer. In order to execute audit systematic and accurately, auditor must re-examine the other aspect of CIS system also. **Following are the major aspects under this system which auditor needs to review and test before commencing the audit.**

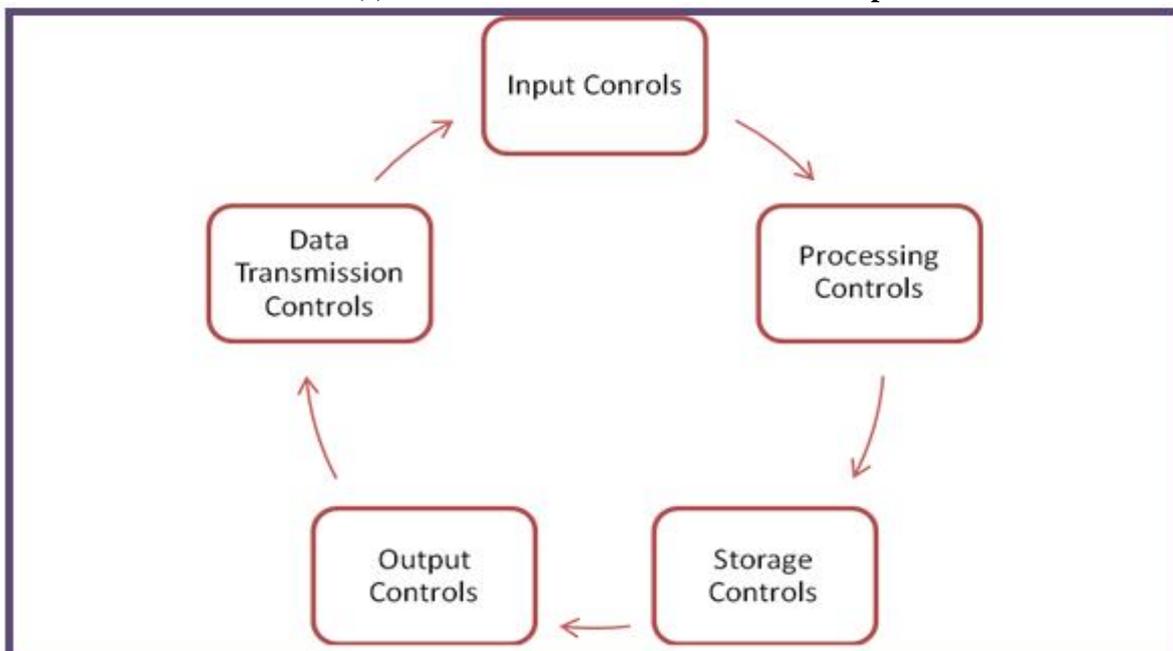
Chart: 3.4.2. (b) Auditor’s reflection on CIS Environment



This will help auditor to analysis the system. It helps to estimate the level of effectiveness in software system. On the basis of it auditor can draft the audit planning and procedures.

Along with review of system control, auditor must be able to comprehend the level of organisational structure. This will help auditor to take defensive measure for the smooth execution of audit process. The five indispensable controls in audit process are as follow:

Chart: 3.4.2.(c)The Five essential control under audit process:¹²



1. Input control replicate that every data is accurate and authorised by concerned department.
2. Processing Control imitate that the dispensation of facts is carried by responsible personnel under the control of department.
3. Storage control reflects that the software should have proper coding storage facilities. It should not modify by anyone else and available for use as when as needed.
4. Output control ensures that no modification or addition without informing the authority and data provided to auditor should not altered till the task get over.
5. Data transmission control that information forwarded or transferred to other system should not be edited. Protected coding should be kept secretly.

The above controls are vital for auditor to give their opinions on the financial statement of bank. The major controls may affect the True and Fair View status of financial statement. Hence, the rational precaution would helps auditor to maintain control in audit process. The adequate controls over deterrence of unofficial entrance to computer and computerised database would help in audit process. **Following is the preventive measure undertaken by auditor to control organisational structure:**

- i. Auditor has to separate or allocate task between staff into transaction processing and computerised system functioned.
- ii. Auditor has to ensure adequate supervision of personnel administered.
- iii. As the process of auditing is not a starlight forward flow of work from start to finish.
- iv. Auditor has to check with the standard checklist or with list of questions.

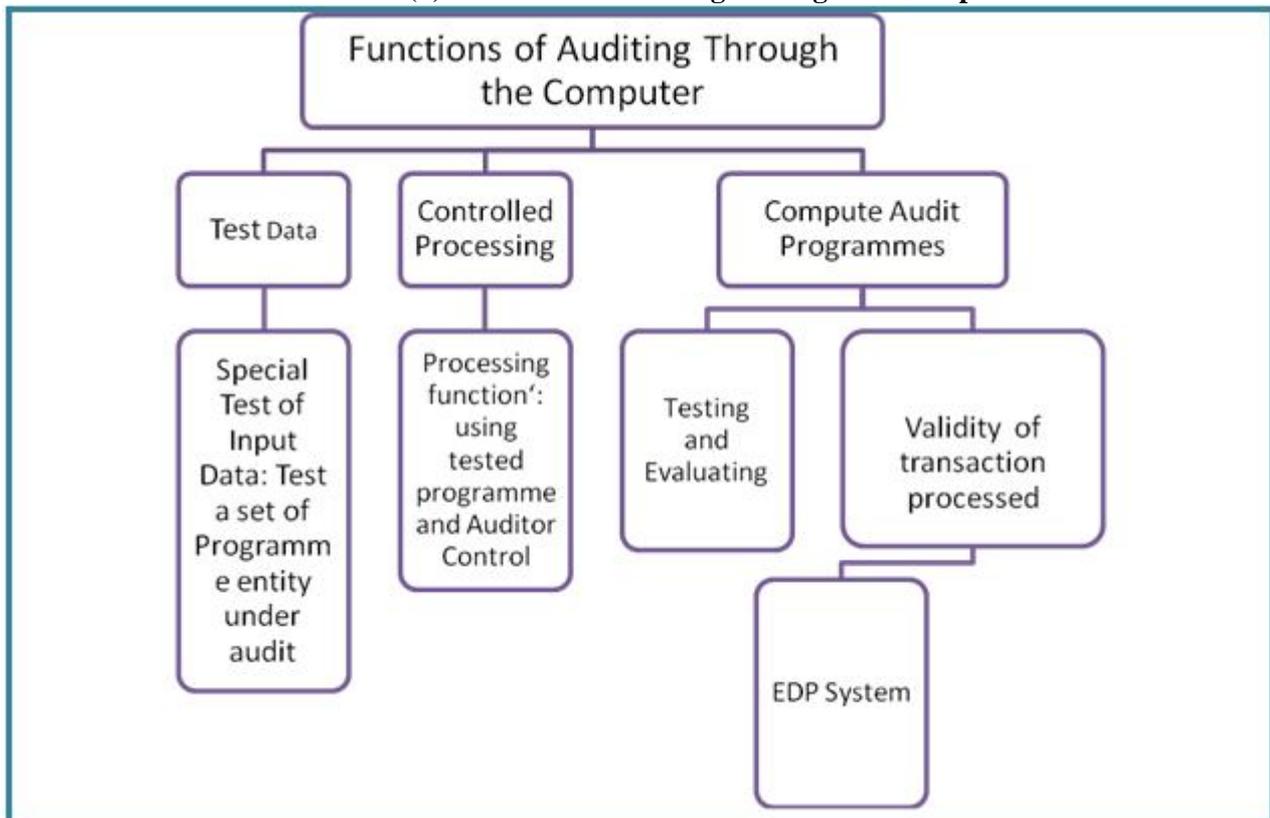
This could be explained in better way, for example vouching of wages and salaries paid, here the auditor could use various controlling system such as record counts, limit test , check digits, hardware control etc. in order to maintain accuracy and reliability of transaction. With the above preventive measure, auditor would able to conduct audit systematically and effectively.

Auditing Through the Computer could be applied in different perspective by an organisation based on their obligation. The different perspective of Auditing Through the Computer as per the situation is as following:

Table: 3.4.2. (i) Different Perspective of Auditing Through the Computer

Sr. No.	Situation	Examples
1	Large Volume of Transaction	Cash sales in large organizations or departmental stores
2	Highly Internal Control system	Operational banking system a computer programme may group connections for separate tellers to deliver controls totals for settlement at the culmination of day's dispensation
3	Efficient Processing System	EDP system used to scan accounts receivable balances for amount exceeding the credit limit and for confirming receivable accounts random sampling table can be used.
4	Facilitate Analysis	Summarises inventory turnover statistics to determine slow moving inventory items with help of software.
5.	Cost Benefit	Identification of extensive difference in the noticeable audit trail.

Auditing Through the Computer facilitate different function under computerised system. It is renounce then Auditing Around the Computer. Functions concern with test data, process controlling, audit programmes is performed by this method.

Chart: 3.4.2. (d) Functions of Auditing Through the Computer:¹³

Auditing through the Computer is providing an additional feature in relation to former approach. **Some of the affirmative aspect of Auditing Through the Computer are as follow:**

a) Excess internal control

This approach facilitates excess internal control in numerous forms. High level of internal control in general, application software and other control maintain the accuracy and effectiveness in an organisation. Excess Internal control systems reduce the worry of auditor. Audit process would able to compete on time without any meddling or obligation.

b) Compliance and substantive procedures are followed

This approach covered both the procedures. It ensures that the auditor should concern with both the aspect and accordingly do the necessary precaution.

c) Extensive use of computer

This approach is moving from batch process to on-line process which leads to excess use of computer for different purpose. It enables to use computer for multiple function in accounting and auditing system. This makes the test results more conclusive.

d) Sufficient acquaintance of computer required

This approach is extremely use in digital era. The rapid growth and development in IT sector generate obstacle to user. Hence accountant and auditor must be well equipped with the recent trend in IT.

e) Advanced skilled are required

Auditing Through the Computer is requires high level of skill to coup with recent trends in CIS environment. Lack of comparative skill would affect the eminence of audit. Auditor should realize the audit process with requisite of IT to avoid the risk factor.

f) Suitable to large scale entities

It is best approach for large scale business entity. Due to availability of excess funds, manpower and technology it is feasible to apply this method under audit process.

g) Own design of software

This approach provides freedom to decide whether to acquire or self design the software as the need of an entity. Auditor can design his own computer programmes or software for testing and evaluation of data.

The focused virtues give a transitory impression nearby the utility of Auditing through the Computer. But along with this positive side it has a negative aspect which has been extracted from several studies done by authors. Researcher has highlighted few of them. **Following is the obstacles of Auditing thorough the Computer:**

a). High audit cost

The application of Software System requires high quality of software, internal control and qualified and experience staff to execute the system. It may add the cost to an organisation. It is an additional cost above the other operating cost. Hence, it could be a reason for non acceptance such approach in may organisation.

b). Over burdens on staff as well as on auditor

The application software is demand of digital era and level of software is depends on the complexity level. The complexity level in terms of absence of input documents, lack of observable transaction trail and lack of detectable output etc increased the work of staff and auditor. The staff should be expert. Preventative measures need to under taken by the auditor.

c). Specialised /Professional course in computer auditing requires

Like manual audit system, audit under CIS environment is also required trained and qualified person to be carried out the audit. Several legal bodies have laid down the quality, qualification and expertise required to an auditor. Both the procedures compliance as well substance is needed to complete tasks correctly and effectually. Such multiple tasks enforce that auditor should have professional expertise to identify the events of an organisation.

Auditing through the Computer demands excessive involvement. With the incredible growth in information system several new concept has boosted up under accounting and auditing system. Auditing with the Computer or Auditing by using the Computer is a most challenging approach in the area of audit. Researcher has focused on some the aspect of Auditing with the Computer based on available study in field of audit.

3.4.3 Auditing with the Computer / Auditing by using Computer

Auditing with the Computer is the process of using CIS system of the client in gathering material evidence. It is a component of Auditing through the Computer.

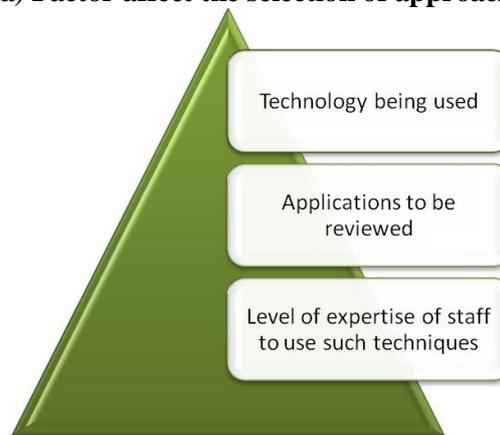
Auditing through the Computer makes use of computer in auditing. Computers are useful tools and techniques used in performing audit. Many data files are in machine readable form, which cannot be easily examined by anyone. Hence, auditor need to utilize a computer programmes to examine those files and perform many of the clerical tasks previously performed by staff. Under this approach entire accounting and auditing process is based on software system and auditor should have keen knowledge about it. The techniques which use the computer itself for audit purpose are known as “Computer Assisted Auditing Techniques” (CAAT’s). It is the techniques which use the computer itself for audit purpose.

3.4.3.1 Computer Assisted Auditing Techniques (CAAT’s)

CAATs are techniques that utilize the computer as an audit instrument. It comprises computer programmes and data that can be exercise by auditor in process of information system. Information Technology based tools and techniques are required to allow the auditor to access, analyse and evaluate the data stored on the computers. CAATs are nothing but software. The software is either available off-the-shelf, or is specifically developed. There are various types of CAATs available. CAATs consist of both the procedures compliance as well as substantive. It consists of Test Packs and Integrated test data approach. Both the approaches have distinguished features. The selection or application of CAAT’s is based on silent factors. The auditor ought to consider those silent factors involved in audit approach before applying audit process in an organisation.

The selection of approach in CAAT's is based on following aspects.

Chart: 3.4.3.1 (a) Factor affect the selection of approaches under CAAT



1. Technology being used

The auditor should verify type and level of technology used in an origination. Accordingly audit team will decided their way of functioning.

2. Applications to be reviewed

The application used in an organization has to be evaluated by entity. On the basis of evaluation report, auditor can come to know about the authenticity and accuracy of data.

3. Level of expertise of staff to use such techniques

Auditing With the Computer itself reflect the optimum requirements of techno savvy personnel in the audit process. Hence, while selecting the approach the auditor should able to understand the expertise level of staff. Programme building is done by one person and implementation done by third person who do not knows about the function. One has to understand and implement it.

Hence, to safeguard interest of CAAT's application ICAI has placed the guideline for the same.

ICAI's guidance note on Computer Assisted Audit Techniques (CAATs) deals with the usage of CAATs. The guidance note recognizes that CAATs may enhance adeptness and productivity of audit measures. These guidance notes are based on certain principle recommended by The ICAI.

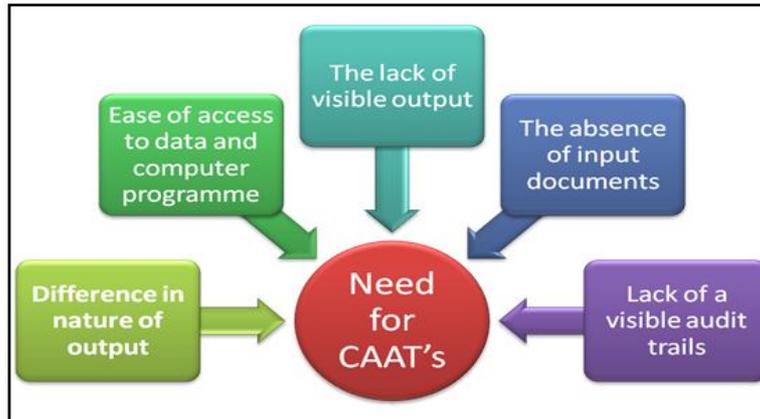
Following are the principal recommended by ICAI

- I. Availability of sufficient IT knowledge, expertise and experience among the member of audit team to plan, execute and use of results of the particular CAAT.
- II. Availability of CAATs, suitable computer facilities and data in appropriate format.
- III. Impracticability of manual test due to lack of evidence
 - a) Example : authorisation of system generated transactions
 - b) Operation of programmed control procedures
 - c) Retention of transaction details in electronic form in summarised form of totalling
 - d) Printed in hard copy form
- IV. Impact on effectiveness and efficiency of application of software than manual system.
- V. Time constraints- the auditor requires data. Some time data store for short period of time, the auditor may need to alter the timing of performing CAATs that requires such data.

With the above discussion it is cleared that CAAT's overcome of other two approaches in respect of several aspect. It's imperative need of digital era to follow the CAAT's. Hence, the researcher has tries to explain the

Following is the Needs for CAAT.

Chart: 3.4.3.1. (b) Needs for CAAT in CIS environment



1. Absence of input documents

Under CIS environment, a number of transactions are fed into the system without there being any source of document. Hence in CIS environment data may be recorded into the computer system without supporting documents. For example sales transactions may be enter into computer directly by the salesmen without there being any source document. An individual data entry authorisation may replace by other procedures in on- line transaction systems. Approval for order entry may be replaced by some other procedures. In some of the cases it was noticed that source document may be created for short duration.

2. Lack of visible transaction trails

Transaction Trails means the consecutive junctures in the footage of the operation in the books of account through which an auditor may be able to dash the transaction. In a manual system, it is normally possible to follow a transaction through the system by examining relevant sources documents, books of account, records etc. In a CIS environment, source documents for many transactions may not exist. Moreover, the updating of multiple files may be done by a single transaction. For example, the purchase of a unit of raw material goods may be recorded by computer, in inventory records, purchase records and creditor records. Because of these characteristics, it may be difficult to relate the output to individual transactions. The additional difficulties associated to this that the final output report will be without the detailed data available. As in a traditional system an auditor can obtain requires document as when required with different sources of document like books of accounts, records, files and reports etc. The business deal track may be in machine readable form in EDP environment systems, which are exits only for a temporary.

3. Lack of visible output

In traditional system it is feasible to access visually the results of processing. In electronic system a printed results of processing is not always possible, only in summary data may be admittance facts recalled on machine readable files.

4. Simplicity of entrance to data and computer programs

Data and computer programs may be retrieved data. It can be rehabilitated at the computer or through the use of computer gear at inaccessible locations. The lack of appropriate controls leads to increased in potential for unauthorised access and alteration of data and programmes by internal or external user of an entity.

5. Difference in nature of output

Under traditional system, visual examination of records enables an auditor to identify cuttings, insertions, overwriting etc. As these may designate an attempt to manipulate the records, the auditor examines these thoroughly. In CIS environment, on the additional indicator, the alteration of records cannot be identified through their visual examination. The auditor, therefore, has to apply other appropriate procedures to satisfy them that the records are into altered in an unauthorised manner.

CAATs allow the auditor to save period by investigating data deposited on computer media rather than on print-outs or other documents and in some cases, to demeanour tests which cannot be done physically because there is no noticeable indication or audit trajectory.

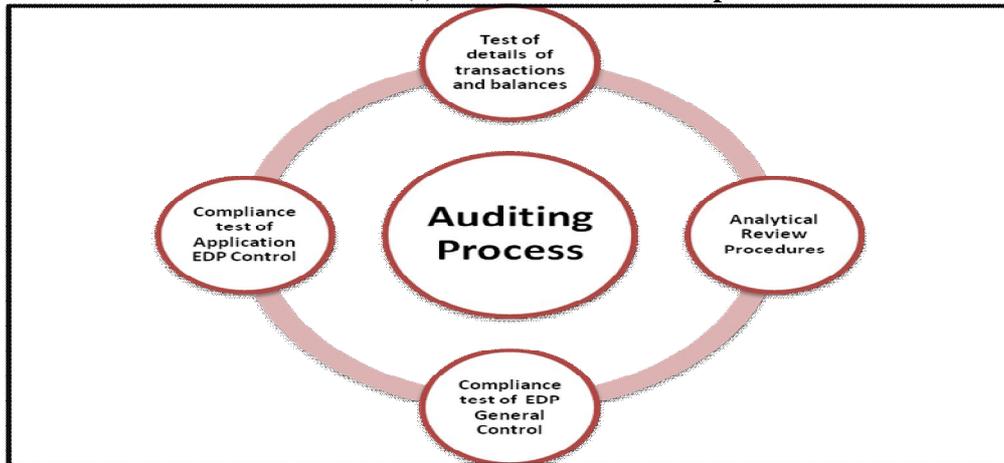
Hence the auditor have to take decision regarding testing of electronic data available in system. Alternatively, auditor could be strained to abandon manual tests because of unavailability of visible audit trail. In both the case, auditor must use either software or specially prepared audit facts to evaluate the inner workings of entity.

3.4.3.1. (c) Uses of CAAT in performing various auditing procedures:

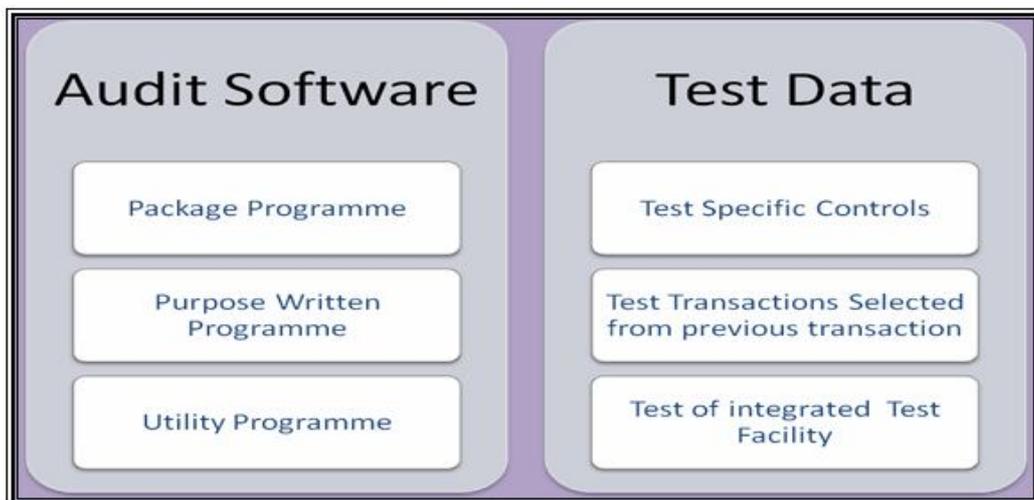
CAAT is used in test of niceties of transactions and balances. It is applicable to compliance and substantive testing. It is applied in executing different auditing procedures. Following is the use of audit software to test entire transaction in a computer file.

- a. Analytical review procedures- to recognize extraordinary changing of items
- b. Compliance test to general EDP controls- specimen, the use of experiment data to test access measures to the program libraries
- c. Compliance test of EDP application controls- it helps to test the function of the programme procedures
- d. Detection of fraud: it helps emphasize on frauds. There is lack of documentary evidence to indicate that the application of audit software has unearthed the will concealed frauds

Chart: 3.4.3.1. (c) Use of CAATs- audit process



Along with above use of CAAT in audit process, it has several uses in different forms. Such commonly used of CAATs is essential in today’s competitive era. The utility of CAATs are as follows:



Audit Software

It comprises digital system used by the auditor as a fragment of this auditing practice to course data of audit implication.

- a. Package Programme: It is generated to design to perform data processing. It is full compile of Computer programme.
- b. Purpose Written Programme: It is used in to execute audit tasks in definite situation. It is prepare by auditor, by the organisation or by programmer engaged by auditor.
- c. Utility Programme: It is used by an organisation to execute familiar data processing functions. For example sorting, creating and printing files.

Test Data

Test data is technique used in audit process in comparing input data with the output data with pre-determined results. It is applicable to several tests such as:

- a. Specific Control: It is used for specific controls in computer programme such as on line password and data access controls.
- b. Test Transactions selected form previously processed transaction: It is based on historical data or data treated by the examiner to analysis sacrifice processing characteristics of an organisation.
- c. Integrated Test Facility: It is used identify the dummy unit. It is posted through the normal processing.

The examiner must safeguard that the test connections are afterward eradicated from accounting records of an organisation.

Many authors have focused on the relevant and usability of CAATs in numbers of way an organisation. It has numerous features.

Characteristics of CAATs

CAATs are significant tools and techniques used in CIS environment. In CIS environment there are possibilities of misappropriation of documents, authorities, duties and responsibilities. An auditor must insist an availability of visible records irrespective of total processing time. Under this system internal control is considered reliable and accurate. The thrashing of audit track can generate obstacles CIS-audit process. Hence to overcome these difficulties Computer Assisted Audit Techniques can be used. Application of CAATs has distinct advantage such as:

a) Audit Effectiveness

Efficacy and proficiency of auditing can be improved with the adoption of CAAT in obtaining and evaluating audit evidence -for example:

- i. Some transactions may be tested effectively and efficiently by using the computer at similar level of cost. To examine all or a superior amount of transactions adequate selection required.
- ii. Analytical review procedures help in reviewed and obtained intelligences of uncommon stuffs in printed form by the computer.

b) Saving of Time

By using CAAT than other audit procedures, auditor can save period by revising the EDP controls.

c) Effective Test Checking and Examination in Depth

CAAT licenses actual inspection in complexity of nominated dealings since the auditor “constructs” the absent audit path.

d) Ability to Scrutinize Large Volume of Data

CAAT Provides fast and precise scrutinise of large volume of data without interference of manual.

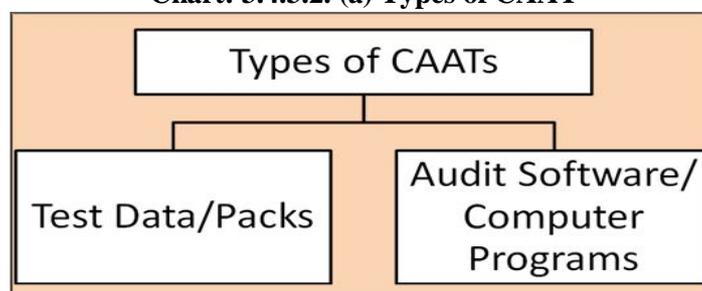
e) Less Manual Procedure

CAAT’s helps automatic transfer of data to several files and with the command generate quick data without much involvement of manpower.

3.4.3.2. Types of CAATs

CAATs have peculiar application in an organization. The application is based on requirements of an organisation. Types of CAATs decide the performance of auditor in respect of demand for audit process. **The types of CAATs used for audit purpose are discussed as follows:**

Chart: 3.4.3.2. (a) Types of CAAT



3.4.3.2.(A) Test Data/ Packs:

An organization compares the results obtained with pre- determined results by using Test data techniques in directing audit measures by inflowing data into computer system. It involves use of specific data for testing a particular sequence or program operated by the system.

- i. The test data use for processing purpose are:
 - a. Based on past transaction
 - b. Constructed deliberately for test purpose:
 - i. Abnormal transaction
 - ii. Normal transaction
 - iii. Absurd transaction
 - ii. Auditor verifies how the computer system responds to test pack. Whether the transactions reports as abnormal or normal or accepts them as “Garbage- In- Garbage – Out (GIGO)”.
 - iii. The data in test pack is also processed manually: Auditor need to compares and scrutinise the results under manual and computerized processing and derives his conclusion.

Examples

- a. Specific controls in computer programs such as password and data access controls are usually tested by test data system.
- b. Throughout the ordinary dispensation test dealings recycled in a united test ability where a ‘dummy’ unit is established and to which test businesses are posted.

When examination data is administered with the organizations normal processing auditor should safeguard that the test businesses are afterward jettisoned from accounting records of an organization.

3.4.3.2. (B) Audit Software/ Computer Programs

Auditing software include of computer program accepted by the auditor as a part of auditing procedure to route data of audit connotation. For examples, auditor can generate own computer program to prepare ageing schedule of debtors based on past data. In the computer stored and then compare it with the ageing schedule processed by computer system of an entity. Such types of software called as Purpose Written Audit Software. In many cases the auditor can use Generalized Audit Software (GAS).

Generalized audit software is a set of computer system that can perform certain shared data dispensation purposes such as:

- a) Computer files
- b) Selecting records

- c) Performing calculation
- d) Printing reports

It was discovered by software developing agencies and by large organization. **GAS performs the following functions:**

- i. Verify calculations
- ii. Examine records for correctness, consistency and completeness
- iii. Evaluate information retrieved through order audit procedures with enterprise records
- iv. Compare data on separate files
- v. Summaries or re-sequence data
- vi. Select samples

On the above discussion emphasized that different audit software can be developed, according to demand of an entity. Hence audit software should consists of the following:

1. Package Programs

2. Purpose Written Programs

3. Utility Programs

1. Package Programs

A package program is nothing but Generalized Audit Programs (GAP). Data processing procedure such as reading computer files, selecting information, creating data and printing reports are performed by GAP. GAP is meant for common purpose specified by the auditor.

2. Purpose Written Programs

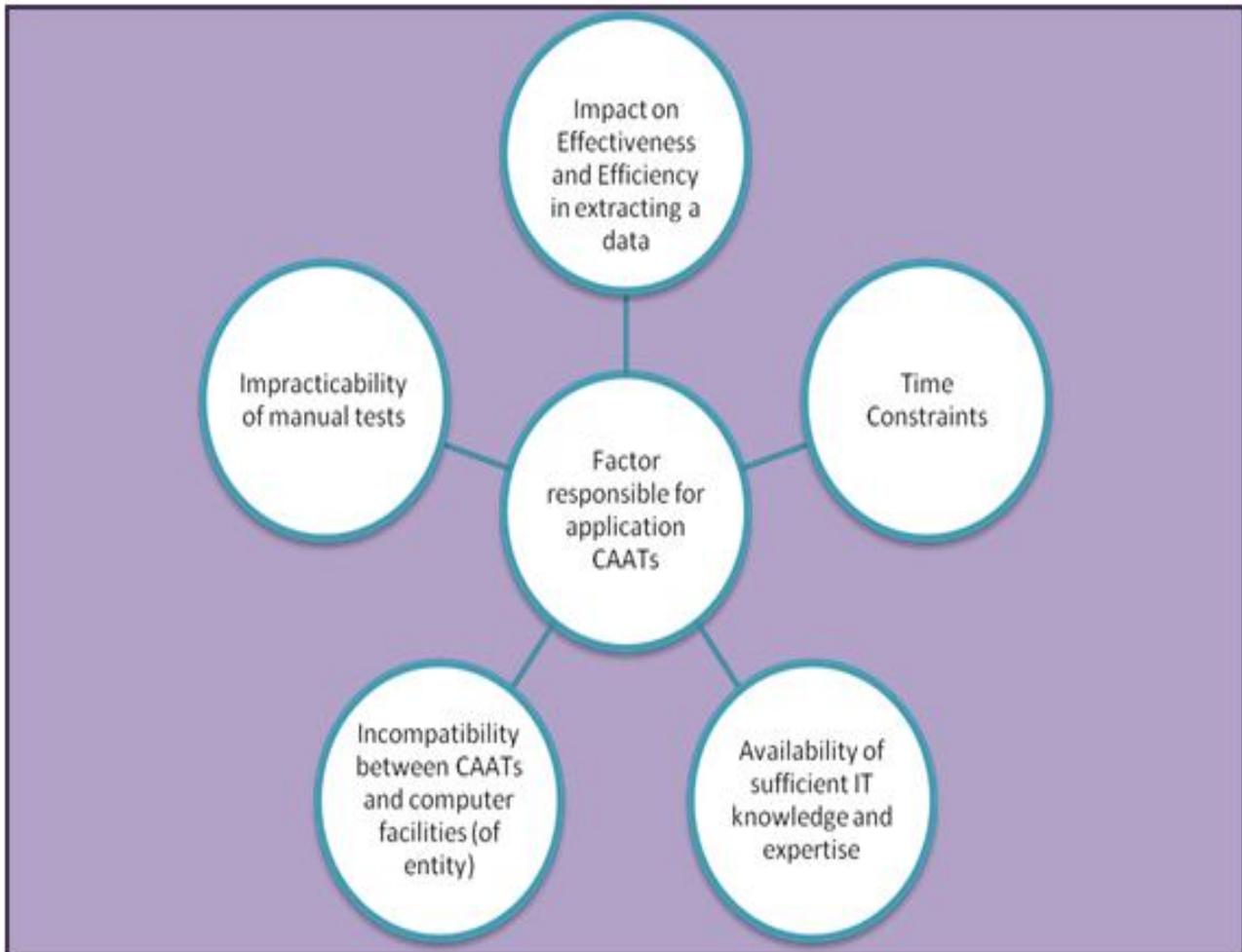
As the name suggest it is developed for specific purpose for specific circumstances. It is use as per the need of an organization.

3. Utility Programs

These systems adopted by the organization to carry out regular data processing factions, such sorting, creating and printing files. These programs are generally not designed for audit purpose and therefore may not contain such feature as automatic records totals or rheostat wholes.

It can used for it is used for both the testing compliance and substantive. It helps to perform various auditing procedures.

CAATs application is alteration or substitute of exiting system. As this system has a numbers of positive features which helps to accomplice the objective of an entity. But the accurately and effectiveness of result is based on following factor which needs to undertake while adopting the CAATs.

Chart: 3.4.3.2 (B) a. Factor Responsible for Application CAAT's

- a) Accessibility of adequate IT knowledge and proficiency: CAATs is the part of Auditing with the computer. It means it has excess use of software system. The use of software system is either self-made or acquired from outside. In both the case the auditor and accountant must able to use it. The continuous development under this system demand high skill and knowledgeable staff to handle the system.
- b) Incompatibility between CAATs and computer facilities (of entity): Most of time there is vast difference between the availability of facilities and required. Hence auditor must verify the entity's capacity regarding the use of software system and their financial position to accept the same.
- c) Impracticability of manual tests: It has been noticed that a single change in the operating environment not only affect organisation but also the staff. Auditor should examine impact of CAATs on the manual audit process. The application of CAAT is inseparable part of manual system.
- d) Influence on success and proficiency in removing a data: Auditor should safeguard that the enactment of CAAT. It should not affect the authenticity of data used in audit process. Usually it is noticed that the one acceptance affect the other one.
- e) Time constraints: Manual audit system is based on different audit procedure. There is transformation from one to another. Coasting, totalling, posting, scrutiny task the time to complete. Due to nonexistence of audit trails in terms of input and output save the time under CIS environment. CIS environment keeps away from itself from the issues related with time constraints.

Hence the control procedures needed while using CAAT under both the application i.e. Software and control test applications. The application of Computer Audit Programme facilitates in audit procedure and provide silent feature. The following is brief characteristics of Computer Audit Programme:

Chart: 3.4.3.2 (B) b. Characteristics of Computer Audit Program

Simplicity	<ul style="list-style-type: none"> •Simple to use •Eliminate the long procedure to apply
Understand ability	<ul style="list-style-type: none"> •Easily understand by audit staff •Capabilities of system known to staff
Adaptability	<ul style="list-style-type: none"> •System should be capable of writing computer audit programs for various computers used in entity
Vendor technical support	<ul style="list-style-type: none"> •Initial instalment •Adequate documentation •Training to audit staff •Provision for future development
Statistical Sampling Capabilities	<ul style="list-style-type: none"> •S election of items on random basis •Determination of sample size •Evaluation of results at different confidence level
Acceptability	<ul style="list-style-type: none"> •Acceptance by auditor as well as company •Programs should be easily carried to site and practical use.
Processing Capabilities	<ul style="list-style-type: none"> •Ability to process many different types of application •Extended data selection and stratification
Report Writing	<ul style="list-style-type: none"> •Ability to prepare multiple reports in single program •Generate flexible output report format

Auditing and Assurance Standard (AAS) is establishing standard on measures to be shadowed when an audit is steered in CIS environment by Institute of Chartered Accountants of India (ICAI). The auditing standard is essential to maintain the standardized.

3.4.3.3. ICAI's guidance notes on importance of CAATs

It may be noted that test data and audit software data. It is complementary and not mutually exclusive. There are other techniques available which can be accepted by concern. Apart from test data and software ICAI's guidance note identifies the following importance of CAATs:

Table: 3.4.3.3. (i) ICAI's guidance notes on importance of CAATs

Sr. No.	Importance	Facilitates
1	Audit Automation	Perform various tasks: evaluating client's risk management procedures, generating electronic working paper etc.
2	Core Image Comparison	Compare the executable adaptation of a system through secure master copy. It give assurance about the program in use is authorized or unaltered.
3	Database Analysis	To examine the rights associated with terminals and the ability of users to access information on a database which help to understand database management system.
4	Embedded Code	It is own programs used by the client for processing. It helps the auditor to examine transaction passing through the system and to find out unusual transactions.

5	Log Analyzers	To read and analyze records of computer activity and evaluate the efficacy of access control.
6	Mapping	To list unused program instructions which helps in identifying program codes which may be there for fraudulent purpose.
7	Modeling	To help to carry out variety of procedures such as analytical procedures, on client's records. It also helps to project the result and compare actual result with expected results.
8	Online Testing	It help to verify whether a specific programs or test performing its task properly or not.
9	Program Code Analysis	It helps to examine the cradle code of actual program with a view to subsequent the judgment of the program to content himself that it will perform according to his understanding.
10	Program Library Analyzers	It helps the examiner to recognize dates on which changes were made to executable programs.
11	Source Comparison	It helps in comparison of source edition of a system through secure master copy.
12	Tracing	It helps to spot which guidelines were followed in a program and in what command.

3.5 DISPARITY BETWEEN APPROACHES:

Auditing around the computer, Auditing through the computer and Auditing with the computer has distinctions prose and corn. As per the necessity of an organisation application of CIS environment is decided. Each approach has different features with the need of an entity. **The following is the list of disparity between approaches:**

Table: 3.5 (i) Disparity between Approaches

Sr. No	Particulars	Auditing through the Computer	Auditing around the Computer	Auditing with the Computer
1	Recognition of Computer	Under this systems are accepted as "live" and dynamic devices, which add value to the process of auditing.	Computers are treated as mechanical book-keeping aids under this approach	It is integral part of computer. It is itself is computer program.
2	Audit Assurance	The focus of audit is to examine the accounting system and software used – to certify that they deliver audit pledge on the various features of control	The focus of audit is to take voluminous reports and output and compare "input voucher" with "system output" to obtain audit assurance	The focus of audit software used in audit process. Audit assurance focus of GAAT specific Generalize audit software (GAS).
3	Use of CAATs	Applicable	Non Applicable	Applicable
4	Extent Computer skill required	Knowledge of use of software and programs required	No specific skill is required	Mote intensive knowledge is required.
5.	Application of approach involves	Testing of client's data files	Manual testing of transaction data	Testing of client's programs

3.6 SUMMARY

Audit under Computerised Information System environment provides an examination of system efficiency, system effectiveness and safeguard of assets of an organization. Such examination of audit process reflects True and Fair View and accurate only when appropriate approach have been used. The approaches suggested by the expert and ICAI has its own prone and corns. Each approach has distinct feature and satiability level.

Auditing around the computer is basically similar to manual audit process. Under this approach an auditor basically focused on input data and output data. He does not bother about the how he got the output result. It has many advantages with disadvantage. Such approach can be applicable to small organization where volume of transaction is less.

The second approach i.e. Auditing through the Computer emphasise on excess use of computer. Under this approach an auditor need to comprehend the procedure system to make audit process effective and efficient. It is based on internal control system. Both the control system i.e. General and Application system must be control. It is also based on factor such as On-Line data entry, Elimination or reduction of printouts and Real time file updating. Auditing through the computer can be completed by applying method such as Test Data, Controlled Processing and Computer Audit Programmes. Even this approach has merits and demerits. It depends on auditor how he is using and understanding.

The last approach is Auditing with the Computer. This approach actual make the computer in use. It involves auditing system and programmes used in the entity by an examiner. The techniques which use the computer itself for audit purpose are known as “Computer Assisted Auditing Techniques” (CAAT’s). It is part of Auditing Through the Computer. CAATs are techniques that can be applied in auditing. It comprises computer programmes and data that can be accepted by auditor in process of information system. IT based tools and techniques are required to enable the auditor to access, analyse and evaluate the data stored on the computers. Again CAATs has different types such as test data and audit software. The application such types depends on audit purpose. ICAI has led down the guideline notes on the importance of CAATs in audit process.

Hence all the approaches have its characteristics. Every application restricted with certain impediment. Application of such approach depends on nature of business, knowledge of computer, availability computer system and internal control system an organization has.

CHAPTER - 4
AUDITING AND ASSURANCE STANDARD IN
CIS ENVIRONMENT

4.1 Introduction

Audit can be said as an assessment of financial statements by an auditor. In other words, auditing is a procedure by which a capable self-governing individual gathers and assesses proof to form estimation and connect their estimation to the person attentive, through their audit testimony.

Audit focuses on the following components

- a. Books of Account
- b. Auditor
- c. Auditing Process or Procedure

Auditing is the process of audit. Every entity whether Register or Non- Register has to maintain their books of account. Such books of account or financial statement indicate the monetary status of an entity. On the basis of such statement, an entity gets numerous benefits from their stakeholders. The mere preparation of financial statement would not serve the intention of an organisation and stakeholders, unless and until it is accurate and systematic. Everyone organisation has own set rules and regulations while preparing the financial statement. Hence, maintenance of similarity and accuracy in the books of account is a prime motto of an organisation. To accomplish such a goal, the general ideas or a norm has to be applicable to everyone irrespective of nature, size and ownership of the business. Auditing is a certification form expert based on certain guidance and norms.

Auditor is a third person who examines the books of stakeholder, hence it is a requisite that books of account ought to be standardised. To analyse the need for standardisation of financial statement many National and International Accounting Institutions have come up with standards and guidelines.

The verification or assessment of financial statement proceeds by an auditor, who is a third person, gives opinion on it. In order to understand authenticity and effectiveness of financial statements the entity will have to conduct audit. The authenticity and effectiveness is possible only when there is a standardised guideline and principle will apply. Hence the researcher has tried to focus on the efforts made by Accounting Institutions in order to create the uniform platform for maintaining the accounting transaction in an organisation under CIS environment. This topic deals with objectives of the study number 6 and problem of the study number 6.

4.2 Background

Since 1970s, many accounting institutions every one over the world have been working on standard guidelines for financial auditor in order to conduct auditing accurately and effectively in a computerised environment. Canadian Institute of Chartered Accountants (CICA) had taken the effort in computer control. In 1974, AICPA issued auditing standards SAS 3 requiring CPAs to evaluate information systems controls for audit. In 1984, SAS3 was replaced with SAS 48. Even International Federation of Accountants (IFAC) had issue guidelines on Information Systems and Environment between seventies and eighties but the actual incorporation of information systems in 1978 was after implementation of Electronic Fund Transfer Act by US in 1987. The objectives of audit consist of primary and secondary or incidental. The primary objective is to prepare report and express opinion on financial statements in relation to True and Fair View and secondary objective is detection and prevention of errors and frauds in books of account of an organisation. The issue of standards on IS environment is depend on the following three areas:

- a. Stand-alone computing
- b. On-line computing
- c. Database management

4.3 Accounting and Auditing Provisions

4.3.1. International Provisions

In 1977, the International Federation of Accountants (IFAC) was set up to bring harmony in profession of accounting at international level. To achieve this mission, the IFAC board established International Auditing and Assurance Standards Board (IAASB) to develop high quality Auditing Assurance and Standards (AAS).

4.3.1.a The following are the guidelines drafted By IFAC:

1. Manual and computer control procedures: It is embraced that overall controls should be kept on computerised environment and accounting application.

a. Largely controls comprise the following:

- i. Organization and management controls: It assist to preserve an organisational framework over computerised functions.
- ii. Application systems development and maintenance controls: It ensures that the growth and safeguarding of system is authorized and efficient.
- iii. Computer operation controls: It helps to design, control the operation of the programme and to provide a reasonable assurance.
- iv. System software controls: It ensures the authorization, consent, exhausting, execution and certification of new systems software and systems software alterations.
- v. Data entry and program controls: It helps to restrict the authorized personnel.

b. Precise controls (Application Controls):

It helps to set up precise control procedure over the accounting applications, in command to deliver judicious declaration that all connections are lawful and recorded.

The American Institute of Certified Public Accountants (AICPA) has stated that financial statement auditors should alter their audit stratagems in response to the all-inclusive vicissitudes in information technology (IT) and their clients (AICPA 2001).

4.3.1.b Standards issued by AICPA:

Standards issued by AICPA have focused on the effect of computer processing on the examination of financial statements. AICPA has prescribed the guidelines on the following areas:

a. The extensiveness of computer use in each significant application:

The documentation of application control provides a basis for determining how the computer is used. Documentation may be prepared as a work paper by an auditor to provide input, processing and output control features in the applications.

b. The complexity of computer operations:

The traditional and computerised environment is different. Complex accounting systems require extensive documentation and controls. Both the controlling system helps an auditor to judge the level of accuracy and risk and thus accordingly level of test is decided.

c. IT organisational structure:

The level of effective IT organizational structure increases control risk assessment.

d. Availability and retention of data generated by the computer:

There is converse correlation between the application of computer and generation of document. All the data and evidential material is available in readable form. This affects substantive testing. Hence, relevant original documents must be retained for substantive testing.

e. CAATs:

Computer Assisted Audit Techniques increase the efficiency and accuracy of audit stages and direct reliability to verify input, processing and output under computer system.

4.3.2 National Provisions

Financial Statements are prepared according to GAAP, Accounting Standard and related law given by ICAI. It is examined by an auditor, who remains a practising Chartered Accountant and having knowledge. An auditor is competent to conduct the auditing. The third important component is auditing process, procedure or practices. The ICAI issued the auditing procedure, which is called as Auditing and Assurance Standards (AAS) previously known as Standard Auditing Practices (SAP).

The Standards on Auditing are issued by Auditing and Assurance Standards Board (AASB) by ICAI. The aim of these enlargements and promulgations are to enable the accounting profession in India. It provide the services of good quality in the attention of common public and which requirements to be applicable worldwide.

The ICAI issued the Auditing and Assurance Standard (AAS) and established standards on procedures on audit under Computerised Information Statement. AAS is applicable to everyone who is using even a single computer in the dispensation of financial information. AAS has issued several standards such as:

- a. AAS 6 (Revised) on Risk Assessments and Internal Control. This standard focused that the auditor must have understanding of accounting and internal control systems. One must have adequate facts to plot an audit and control the flora, judgement and magnitude of audit procedures. Auditor should have complete knowledge related to consequence and density of the CIS activities.
- b. AAS 9 (Revised) on Using the Work of an Expert, indicate that auditor must get adequate accurate audit proof with expertise.

4.3.2 a. Standards on Auditing

Standards on Auditing are the benchmarks by which an excellence of audit recital can sedate and the attainment of objective can be acknowledged. The application of Standards on Auditing brings certified qualities in effective audit performance. Auditing Standard emphasises on process of audit.

4.3.2 b. Procedure for issuing SA's

Auditing and Assurance Standard Board (AASB) of ICAI determines the specific elements:

- a. AASB is aided by study cluster organized to reflect exact subjects.
- b. An acquaintance flow of the anticipated SA is finalised by the AASB of ICAI on the foundation of efforts of the revision group.
- c. The revelation waft of the projected SA is distributed for commentaries by an affiliate of the Institute (ICAI).
- d. AASB finalizes a flow of a projected SA after considering the comments received and submitted to council of the institute.
- e. The Council reflects the flow of an anticipated SA and if obligatory adapts the same in conference with AASB. The SA is then delivered under a power of the Council of ICAI.
- f. AASB of ICAI tries to integrate/ harmonize the SAs to the degree conceivable in a bright of the condition and practices predominance in India with ISAs issued by IAASB of IFAC.

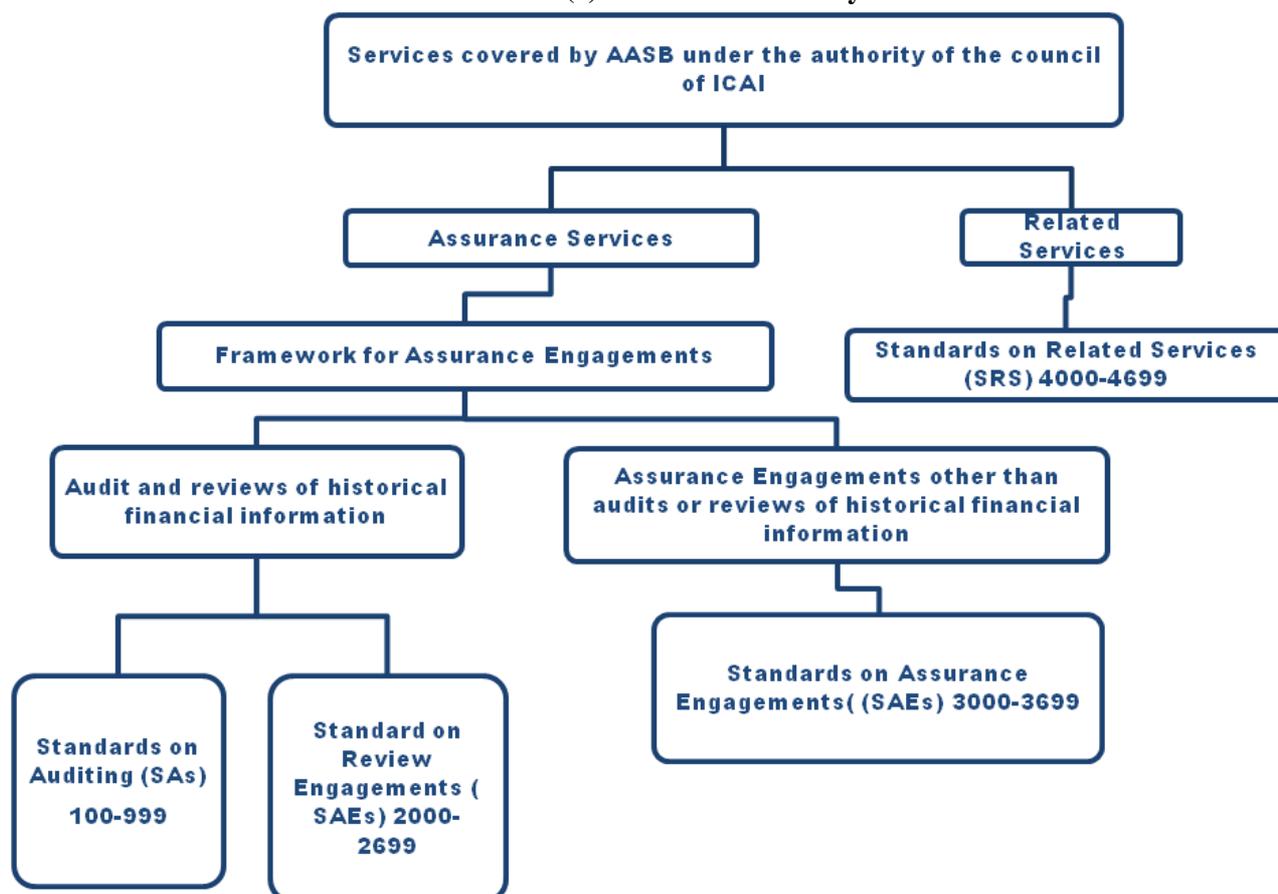
4.3.2 c. Standard Auditing and Auditor

It is a duty of certified auditor to guarantee that the audit is steered in accord with Standard on Auditing and disclose the material departure there from wherever needed. The certified auditor becomes liable to disciplinary proceeding of ICAI under clause (9) of Part I of Second Schedule to the Chartered Accountant Act, 1949. Auditor has to mention in audit report that one has conducted the audit as per the Generally Accepted Accounting Standards (GAAS). The GAASs in Indian context means the SAs are issued by ICAI.

Table No: 4.3.2 (i) Standard issued by AASB under the ICAI Provision/ Guideline:

Sr. No	Area of Standards	Features / Applicable
1.	Standards on Auditing (SAs)	Historical Financial Information
2.	Standards on Review Engagement (SREs)	Review of Historical Financial Information
3.	Standards on Assurance Engagements(SAEs)	Subject matter other than Historical Financial Information
4.	Standards on Related Services (SRSs)	Involving application of agreed procedures on information, compilation engagements and other service engagement as specified by the ICAI.

Construction of Values dispensed by the Auditing and Assurance Standards Board under the Consultant of ICAI are as follows:

Chart No: 4.3.2 (a): Services covered by AASB

The committee of professions and ICAI has revised the Auditing Standard in the form of Auditing Assurance Standard with effect from April, 2009. Many authors have listed the auditing standard that is needed to maintain the standardised audit process. The following are the revised Auditing Standard formulated by IAASB and other Accounting Institute in agreement with a necessity of auditing process to ascertain the quality results.

Table No: 4.3.2 (ii) List of standards and their effective dates:

New Standard Number (SQC 100-999)	Standards of Quality Control (Quality control for firms that perform audits and reviews of Historical financial information and other Assurance and related Service Engagements)	Effective Date 1st April, 2009
I- 100-199	Introductory Matters	
II- 200-299	General Principles and Responsibilities	
200 (Revised)	Overall objectives of the Independent Auditor and the Conduct of an Audit in Accordance with Standards on auditing	1 st April 2010
210 (Revised)	Agreeing the terms of audit Engagements	1 st April 2010
220 (Revised)	Quality control for an audit of Financial Statements	1 st April 2010
230 (Revised)	Audit Documentation	1 st April 2009
240 (Revised)	The Auditor's Responsibilities Relating to Fraud in an Audit of Financial Statements	1 st April 2009
250 (Revised)	The Auditor's Responsibilities Relating to Laws and Regulation in an Audit of Financial Statement	1 st April 2009
260 (Revised)	Communication with those charged with Government	1 st April 2009 Revised on 1 st April 2017

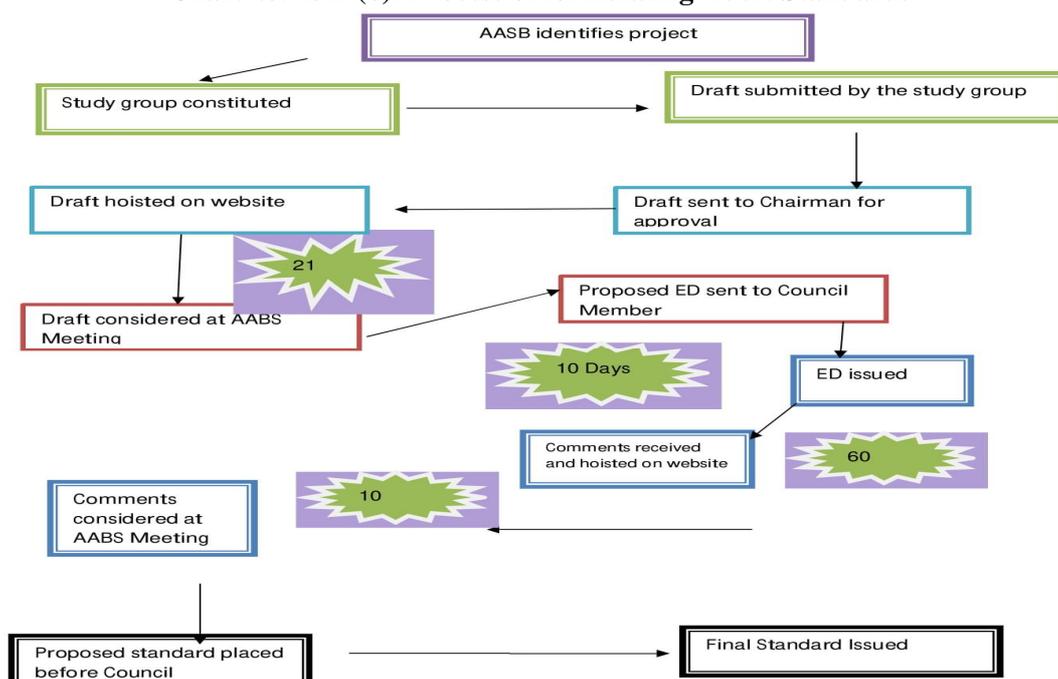
265	Communication Deficiencies in Internal Control to those charged with Governance and Management	1 st April 2010
299	Responsibility of Joint Auditors	1 st April 1996
III- 300-499	Risk Assessment and Response to Assessed Risks	
300 (Revised)	Planning an Audit of Financial Statements	1 st April 2008
315	Identifying and Assessing the Risks of Material Misstatement through understanding the entity and its Environment	1 st April 2008
320 (Revised)	Materiality in Planning and performing an Audit	1 st April 2010
330	The Auditor's Responses to Assessed Risks	1 st April 2008
402 (Revised)	Audit Considerations Relating to an Entity Using a Service Organization	1 st April 2010
450	Evaluation of Misstatements Identified during the Audit	1 st April 2010
500-599	Audit Evidence	
500 (Revised)	Audit Evidence	1 st April 2010
501 (Revised)	Audit Evidence- Specific Considerations fro Selected items	1 st April 2010
505 (Revised)	External Confirmations	1 st April 2010
510 (Revised)	Initial Audit Engagements – Opening Balances	1 st April 2010
520 (Revised)	Analytical Procedures	1 st April 2010
530 (Revised)	Audit Sampling	1 st April 2010
540 (Revised)	Auditing Accounting Estimates, including fair view Accounting Estimates and Related Disclosure	1 st April 2009
550 (Revised)	Related Parties	1 st April 2010
560 (Revised)	Subsequent Events	1 st April 2009 Revised on 1 st April 2010
570 (Revised)	Going Concern	1 st April 2009
580 (Revised)	Written Representation	1 st April 2009
600- 699	Using Work of Others	
600	Using the work of Another Auditor (to be revised as special considerations- Audits of Group financial Statements/ including the work of Component Auditors)	1 st April 2002 under the consideration of the Board
610 (Revised)	Using the Work of Internal Auditor	1 st April 2010 Revised on 1 st April 2016
620 (Revised)	Using the Work of an Auditor's Expert	1 st April 2010
700-799	Audit Conclusions and Reporting	
700 (Revised)	Forming an Opinion and Reporting on Financial Statements	1 st April 2012
705	Modifications to the Opinion in the Independents Auditor's Report	1 st April 2012
706	Emphasis of Matter Paragraphs and other Matter Paragraphs in the Independent Auditor's Report	1 st April 2012
710 (Revised)	Comparative information- corresponding figures and comparative financial statements	1 st April 2011
720	The Auditor's Responsibility in Relation to other information in Documents containing Audited Financial Statements.	1 st April 2010
800-899	Specialized Areas	
800	Special Considerations- Audits of Financial Statements Prepared in Accordance with Special Purpose Framework	1 st April 2011
805	Special Considerations- Audit of Single Purpose financial Statements and Specific elements, Accounts or Items of a financial Statement	1 st April 2011
810	Engagements to Report on Summary financial Statements	1 st April 2011

2000-2699	Title of Standards on Review Engagements (SRE's)	
2400 (Revised)	Engagements to Review Financial Statements	1 st April 2010
2410	Review of Interim Financial Information performed by the Independent Auditor of the Entity	1 st April 2010
Assurance Engagements other than Audits or Reviews of Historical financial information		
New Standard Number (SAE) 3000- 3699	Title of Standard on Assurance Engagements (SAEs)	
3000- 3399	Applicable to all Assurance Engagements	
3400-3699	Subject Specific Standard	
3400	The examination of perspective Financial Information	1 st April 2007
3402	Assurance Report on Controls at Service organization	1 st April 2011
Related Services		
New Standard Number (SAE) 4000- 4699	Title of Standard on Assurance Engagements (SAEs)	
4400	Engagements to Perform Agreed- upon Procedures Regarding Financial Information	1 st April 2004
4410	Engagements to Compile Financial Information	1 st April 2004

It has been notice that the above Auditing and Assurance Standards are applicable to every organization which is to be followed by an organization. Amongst the above standard, one of the important SA is Audit Evidence (SA 500). It is related to documentation require in audit process. It is applicable to each and every type of audit. Hence, it is essential for an organization to maintain proper records of each and every transaction entered in financial statement. As review under CIS milieu is done through software system still evidence is required. Such evidence can be generated in several ways. Let's see the SA 500 audit evidence and its requirements, process of generation etc.

CA Pankaj Garg focused on Auditing Standard setting process in India. Indian Auditing Standard is formulated by Auditing Assurance Standards Board (AASB). It is mandatory for each member of an institute to conform to the standard. He explained the process of finalisation of auditing standard. The processes of formulating Audit Standards are as follows:

ChartNo:4.3.2 (b): Process of formulating Audit Standards



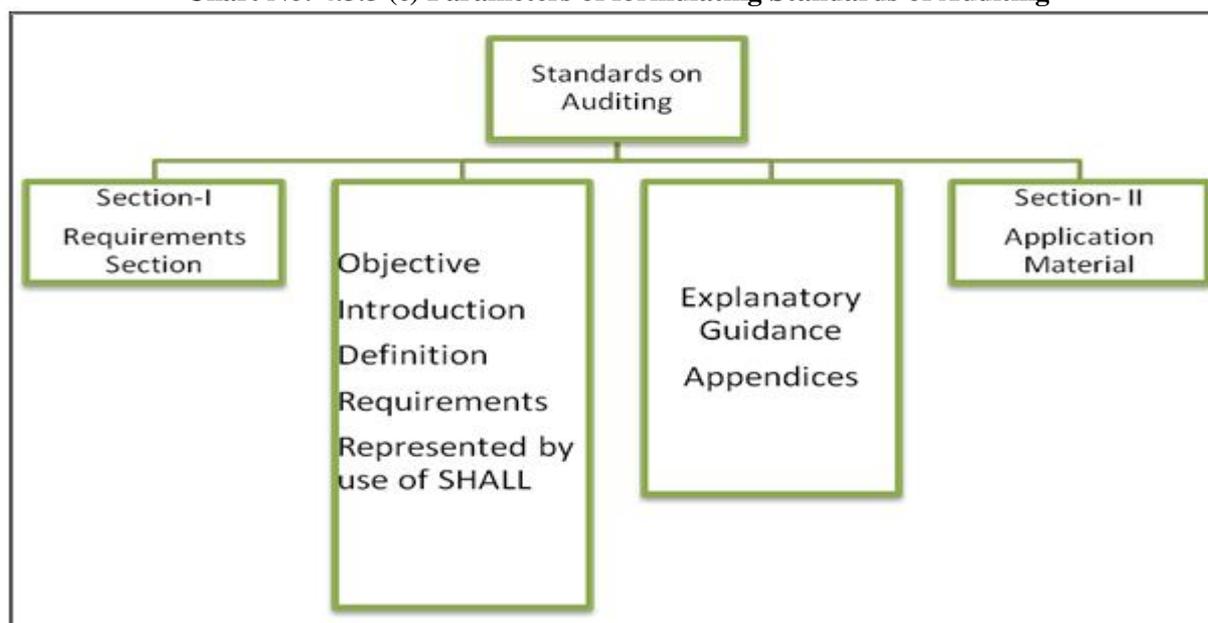
In order to understand clearly and recognised it, the accounting institute has given following list of Auditing Standards. It can be used in audit process and easy to remember:

Table No: 4.3.2 (iii): List of Auditing Standards

Sr. No	Title	Standards
1	Standard on Quality Control	1-99
2	Standard on auditing	
	Introductory Matters	
	General principles and Responsibilities	100-199
	Risk Assessment and Responses to Assessed Risk	200-299
	Audit Evidence	300-499
	Using work of others	500-599
	Audit Conclusion and Reporting	600-699
Special areas	700-799	
3	Standard on review engagements (SRE)	2000-2699
4	Standard on assurance engagement (SAE)	3000-3699
5	Related Services (SRS)	4000-4699

Parameters are essentially required to formulate the Standard on Auditing. It helps the accountant and auditor to work accordingly. IAASB has introduced following aspect have to implement while formulating Standard on Auditing.

Chart No: 4.3.3 (c) Parameters of formulating Standards of Auditing



4.4 Standards on Auditing under CIS Environment

Audit Evidence (SA) 500

Revised SA 500 is related to Audit Evidence. It is a one important element amongst a several components. Audit evidence is documentary evidence used by an auditor in awarding at a specific conclusion on which auditor's outlook is based. Evidence includes financial records as well as supporting document to enter such financial transaction in the books of account.

4.4.1 Attributes of Audit Evidence

Evidence is a fact that has remained processed into a form that is meaningful to the beneficiary and is of authentic or perceived value in current or progressive decision. In CIS environment it is very much essential to generate evidence to achieve true or fair view. Following are the important attributes useful for effective evidence in audit process.

a. Availability

Availability of information on time is a key aspect in generation of audit evidence. Unavailability of data on time creates a lot of problems and doubts in the mind of examiner. Data is organized in the arrangement of evidences and figures in databases and files from various sources under system software.

b. Purpose

Available evidence fulfils several purposes during the transition from one person or machine to another otherwise it is a useless data. The prime aim of such evidence is to inform, evaluate, persuade and organize. It contributes in creating a new concept, arrive at a specific decision.

c. Mode and format

System software mode of information are either visual, verbal or in written form. Sequence of such information has to be designed well so that it supports in judgement creation, resolving glitches, suggesting, forecasting, governing and probing. Format of information disseminations is a substance of fancy and discernment.

d. Decay

Value of information usually decays with time and usage and so it should be revived as and when needed.

e. Frequency

The incidence with which information is transmitted or received affects its value. Pecuniary reports prepared broadsheet may show so diminutive vagaries that they have minor value, whereas once-a-month reports may designate changes that are gently sufficient to display glitches or trends.

f. Completeness

The evidence should be complete. If the information is complete, the manager is in a much healthier location to choose whether or not to commence the endeavour.

g. Reliability

In order to take appropriate decision regarding authenticity and correctness of information, the data should be reliable.

h. Validity

The validity of information measures the closeness of recorded information.

i. Quality

Quality means appropriateness of information. Correct information provided by documentary evidence and information ensures quality audit work.

j. Transparency

If provided information does not fulfil purpose of assessment of monetary information, it is not transparent information. Hence, the information must give transparency in examination.

k. Adequacy

The available information must be adequate so that the desired actions can be commenced. Required information should flow on different directions within an organization. This must be sufficient and pertinent contents.

4.4.2 Requirement of Evidence in CIS audit process

In CIS audit process, evidence is required to justify assertions made by management regarding financial statements.

Table No: 4.4.2(i) The following are the declarations made by the management about the financial statements:

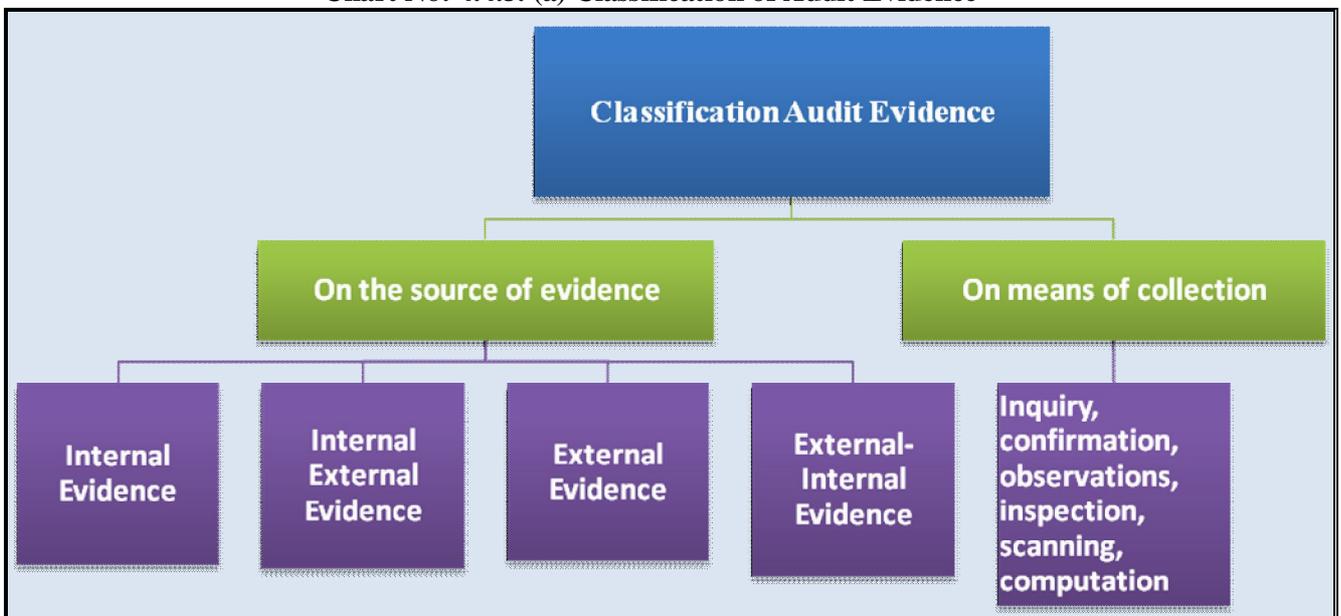
Sr. No.	Declarations	Features
1.	Existence	Recorded data actually exist on the given date
2.	Occurrence	Occurrences of the transaction
3.	Right and obligation	All assets are correct of the article and liabilities are obligation on the specified date.

4.	Completeness	All transactions should be completely recorded
5.	Valuation	Assets and liabilities must be properly valued
6.	Allocation	Expenses or revenue are allocated appropriately as per time, cost department etc.
7.	Presentation and disclosure	Financial information should be presented and disclosed according to guidelines prescribed by the board.
8.	Existence and effectiveness	Internal control depends upon the existence and effectiveness of available data.

4.4.3 Classification Audit Evidence

The availability of audit evidence makes audit process effective and efficient. Source of evidence can be internal and external. Interior basis of information may be learnt through inner control system of an organization whereas exterior spring of information is assimilated through inside control as well as peripheral control system of an organization. Both the method theatres a vivacious part in information generation. Along with this, such evidence must be classified into different forms such as on the source of evidence (internal and external or both) and additional means of information collection in audit process.

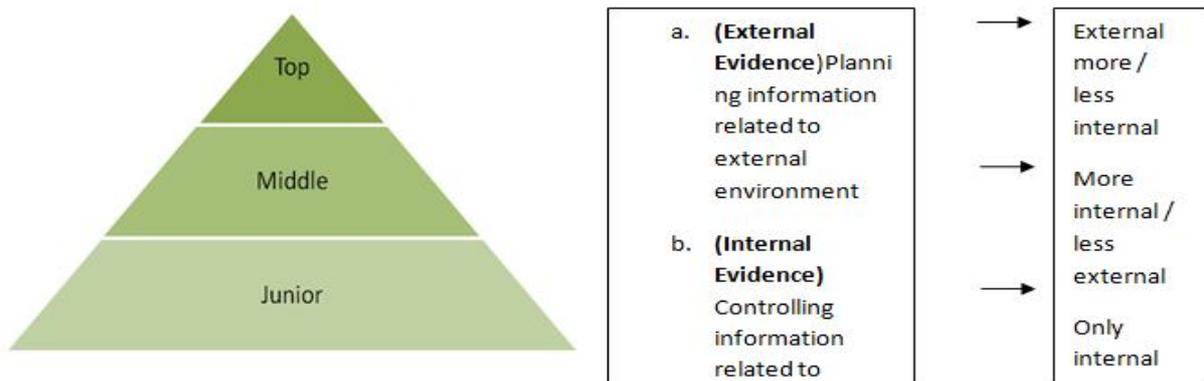
Chart No: 4.4.3. (a) Classification of Audit Evidence



4.4.4 Prerequisite of SA 500

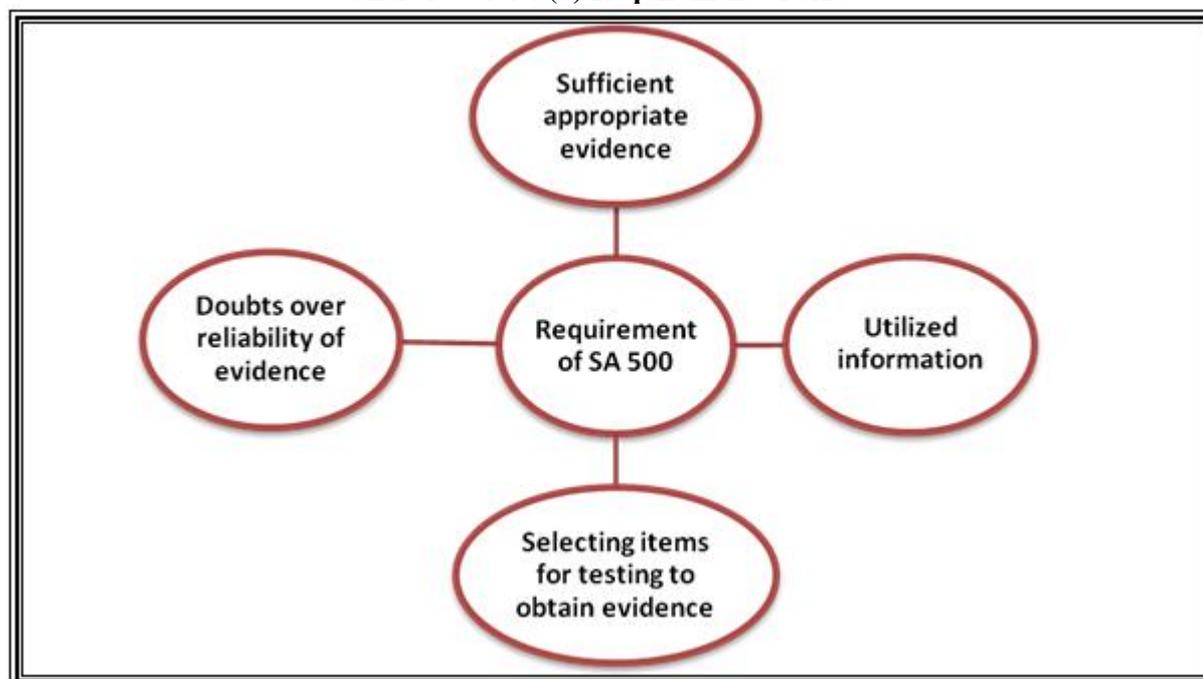
Assessment of financial statement requires supported evidence while recording the transaction. As such mentioned above this required information may be acquired from several ways. The sources of collection of information are as follows:

Chart No: 4.4.4 (a) The sources of collection of information



SA 500 has stated that the audit indication ought to be appropriate. It should match with the transaction. The authenticity of recorded transaction is based on sufficient appropriate evidence. Proper utilisation of this evidence must be considered. An auditor should select evidence on the origin of reliability and accuracy. The selection should be based on test. Auditor should use techniques to select the sample for verification and vouching.

Chart No: 4.4.4 (b) Requirement of SA 500



4.4.4.(1) Sufficient appropriate evidence

In CIS audit process, auditor designs its audit procedure to get appropriate and sufficient audit evidence. Sufficiency means significant of data whereas suitability mentions to its excellence and reliability. Evidence can be persuasive and conclusive. The audit process requires persuasive evidence. It is a responsibility of an auditor to evaluate the evidence. According to SA 330, it necessitates the auditor to accomplish whether adequate suitable audit proof have been gained to diminish audit hazard to an acceptable low level.

Steps for obtaining evidences

SA 315 and SA 330 audit evidence should draw reasonable conclusions which are based on audit procedure:

- a. Risk assessment procedure – it helps to ascertain the risk factors
- b. Tests of controls – it helps to test evidence and control it whenever required
- c. Substantive procedures- it helps to tests minutiae and practical logical events

The procedures of collecting the evidences are important. The following are the essential procedures for obtaining an evidence

Table No: 4.4.4.(1)(i) The Essential Procedure

Procedure	Capability and Reliability
Observation	To obtain evidence, it is observed and obtained according to the time. It is unreliable than inspection method.
Inquiry	The auditor can inquire the recorded information with explanation.
Inspection	Examination of records, documents internal and external. It provides degree of reliability about recorded information in the financial statement.
Confirmation	It helps to obtain confirmation about the provided details from relevant parties.
Computation	It helps in consistency checking of arithmetical accurateness of origin of evidence. It

	can be done manually or electronically.
Re-performance	Under this, auditor performs self-directed implementation of trial or controls as in originally performed in internal control of an organization.
Scanning	Under this, examiner reviews information, inspection for extraordinary values which can draw attention to unusual entries. It does not deliver suggestion about valuation, entirety and correctness of existing data.
Analytical review	In the process of computation of ratio, trends analysis unusual elements can provide the supportive evidence and not the core evidence.
Written representation	In audit process, auditor requires written representation from the higher authority under revised SA 580, where changes have been made on the basis of oral inquiries.

4.4.4.(2) Reliable utilization of available information

In the audit process, auditor needs to ascertain significance and trustworthiness of utilized information. Utilization of available information as audit evidence prepared by the managerial expert, has to analyse the following:

- a. Competence, capabilities and objectivities of an authority
- b. Understand the work of an authority
- c. Appraise the correctness of an expert’s task as an audit proof for the pertinent declaration

The selected audit evidence should be reliable. The auditor should understand and calculate the degree of credibility of supporting audit facts. The degree of trustworthiness of related facts is rely upon the sources of evidences as well as means of data collection.

Chart No: 4.4.4.(2) (a) Degree of steadfastness of Review indication:

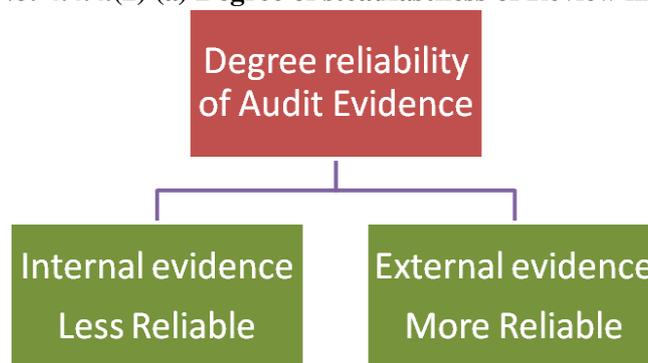
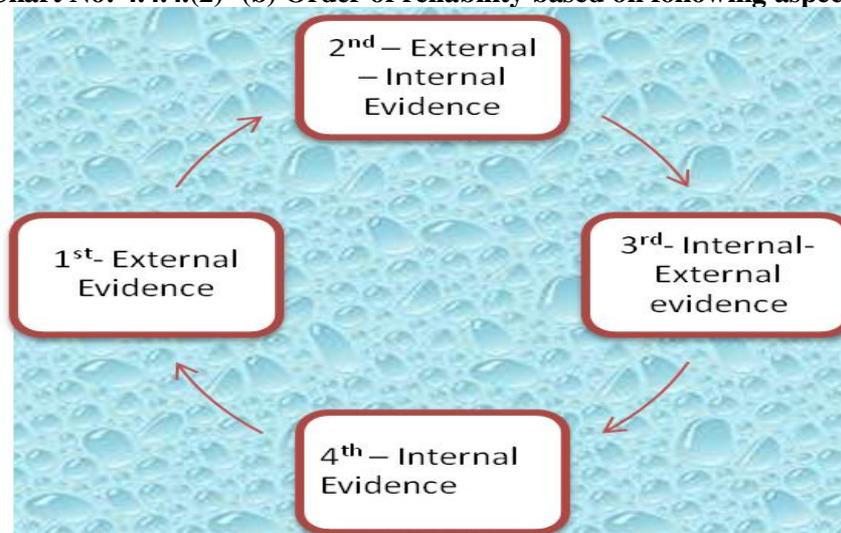


Chart No: 4.4.4.(2)- (b) Order of reliability based on following aspects:



Generalization about reliability is formed on the following aspect

1. Steadfastness of audit evidence is increased, if it is acquired from self-governing bases from outside the organization.
2. It will increase when proper records and controls are made.
3. Evidence found straight by the eavesdropper is more dependable than the audit obtained from the other sources.
4. On paper source evidences are more trustworthy then verbal sources of evidence
5. Original document is more trustworthy than document in photocopies.

4.4.4.(3) Selecting items for Testing to Obtain Audit Evidence:

While designing test system, the test of details is available, an auditor needs to select items for testing effectiveness for audit procedure. An effective testing provides appropriate evidence to a great extent. While selecting items for testing, the auditor should determine significance and trustworthiness of information that is to be used. The following are methods that can be used by auditor while selecting items:

- a. Selecting all items
- b. Selecting specific items
- c. Audit sampling

The use of any one or combination of these methods may be suitable based on a particular circumstance.

4.4.4.(4) Doubts over reliability of audit evidence:

- a. Inconsistency of procurement audit indication from diverse bases affects the reliability
- b. It may create doubts over the trustworthiness of audit proof

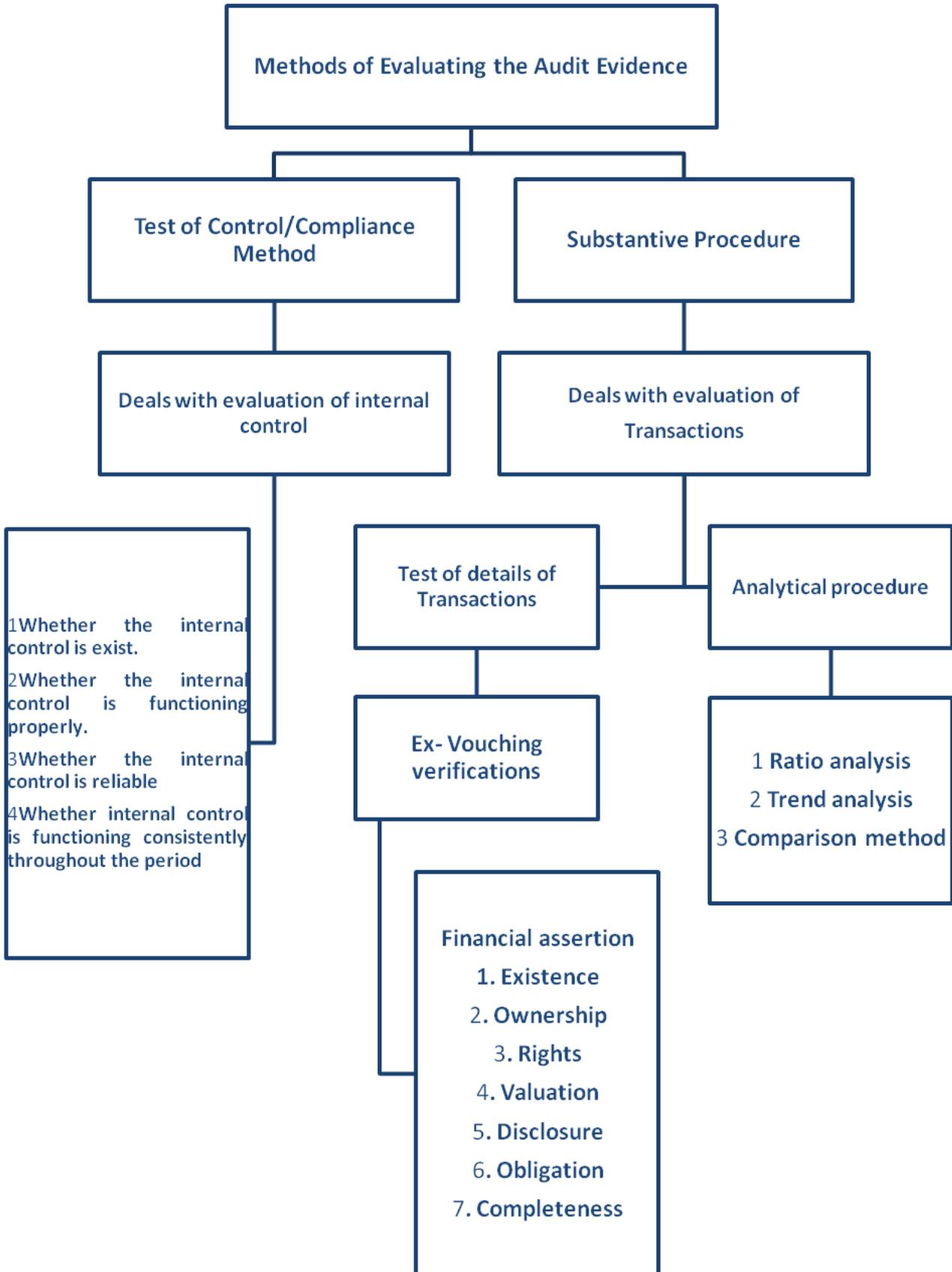
An auditor should determine such modifications and additions to audit procedures. The ambiguities in evidence have to be resolved.

It shows that, audit evidence is an important aspect of audit process. Reliable Evidence is required for both manual as well as computerised information system. The authenticity of information is based on consistency of data collection, responses to inquiries of management, internal and external control. According to SA 230 specific documentation is needed to identify information.

4.4.5 Audit Evidence Assessment

Audit evidence is acts as an important aspect in the process of audit. The authenticity of evidence is needed. Hence, to assess the competency and reliability of evidence, the auditor should follow certain methodology. The assessment of audit facts is based on several tools and techniques. There are two methods to assess the evidence i.e. compliance and substantive procedure. The following are different sub- methods to evaluate the evidence.

Chart No: 4.4.5 (a) Methods of Audit Evidence Assessment



Evaluation of audit indication is important to generalize the quality of documentation in an audit process. Test of governor and utilitarian processes are the two methods to evaluate audit evidence as mentioned above. Test of control is related with internal control, its functions, reliability etc; whereas substantive procedure deals with evaluation of transactions. Further, substantive procedure includes study of financial statement assertion. This deals with the following elements of financial transaction.

Table No: 4.4.5 (i) Elements of Financial Statement

Criteria / Elements	Features
Existence	Existence of assets / liabilities on Balance Sheet date
Ownership	Ownership of assets with client
Rights	Right of client on assets
Valuation	Assets properly valued
Disclosure	Assets properly revealed in financial statement
Completeness	Recording of all the aspects related to assets, no errors such as omission

SA 220 (Revised): Quality Control for an audit of Financial Statement (1/4/2010):

It is an essential Standard of audit. It ensures the authenticity and correctness of financial statement. The auditor must clearly understand the aims of this standard with the aim of attain primary motto of auditing. Hence, the auditor must understand this clearly. Following are the objectives of SA 220 on which auditors have to adopt audit procedures.

Chart No: 4.4.5(b) Objectives of SA 220

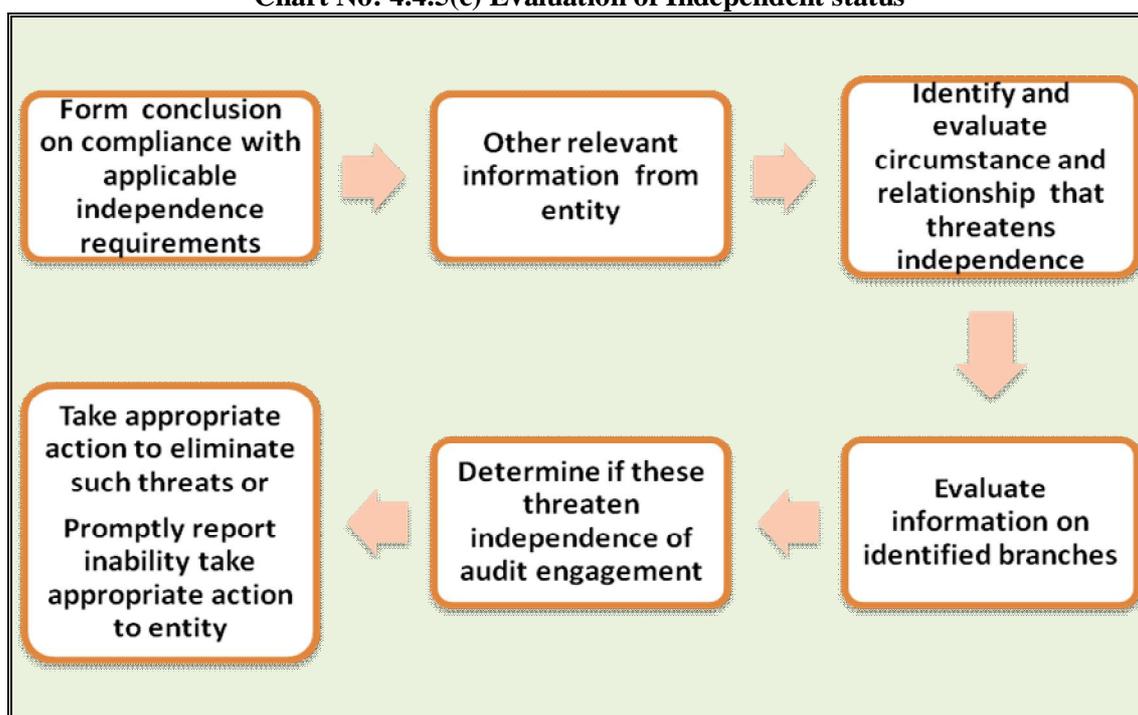


Most of the accounting institutions and authors have to emphasise on the quality control in audit. According to them, there are various causes to implement the quality control. Some of the important requirements to implement QC are as follow and the scrutiny committee should understand the requirements and its significance impact on the audit process.

- a. **Leadership responsibilities for quality in audits:** The appointed person should take the responsibility for excellence on each audit work assigned to them. An inspection committee must give attention on the following areas:
 - i. Compliance with specialized standards and legal requirements
 - ii. Compliance with firm's quality control polices
 - iii. Insurance of appropriate audit report
 - iv. Ability to raise concerns without fear
 - v. Quality is essential and indispensable in Engagement Performance

- b. **Relevant ethical requirements:** Appointing staff must keep on vigilant for evidence of non-compliance with important fair requirements by the team. Engaged team must use the inquiry and keen observation techniques should be made in order to analyse the relevant ethics prevailing in the auditing. In the absence of non-compliance with relevant ethics, the audit staffs have to emphasise on consulting others in firm and determine appropriate actions.
- c. **Independence:** Independence status of an entity differs in the audit procedures. Hence, auditing team should evaluate the status. The evaluation can be done in the following ways: ²⁰

Chart No: 4.4.5(c) Evaluation of Independent status



- d. **Recognition and maintenance of client relationship and audit engagement:** It is very much essential to understand and confirm the act or principle followed by client. The additional and innovation in accounting and auditing process must be known to the team. They should get it confirmed with an entity about its acceptance and continuance.
- e. **Assignment of audit team:** The entity should keep in account that appointment team and auditor's experts should not be a part of their organisation. Audit team should have accurate proficiency and potential too:
- i. Perform audit process as per the professional standard and regulatory or legal requirements.
 - ii. Assure the auditor about the appropriateness based on the circumstances.
- f. **Engagement Performance:** While conducting auditing, it is important for the auditor to evaluate the performance. The evaluation of engagement performance is based on numerous aspects such as:
- i. **Direction, Supervision and Performance:**
It is an obligatory task to direct, supervise and perform under an audit process. The audit procedures must comply with the professional standards, regulatory and legal requirements. It makes sure that audit reports are appropriate and matches with the situation that shall arrive.
 - ii. **Reviews**
Reviews of accounting and auditing process are being performed as per the guidelines and dealings of an entity. A team should assure that the adequate and proper audit evidence has been acquired to support the

opinion of auditor which is mentioned in the audit report. The audit report must be supported by the review of documentation and discussion with an engagement team.

iii. Consultation

It is always advisable that the engagement team should undertake discussion on several issues before arriving on any conclusion. They should ensure that every consultant should agree on conclusion and implementation of remedial of those issues.

iv. Engagement Quality Control Review

Review of quality control is an essential requirement for listed entities. The engagement team should ensure that

- a. EQC reviewer has been appointed.
- b. Significant issues arrived in audit process must be discussed with reviewer.
- c. The finalised audit report is based on attainment of EQC

Along with the above statements, there are other aspects in audit process which ought to be confirmed by the reviewer such as review of financial statement and proposed audit report; specific documentation and important opinions and findings undertaken by the team. The reviewer must identify whether this documentation has been selected for review reflects work performed with prominent opinions made and supports conclusion reached and audit report.

v. Difference of opinion

As audit is an assessment of financial statement, based on it an auditor or expert liberty form an opinion based on their observation or study. Most often, it is noticed that there is a difference on the same issue. In such a situation, appointed staff should follow the entity accepted guidelines and measures for dealing and resolving disparity of opinion.

- g. **Monitoring:** Monitor is an essential task in engagement process. Monitoring process provides assurance to an entity that its policies, procedures relating to mechanism of excellence control are relevant, appropriate, adequate and effective. It monitors quality control policies engagement to ensure the result of a firm under audit process and any difference noted might influence the audit process.
- h. **Documentation:** Documentation is an inseparable part of audit process. Documentation is an indispensable part of audit which may be retained for both future purpose and legal evidence. Auditor should keep all the documents pertaining to audit procedures such as :
 - i. Issues identified obedience with pertinent moral necessities and how they were resolved.
 - ii. Supposition on agreement with individuality obligation.
 - iii. Conclusion reached regarding acceptance and continuous client relationship and audit engagement.

Not only auditor but also appointed QC staff has to maintain document in review process such as Engagement Quality Control Review (EQCR) which has to be completed stipulated time duration.

SA 230 (Revised) Audit Documentation

Audit documentation illustrates the basic principles of documentation and requires working paper. It should be primed or acquired by auditor during the auditing process. It should be retained by an auditor in association with accomplish of audit. Auditing documentations are use for various purposes in audit process. Following are the objectives of audit documentation:

- a. Assistance regarding the audit should be planned and performed by an engagement team
- b. Support team members should supervise to direct, audit and should also acquit their reassess tasks
- c. Ensure that the team members should be made accountable for work done
- d. Retaining of attained records in auditing can be kept for future audit
- e. Permitting the conduct of quality control reviews and inspections

- f. Enabling a demeanour of peripheral assessments in accord with the legal, regulatory and other requirement

The preparation of documentation requires adequate and relevant proof for auditor's report. It is evidence on which audit was prearranged and achieved in agreement with SAs and relevant and other regulatory requirements. The timely preparation of such documentation facilitates to improve the eminence of audit and facilitate the efficient-examine and assessment of audit facts received and conclusions formed.

Audit process decides the form, content and level of audit documentation during the auditing. The auditor must prepare list of audit documentation that is required for an experienced auditor to understand such as:

- a. The nature, timing and extent of audit procedures
- b. The results and audit evidence obtained during the audit process
- c. Discovery of important affairs during the auditing and final conclusion
- d. Details and time taken by audit teams and reviewer

The essential of documentation is based on several factors. Following are the factors that affect the quality and requisite of documentation:

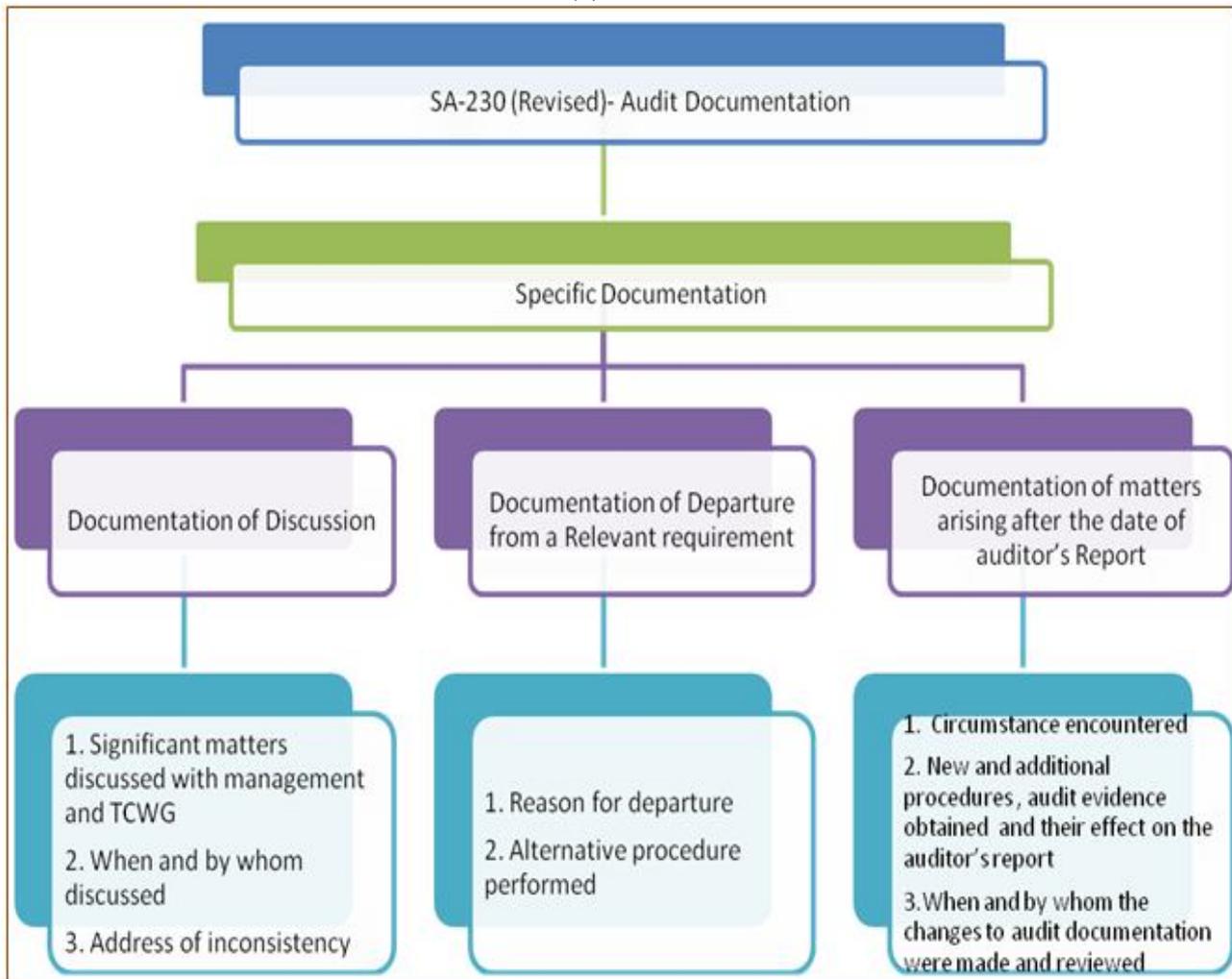
- a. The volume and complexity of an entity
- b. The types and natures of audit procedures to be performed
- c. The identified danger of substantial misstatement
- d. The significance of audit evidence obtained
- e. The nature and degree of exclusions recognized
- f. The audit methodology and tools used

Documentation is vital for several purposes along with ordinary requirement in audit process. Following are other implications of documentation for an entity and auditor:

- a. Requirement of document for significant matters, discussion with management or any other authorised body.
- b. Documentation for inconsistent matter, if auditor finds inconsistency then one should keep record why the procedures have changed for inconsistency event in audit.
- c. Documentation of matters ascending after the date of the auditor's statement for the following purpose:²²
 - a. To encounter the incident
 - b. To analyse the result of new or additional audit procedures, performed audit evidence obtained, conclusion drawn and audit report
 - c. Once and by whom changes in audit documentation made and reviewed
 - d. Assembling of the concluding audit folder should not detect any document from final audit file
 - e. The audit document should be kept 7 years after final audit report

Following is the brief about SA230: Audit Documentation²³

Chart No: 4.4.5.(d) Audit Documentation



4.5 Summary

Auditing is an assessment of financial statement by following guidelines and procedure given by the ICAI. Such guidance is provided in terms of auditing standards. Auditing standards are nothing but auditing principles like accounting standards. It helps the auditor to follow a specific system or procedure to examine the financial statement of an organization. Under CIS environment auditor need more attention while conducting the audit. Hence, ICAI has introduced several guidelines such as Standard on Auditing, Standards on Review Engagement, Standards on Assurance Engagement and Standards on Related Services. These executions of standard differ from organization to organization. According to the nature of business, the auditor selects the AAS. The Audit Standard 500 deals with audit evidence. It is vital way to verify the recorded transaction in the records of account. Audit evidence supports acknowledgement. The study reflects that the effective format is essential for accurate audit. It helps to identify the several aspect of transaction such as ownership, existence, right, valuation of assets and confirmation etc. The available resources indicate sources of information such as internal and external. Internal evidence is less reliable whereas external evidence is more trustworthy than internal. There is a likelihood of alternation or manipulation in the internal evidences. SA 500 essential deals with different purpose such as it helps to find out appropriate evidence, proper utilized evidence, selection of items for testing the source of evidence and consideration of degree of reliability. Assessment of Audit facts is required to make proper audit work. The evaluation of it is based on test of control and substantive procedures.

CHAPTER - 5

ANALYSIS AND INTERPRETATION OF DATA

5.1 INTRODUCTION

In the previous chapter, the methodology of conducting this research is discussed in detail. The data was subjected to appropriate statistical procedures to test the hypothesis with which the study is initiated. Data was collected by conducting Sample survey through the questionnaire.

Specimen of questionnaire is part of the annexure.

In this chapter, detailed statistical analysis of various aspects of “**A Comparative Study of Audit Under Computerized Information System in Public Banks and Private Banks of Mumbai City**” and the results obtained through analysis and decisions regarding an acceptance or rejection of the hypotheses are presented.

In statistical applications, data analysis is divided into descriptive statistics and inferential statistics. The present study comprises of both the statistical tools i.e. descriptive and inferential, primary and secondary data is used while analysing. The study is divided in two parts:

1. Descriptive analysis
2. Inferential analysis

5.2 SAMPLE PROFILE

In the present study, samples are selected using simple random sampling. The detailed respondent profile is given below.

Gender

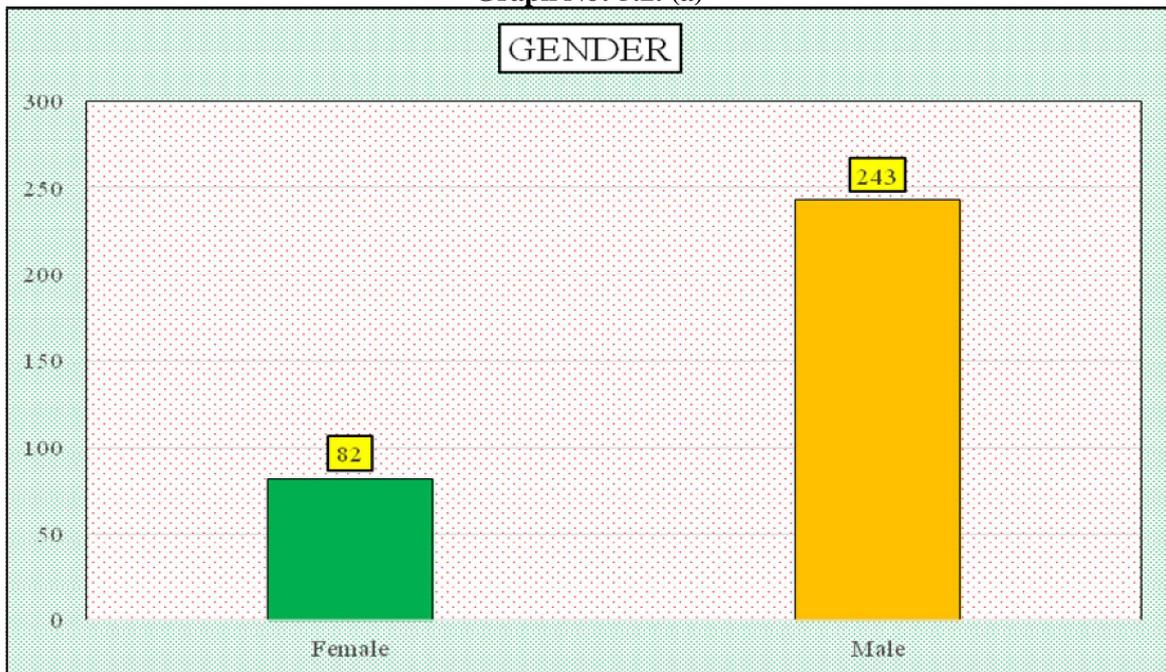
Table no. 5.2. (i): Gender

	Frequency	Percent
Female	82	25.2
Male	243	74.8
Total	325	100.0

Interpretation

From the above table, it is pragmatic that out of 325 respondents, there are 82 (25.2%) females and remaining 243 (74.8%) male respondents. These details are also presented graphically as below:

Graph No: 5.2. (a)



TYPES OF RESPONDENTS

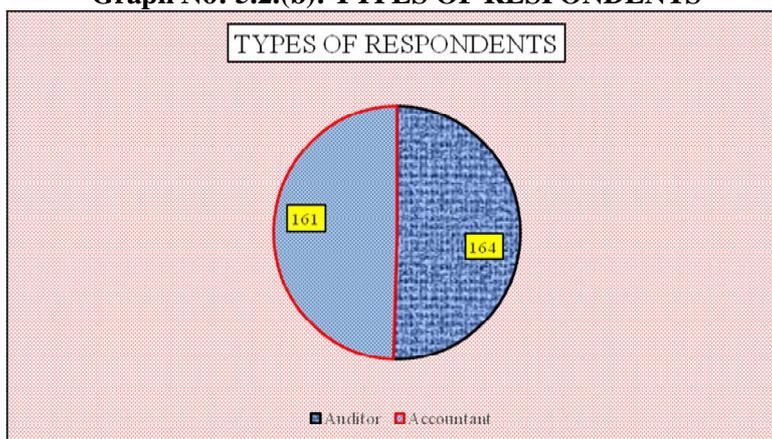
Table no. 5.2. (ii): Types of Respondents

	Frequency	Percent
Auditor	164	50.5
Accountant	161	49.5
Total	325	100.0

Interpretation

The above table indicated that out of 325 respondents, there are 164 (50.50%) auditor and remaining 161 (49.5%) accountant respondents. These details are also presented graphically as below:

Graph No: 5.2.(b): TYPES OF RESPONDENTS



TYPES OF BANK

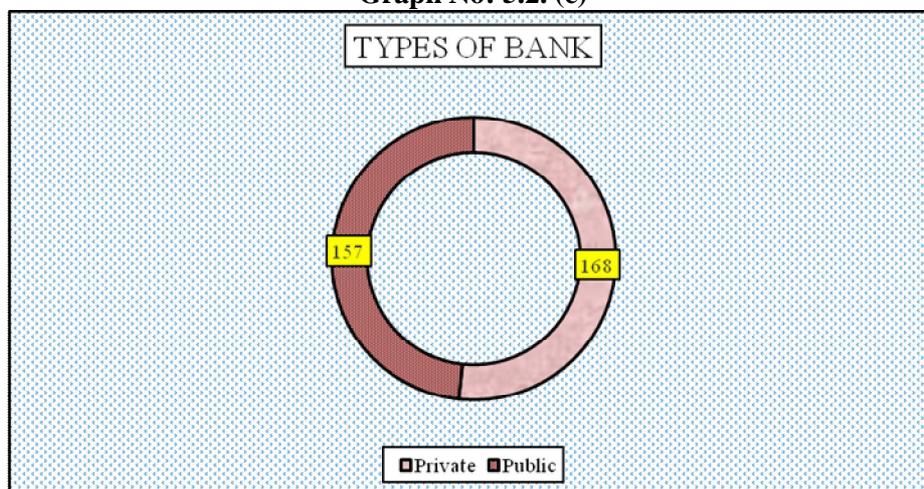
Table No: 5.2.(iii):Types of Bank

	Frequency	Percent
Private	168	51.7
Public	157	48.3
Total	325	100.0

Interpretation

Table no: 5.2.(iii) showed that out of 325 respondents, there are 168 (51.70%) respondents are from Private Sector Bank and remaining 157 (48.3%) respondents are from Public Sector Bank. These details are also presented graphically as below:

Graph No: 5.2. (c)



ZONAL AREA OF BANKS

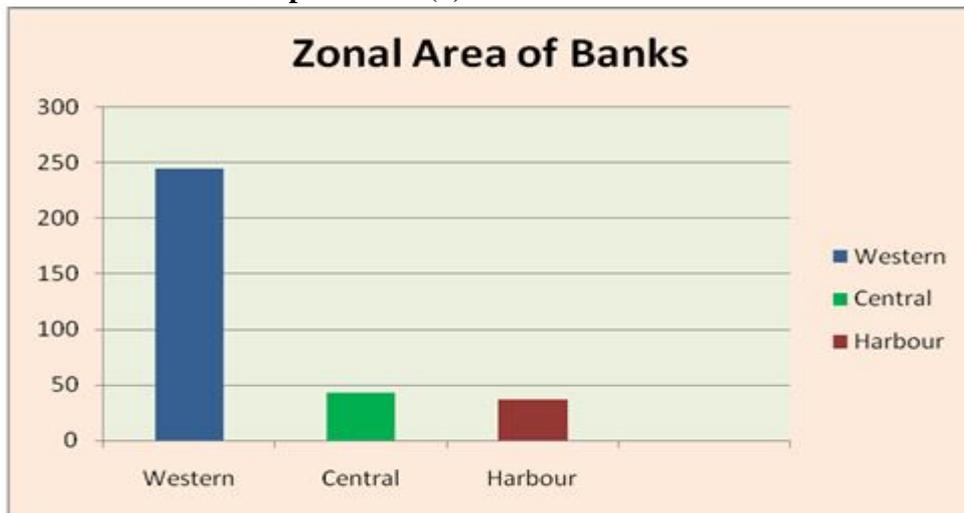
Table No 5.2.(iv): Zonal Area of Banks

	Frequency	Percent
Western	245	75.4
Central	43	13.2
Harbour	37	11.4
Total	325	100.0

Interpretation

From the above table, it is observed that out of 325 respondents, there are 245 (75.40%) respondents are from Western Zone and 43 (13.2%) respondents are from Central Zone and remaining 37 (11.4%) respondents are from Harbour Zone of Mumbai City. These details are also presented graphically as below:

Graph No: 5.2.(d): Zonal Area of Banks



5.3 ANALYSIS OF DATA OF THE PRESENT STUDY

In the present study, the researcher studied various aspects of **concern study**. Analysis of data collected is as below.

5.3. a. DESCRIPTIVE ANALYSIS OF OBJECTIVES

The descriptive study mainly focuses on verifying main **objectives of the study**. Researcher has used statistical tools like mean, standard deviation and graphs for analysis of primary data. The details of which are given below.

5.3.1. The concept of Computerized Information System and CIS audit

Concept of Computerized Information System

In the present study to understand the concept of Computerized Information System and CIS audit respondents (Private and Public Sector Banks) were asked to give their view on different aspects of the concept of Computerized Information System and CIS audit considering five point ranking scale. The codes of which are as follows:

- Most important - R1
- Very Important R2
- Important R3
- Somewhat important R4
- Least important R5

At first, we study responses related to elements of CIS. Details of which are given below:

Table No. 5.3.1.1 (i): Details of Elements of CIS

Elements of CIS		Private sector bank						Public sector bank					
		R1	R2	R3	R4	R5	Total	R1	R2	R3	R4	R5	Total
People	F	18	42	26	31	51	168	20	54	11	15	57	157
	%	10.7	25.0	15.5	18.5	30.4	100.0	12.7	34.4	7.0	9.6	36.3	100.0
Technology	F	27	34	28	47	32	168	36	33	23	35	30	157
	%	16.1	20.2	16.7	28.0	19.0	100.0	22.9	21.0	14.6	22.3	19.1	100.0
Facility	F	20	26	45	43	34	168	27	21	46	38	25	157
	%	11.9	15.5	26.8	25.6	20.2	100.0	17.2	13.4	29.3	24.2	15.9	100.0
Data and Application	F	56	28	40	21	23	168	50	25	31	36	15	157
	%	33.3	16.7	23.8	12.5	13.7	100.0	31.8	15.9	19.7	22.9	9.6	100.0
Process and Planning	F	47	39	29	26	27	168	24	27	46	32	28	157
	%	28.0	23.2	17.3	15.5	16.1	100.0	15.3	17.2	29.3	20.4	17.8	100.0

Sources: Primary data

Interpretation

Above table provides ranking given by respondents about different elements of CIS.

1. For **people** out of total 168 respondents from Private sector banks, 51 (30.4%) have given fifth rank i.e. least important while 42 (25%) have given second rank which means very Important. Hence these respondents are divided in their opinion about people as element of CIS. From Public sector banks out of total 157 respondents, 57 (36.3%) have given fifth rank i.e. least important while 54 (34.4%) have given second rank which means very Important. Hence again these respondents are also divided in their opinion about people as element of CIS.
2. For **Technology** as a CIS element, from Private sector banks, 47 (28%) respondents gave forth rank i.e. somewhat important with 32 (19%) gave fifth rank i.e. least important. indicates that **Technology** as a CIS element is not important. In case of respondents from Public sector banks 35(22.3%) gave forth rank i.e. somewhat important with 36 (22.9%) gave first i.e. Most important along with 33(21%) gave second rank which means very Important indicates that **Technology** as a CIS element is important. Hence respondents are having different opinion in this case
3. For **facility** most of the respondents of both types are giving less importance.
4. In case of element **Data and Application** majority of respondent (both types) feel that it is most important element of CIS.
5. For **Process and Planning** from Private sector banks respondents 47 (28%) have given first rank i.e. most important while 39 (23.2%) have given second rank which means very Important. Hence these respondents are of the opinion that **Process and Planning** is either most important or very important element of CIS. Respondents from Public sector banks gave important or somewhat important ranks for **Process and Planning**. Again there is difference in the opinion of respondents in this regard.

Hence, from the above we may reveal that **Data and Application** is considered as most important elements of CIS whereas **facility** is having comparatively less importance. Regarding **people, Technology and Process and Planning** respondents are having difference of opinion.

For further in-depth analysis we provide descriptive parameters related to elements of CIS. Details of which are given below.

Table No. 5.3.1.1 (ii): Descriptive statistics related to Elements of CIS

Elements of CIS	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
People	168	3.33	3.00	5	1.408	157	3.22	3.00	5	1.538
Technology	168	3.14	3.00	4	1.371	157	2.94	3.00	1	1.457
Facility	168	3.27	3.00	3	1.278	157	3.08	3.00	3	1.306
Data and Application	168	2.57	2.50	1	1.413	157	2.62	3.00	1	1.384
Process and Planning	168	2.68	2.00	1	1.436	157	3.08	3.00	3	1.306

Sources: Primary data

Interpretation

From the above table it is observed that

1. In respect of people, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.33 (with standard deviation $\sigma = 1.408$) and 3.22 (with standard deviation $\sigma = 1.538$) respectively. Both these values are greater than 3. Also corresponding median (M) and mode (z) values is 3 and 5 respectively. This indicates that respondents from both these banks are very important in their opinion in respect to above aspect.
2. For the technology, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.14 (with standard deviation $\sigma = 1.371$) and 2.94 (with standard deviation $\sigma = 1.457$) respectively. The mean value of Private Sector Bank is closed to 3. The median (M) is 3 for both the type of banks whereas mode (Z) values is 4 and 1 respectively. This indicates that respondents from Private Sector Banks and Public Sector banks are neutral in their opinion.
3. For **facility**, (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.27 (with standard deviation $\sigma = 1.278$) and 3.08 (with standard deviation $\sigma = 1.306$) respectively. The mean values of both the types of banks are closed to 3. Also corresponding median (M) and mode (z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion with respect to above aspect.
4. For **data and application**, (\bar{X}) values for respondents of Private sector bank and Public sector bank are 2.57 (with standard deviation $\sigma = 1.413$) and 2.62 (with standard deviation $\sigma = 1.384$) respectively. The mean values of both the types of banks are closed to 3. Also corresponding median (M) values is closed or equals to 3 respectively and mode (Z) values is 1 respectively. This indicates that respondents from both these banks are neutral in their opinion with respect to above aspect.
5. For **Process and Planning**, (\bar{X}) values for respondents of Private sector bank and Public sector bank are 2.68 (with standard deviation $\sigma = 1.436$) and 3.08 (with standard deviation $\sigma = 1.306$) respectively. The mean values of both the types of banks are closed to 3. Also corresponding median (M) values is 2 and 3 respectively and mode (Z) values is 1 and 3 respectively. This indicates that respondents from both these banks are neutral in their opinion for tor the same.

Hence from the above, we may reveal that there are several elements of CIS environment. In most of the case respondents from both banks are having neutral opinion. However for **people, technology and facility** respondents from Public Sector Banks are neutral in their opinion and respondents from Private sector banks are considered that they are important aspect in computerized world.

In the next table we provide details of audit evaluation.

Table No: 5.3.1.2 (i) :CIS –Audit evaluates

CIS –Audit evaluates		Private sector bank						Public sector bank					
		R1	R2	R3	R4	R5	Total	R1	R2	R3	R4	R5	Total
An organization	F	82	52	33	1	0	168	69	59	29	0	0	157
	%	48.8	31.0	19.6	.6	0	100.0	43.9	37.6	18.5	0	0	100.0
Management	F	43	86	35	3	1	168	50	74	30	3	0	157
	%	25.6	51.2	20.8	1.8	.6	100.0	31.8	47.1	19.1	1.9	0	100.0
Employees	F	43	27	93	5	0	168	37	23	94	3	0	157
	%	25.6	16.1	55.4	3.0	0	100.0	23.6	14.6	59.9	1.9	0	100.0
Others	F	0	1	7	160	0	168	1	2	5	149	0	157
	%	0	.6	4.2	95.2	0	100.0	.6	1.3	3.2	94.9	0	100.0

Sources: Primary data

Interpretation

Above table provides ranking given by respondents about CIS – Audit Evaluates

- For an **organization**, out of total 168 respondents from Private sector banks 82 (48.8%) have given first rank i.e. most important. Public sector banks out of total 157 respondents, 69 (43.9%) under organization have given first rank i.e. most important.
- For **management**, 86 (51.2%) have given second rank which means very Important under Private Sector Bank. Under management 74 (47.1%) have given second rank which means very Important for Public Sector Bank.
- For **employees**, 93(55.4%) have given third rank which is important under Private Sector Bank. Under Employees 94(59.9 %) have given third rank i.e. important for Public Sector Bank.
- For **others**, 160 (95.2 %) have given fourth rank which is somewhat important under Private Sector Bank. For Public Sector Bank under others i.e. 149(94.9%) have given fourth rank i.e. somewhat important.

Hence from the above, we may reveal that others is considered as somewhat important for CIS – Audit evaluates whereas **organization** is having comparatively more importance. Regarding **management, employee's** respondents are having difference of opinion.

For further in-depth analysis we provide descriptive parameters related to elements of CIS. Details of which are given below.

**Table No: Table No: 5.3.1.2 (ii)
Descriptive statistics related to CIS –Audit evaluates**

CIS Audit evaluates-	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
An organization	168	1.72	2.00	1	.796	157	1.75	2.00	1	.750
Management	168	2.01	2.00	2	.770	157	1.91	2.00	2	.763
Employees	168	2.36	3.00	3	.898	157	2.40	3.00	3	.869
Others	168	3.95	4.00	4	.251	157	3.92	4.00	4	.368

Sources: Primary data

Interpretation

1. In respect of an **organization**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 1.72(with standard deviation $\sigma = 0.796$) and 1.75(with standard deviation $\sigma = 0.750$) respectively. Both these values are less to 3. Also corresponding median (M) values equals to 2 and Mode (Z) value is 1. This indicates that respondents from both these banks are very important in their opinion in respect to above aspect.

- For the **management**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 2.01 (with standard deviation $\sigma = 0.770$) and 1.91 (with standard deviation $\sigma = 0.763$) respectively. Both these mean values are less than 3. Also the corresponding values of median (M) and mode (Z) are equals to 2. This indicates that respondents from both types of banks have positive opinion.
- For the **employees**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.36 (with standard deviation $\sigma = 0.898$) and 2.40 (with standard deviation $\sigma = 0.869$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For **other**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.95 (with standard deviation $\sigma = 0.251$) and 3.92 (with standard deviation $\sigma = 0.368$) respectively. Both these values are greater than 3. Also corresponding median (M) and mode (z) values are 4. This indicates that respondents from both these banks are somewhat important in respect of the above aspect.

Hence from the above, we may reveal that CIS evaluates several aspects under audit process. In the case of evaluation of **employees**, respondents from both banks are having neutral opinion. However, for the evaluation of an **organisation** and **management** are very important as per them. Evaluation of **other** aspects are somewhat or least important as the respondents from the banks.

Table No: 5.3.1.3 (i)
CIS application ensures the following amenities

CIS application ensures	Private sector bank							Public sector bank					
		R1	R2	R3	R4	R5	Total	R1	R2	R3	R4	R5	Total
Confidentiality	F	37	33	27	31	40	168	39	28	21	19	50	157
	%	22.0	19.6	16.1	18.5	23.8	100.0	24.8	17.8	13.4	12.1	31.8	100.0
Integrity	F	26	51	32	20	39	168	35	57	27	18	20	157
	%	15.5	30.4	19.0	11.9	23.2	100.0	22.3	36.3	17.2	11.5	12.7	100.0
Availability and reliability of data	F	52	34	41	32	9	168	43	23	40	40	11	157
	%	31.0	20.2	24.4	19.0	5.4	100.0	27.4	14.6	25.5	25.5	7.0	100.0
Adherence to relevant legal and regulatory requirements	F	27	30	30	63	18	168	25	21	33	55	23	157
	%	16.1	17.9	17.9	37.5	10.7	100.0	15.9	13.4	21.0	35.0	14.6	100.0
Ministry of Finance	F	26	21	39	21	61	168	15	28	36	25	53	157
	%	15.5	12.5	23.2	12.5	36.3	100.0	9.6	17.8	22.9	15.9	33.8	100.0

Sources: Primary data

Interpretation

Above table provides ranking given by respondents about CIS application ensures the following amenities:

- For **Confidentiality**, out of total 168 respondents from Private sector banks 40 (23.8%) have given fifth rank i.e. least important. Public sector banks out of total 157 respondents, 50 (31.8%) under organization have given fifth rank i.e. least important
- For **Integrity**, 51 (30.4%) have given second rank which means very Important under Private Sector Bank. Under Integrity 57 (36.3%) have given second rank which means very Important for Public Sector Bank
- For **Availability and reliability of data**, 52(31.0%) have given first rank which is most important under Private Sector Bank. Under Availability and reliability of data 43(27.4%) have given first rank i.e. most important for Public Sector Bank

4. For **Adherence to relevant legal and regulatory** requirements, 63 (37.5%) have given fourth rank which is somewhat important under Private Sector Bank. For Public Sector Bank under Adherence to relevant legal and regulatory requirements i.e. 55(35%) have given fourth rank i.e. somewhat important.
5. For **Ministry of Finance**, 61 (36.3%) have given fifth rank which is least important under Private Sector Bank. For Public Sector Bank under Ministry of Finance i.e. 53(33.8%) have given fifth rank which is least important.

Hence from the above, we may reveal that **confidentiality** and **ministry of finance** is least important whereas **Availability and reliability of data and Integrity** is having comparatively more importance.

For further in-depth analysis we provide descriptive parameters related to CIS application ensures the following amenities. Details of which are given below.

Table No: 5.3.1.3 (ii)
Descriptive statistics related to CIS application ensures the following amenities

CIS application ensures	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
Confidentiality	168	3.02	3.00	5	1.492	157	3.08	3.00	5	1.605
Integrity	168	2.97	3.00	2	1.408	157	2.56	2.00	2	1.303
Availability and reliability of data	168	2.48	2.00	1	1.257	157	2.70	3.00	1	1.303
Adherence to relevant legal and regulatory requirements	168	3.09	3.00	4	1.275	157	3.19	3.00	4	1.297
Ministry of Finance	168	3.42	3.00	5	1.470	157	3.46	3.00	5	1.366

Sources: Primary data

Interpretation

From the above table it is observed that

- In respect of **Confidentiality** due to application of CIS, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.02 (with standard deviation $\sigma = 1.492$) and 3.08 (with standard deviation $\sigma = 1.605$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3 and 5 respectively. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For the **integrity**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 2.97 (with standard deviation $\sigma = 1.408$) and 2.56 (with standard deviation $\sigma = 1.303$) respectively. Both these mean values are closed to 3. Also for Private sector banks corresponding median (M) and mode (Z) values equals to 3 and 2 respectively whereas for Public sector banks median (M) and mode (Z) values equals to 2. This indicates that respondents from Private sector banks are very important in their opinion in respect to above aspect whereas respondents from Public sector banks are somewhat important with respect to above fact.
- For the **availability and reliability of data**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.8 (with standard deviation $\sigma = 1.257$) and 2.70 (with standard deviation $\sigma = 1.303$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 2 and 1 respectively under Private sector bank whereas as median (M) and mode (z) values equals to 3 and 1 under Public sector bank. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect.
- For the **Adherence to relevant legal and regulatory requirements**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.09 (with standard deviation $\sigma = 1.275$) and 3.19 (with standard deviation $\sigma = 1.297$) respectively. Both these values are closed 3. Also corresponding median

(M) values equals to 3 and mode (Z) values are 4 respectively. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

5. For the **Ministry of Finance**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.42 (with standard deviation $\sigma = 1.470$) and 3.6 (with standard deviation $\sigma = 1.366$) respectively. Both these values are greater than 3. Also corresponding median (M) and mode (Z) values equals to 3 and 5 respectively. This indicates that respondents from both these banks are similarity in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several amenities related to CIS **application** under audit process. In most of the case respondents from both banks are having neutral opinion. However for CIS audit **integrity, availability and reliability of the data, and ministry of finance** respondents from both banks are difference in their opinions with above fact.

As CIS is based on several tools and techniques. CAAT is one of important techniques considered under computerized system. The following table provides details of Computer Assisted Audit Techniques.

Table No: 5.3.1.4 (i): Computer Assisted Audit Techniques (CAATs)

Amenities		Private sector bank						Public sector bank					
		R1	R2	R3	R4	R5	Total	R1	R2	R3	R4	R5	Total
Tools and techniques	F	53	57	48	10	0	168	64	55	30	8	0	157
	%	31.5	33.9	28.6	6.0	0	100.0	40.8	35.0	19.1	5.1	0	100.0
Vouching and Verification	F	47	55	43	23	0	168	42	54	40	21	0	157
	%	28.0	32.7	25.6	13.7	0	100.0	26.8	34.4	25.5	13.4	0	100.0
Auditing process and Planning	F	54	39	58	17	0	168	39	32	75	11	0	157
	%	32.1	23.2	34.5	10.1	0	100.0	24.8	20.4	47.8	7.0	0	100.0
MIS	F	17	20	18	113	0	168	15	15	13	113	1	157
	%	10.1	11.9	10.7	67.3	0	100.0	9.6	9.6	8.3	72.0	.6	100.0

Sources: Primary data

Interpretation

Above table provides ranking given by respondents about Computer Assisted Audit Techniques (CAATs) ensures the following amenities:

1. For **Tools and Techniques**, out of total 168 respondents from Private sector banks 57 (33.9%) have given second rank i.e. very important. Public sector banks out of total 157 respondents, 64 (40.8%) under Tools and Techniques have given first rank i.e. most important
2. For **Vouching and Verification**, 55 (32.7%) have given second rank which means very Important under Private Sector Bank. Under Vouching and Verification 54 (34.4%) have given second rank which means very Important for Public Sector Bank.
3. For **Auditing process and Planning**, 58 (34.5%) have given third rank which is important under Private Sector Bank. Under Auditing process and Planning 75 (47.8%) have given third rank i.e. important for Public Sector Bank.
4. For **MIS**, 113 (67.3%) have given fourth rank which is somewhat important under Private Sector Bank. For Public Sector Bank under MIS i.e. 113 (72%) have given fourth rank i.e. somewhat important.

Hence from the above, we may reveal that **MIS** is somewhat important whereas **Tools and Techniques and Vouching and Verification** is very important and **auditing process and planning** is less important.

For further in-depth analysis, we provide descriptive parameters related to Computer Assisted Audit Techniques (CAATs). Details of which are given below

Table No: 5.3.1.4 (ii)

Descriptive statistics related to Computer Assisted Audit Techniques (CAATs)

Amenities	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
Tools and techniques	168	2.09	2.00	2	.914	157	1.89	2.00	1	.891
Vouching and Verification	168	2.25	2.00	2	1.013	157	2.25	2.00	2	.999
Auditing process and Planning	168	2.23	2.00	3	1.013	157	2.37	3.00	3	.936
MIS	168	3.35	4.00	4	1.039	157	3.45	4.00	4	1.015

Sources: Primary data

Interpretation

From the above table it is observed that

- In respect of GAATs provides **tools and techniques**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.09 (with standard deviation $\sigma = 0.914$) and 1.89 (with standard deviation $\sigma = 0.891$) respectively. Both these values are less than 3. Also corresponding median (M) and mode (Z) values equals to 2 under Private Sector Bank and 2 and 1 respectively under Public Sector Bank. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect.
- For the **vouching and verification**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 2.25 (with standard deviation $\sigma = 1.013$) and 2.25 (with standard deviation $\sigma = 0.999$) respectively. Both these mean values are less 3. Also corresponding median (M) and mode (Z) values equals to 2. This indicates that respondents from both the banks are very important in their opinion in respect to above fact.
- For the **auditing process and planning**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.23 (with standard deviation $\sigma = 1.013$) and 2.37 (with standard deviation $\sigma = 0.936$) respectively. Both these values are less than 3. Also corresponding median (M) and mode (Z) values equals to 2 and 3 respectively under Private sector bank whereas as median (M) and mode (Z) values equals to 3 under Public sector bank. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect. Respondents are in very much favour of above aspect under Private Sector Bank and respondents from Public Sector Bank are neutral in opinion.
- For **MIS**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.35 (with standard deviation $\sigma = 1.039$) and 3.45 (with standard deviation $\sigma = 1.015$) respectively. Both these values are closed 3. Also corresponding median (M) and mode (Z) values are 4 respectively. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several aspects of Computer Assisted Audit Techniques (CAATs). In the case of **MIS** respondents from both banks are having neutral opinion. However for **tools and techniques, vouching and verification and auditing process and planning** from both banks are difference in their opinions with above fact.

CAAT is composition of several components. Following table provide details of components of CAATs.

Table No: 5.3.1.5 (i): The components of CAATs

Components		Private Sector Bank						Public Sector Bank					
		R1	R2	R3	R4	R5	Total	R1	R2	R3	R4	R5	Total
Generalized audit software	F	70	22	27	22	27	168	55	26	30	21	25	157
	%	41.7	13.1	16.1	13.1	16.1	100.0	35.0	16.6	19.1	13.4	15.9	100.0
Audit command language	F	26	43	22	30	47	168	18	41	14	26	58	157
	%	15.5	25.6	13.1	17.9	28.0	100.0	11.5	26.1	8.9	16.6	36.9	100.0
Utility software	F	17	45	44	40	22	168	26	40	38	31	22	157

	%	10.1	26.8	26.2	23.8	13.1	100.0	16.6	25.5	24.2	19.7	14.0	100.0
Test data	F	36	27	38	53	14	168	32	29	34	53	9	157
	%	21.4	16.1	22.6	31.5	8.3	100.0	20.4	18.5	21.7	33.8	5.7	100.0
Application software tracing and mapping	F	21	30	35	24	58	168	26	22	42	26	41	157
	%	12.5	17.9	20.8	14.3	34.5	100.0	16.6	14.0	26.8	16.6	26.1	100.0

Sources: Primary data

Interpretation

Above table provides ranking given by respondents about the components of CAATs ensures the following amenities:

1. For **Generalized audit software**, out of total 168 respondents from Private sector banks 70 (41.7%) have given first rank i.e. most important. Public sector banks out of total 157 respondents, 55 (35%) under Generalized audit software have given first rank i.e. most important.
2. For **Audit command language**, 47 (28%) have given fifth rank which means least Important under Private Sector Bank. Under Audit command language 58 (36.9%) have given fifth rank which means least Important for Public Sector Bank.
3. For **Utility software**, 45 (25.8%) have given second rank which is very important under Private Sector Bank. Under Utility software 40 (25.5%) have given second rank i.e. very important for Public Sector Bank.
4. For **Test data**, 53 (31.5%) have given fourth rank which is somewhat important under Private Sector Bank. For Public Sector Bank under Test data i.e. 53 (33.8%) have given fourth rank i.e. somewhat important.
5. For **Application software tracing and mapping**, 58 (34.5%) have given fifth rank which is least important under Private Sector Bank. For Public Sector Bank under Application software tracing and mapping i.e. 42 (26.8%) have given third rank i.e. important.

Hence from the above, we may reveal that **generalized audit software** is very important whereas **Application software tracing and mapping** is least important.

For further in-depth analysis, we provide descriptive parameters related components of CAATs. Details of which are given below

Table No: 5.3.1.5 (ii)
Descriptive statistics related to the components of CAATs

Components	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
Generalized audit software	168	2.49	2.00	1	1.524	157	2.59	2.00	1	1.477
Audit command language	168	3.17	3.00	5	1.468	157	3.41	4.00	5	1.485
Utility software	168	3.03	3.00	2	1.201	157	2.89	3.00	2	1.294
Test data	168	2.89	3.00	4	1.290	157	2.86	3.00	4	1.248
Application software tracing and mapping	168	3.40	3.00	5	1.432	157	3.22	3.00	3	1.407

Sources: Primary data

Interpretation

From the above table it is observed that

1. In respect of component of GAATs of **generalized audit software**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.49 (with standard deviation $\sigma = 1.524$) and 2.59 (with standard deviation $\sigma = 1.477$) respectively. Both these values are closed 3. Also corresponding median (M) and mode (Z) values equals to 2 and 1 respectively This indicates that respondents from both these

banks are similar in their opinion in respect to above aspect.

- For the **audit command language**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.17 (with standard deviation $\sigma = 1.468$) and 3.41 (with standard deviation $\sigma = 1.485$) respectively. Both these mean values are closed to 3. Also corresponding median (M) values are 3 and 4 respectively for both these banks and mode (Z) values equals to 5. This indicates that respondents from both the banks are neutral in their opinion in respect to above fact.
- For the **utility software**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.03 (with standard deviation $\sigma = 1.201$) and 2.89 (with standard deviation $\sigma = 1.294$) respectively. Both these values are closed 3. Also corresponding median (M) and mode (Z) values equals to 3 and 2 respectively. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect. Respondents are in very much favour of above aspect under Private Sector Bank and respondents from Public Sector Bank are neutral in their opinion in respect to above aspect.
- For **test data**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.89 (with standard deviation $\sigma = 1.290$) and 2.86 (with standard deviation $\sigma = 1.248$) respectively. Both these values are closed 3. Also corresponding median (M) and mode (Z) values are 3 and 4 respectively. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For **application software tracing and mapping**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.40 (with standard deviation $\sigma = 1.432$) and 3.22 (with standard deviation $\sigma = 1.407$) respectively. Both these values are closed 3. Also corresponding median (M) values are 3 and mode (Z) values are 5 and 3 respectively. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several components of Computer Assisted Audit Techniques (CAATs). In most of the case respondents from both banks are having neutral opinion. However for **generalized audit software** both banks are difference in their opinions with the above fact.

In the next table we provide details of accounting information system helping different aspects of CIS.

Table No: 5.3.1.6 (i)
Accounting Information System help in the following aspects of CIS

		Private sector bank						Public sector bank					
		R1	R2	R3	R4	R5	Total	R1	R2	R3	R4	R5	Total
Collect the information	F	43	45	23	57	0	168	55	38	13	51	0	157
	%	25.6	26.8	13.7	33.9	0	100.0	35.0	24.2	8.3	32.5	0	100.0
Process the information	F	40	61	30	37	0	168	38	61	25	33	0	157
	%	23.8	36.3	17.9	22.0	0	100.0	24.2	38.9	15.9	21.0	0	100.0
Report the information	F	47	32	49	40	0	168	38	35	51	33	0	157
	%	28.0	19.0	29.2	23.8	0	100.0	24.2	22.3	32.5	21.0	0	100.0
Analysis	F	38	30	67	33	0	168	26	22	69	40	0	157
	%	22.6	17.9	39.9	19.6	0	100.0	16.6	14.0	43.9	25.5	0	100.0

Sources: Primary data

Interpretation

Above table provides ranking given by respondents about Accounting Information System help in the following aspects of CIS ensures the following amenities:

- For **Collect the information**, out of total 168 respondents from Private sector banks 57 (33.9%) have given fourth rank i.e. somewhat important. Public sector banks out of total 157 respondents, 55 (35%) under Collect the information have given first rank i.e. most important

- For **Process the information**, 61 (36.3%) have given second rank which means very Important under Private Sector Bank. Under Process the information 61 (38.9%) have given second rank which means very Important for Public Sector Bank.
- For **Report the information**, 49 (29.2%) have given third rank which is important under Private Sector Bank. Under Report the information 51 (32.5%) have given third rank i.e. important for Public Sector Bank
- For **Analysis** 67, (39.9%) have given third rank which is important under Private Sector Bank. For Public Sector Bank under Test data i.e. 69 (43.9%) have given third rank i.e. important.

Hence from the above, we may reveal that **Analysis and Report** the information is important whereas Process the information is more important.

For further in-depth analysis, we provide descriptive parameters related to accounting information system helping different aspects of CIS. Details of which are given below.

Table No: 5.3.1.6 (ii)
Descriptive statistics related to Accounting Information System help in the following aspects of CIS

	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
Collect the information	168	2.56	2.00	4	1.202	157	2.38	2.00	1	1.264
Process the information	168	2.38	2.00	2	1.077	157	2.34	2.00	2	1.066
Report the information	168	2.49	3.00	3	1.137	157	2.50	3.00	3	1.078
Analysis	168	2.57	3.00	3	1.048	157	2.78	3.00	3	1.008

Sources: Primary data

Interpretation

From the above table it is observed that

- In respect of **collect the information**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.56 (with standard deviation $\sigma = 1.202$) and 2.38 (with standard deviation $\sigma = 1.264$) respectively. Both these values are closed 3. Also corresponding median (M) values are equal to 2 for both types of banks and mode (Z) values equals to 4 and 1 respectively. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect i.e. very important aspects.
- For the **process the information**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 2.38 (with standard deviation $\sigma = 1.077$) and 2.34 (with standard deviation $\sigma = 1.066$) respectively. Both these mean values are less than 3. Also corresponding median (M) and mode (Z) values are 2. This indicates that respondents from both the banks are similar in their opinion in respect to above fact.
- For the **Report the information**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.49 (with standard deviation $\sigma = 1.137$) and 2.50 (with standard deviation $\sigma = 1.078$) respectively. Both these values are closed 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For **analysis**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.00 (with standard deviation $\sigma = 1.048$) and 2.78 (with standard deviation $\sigma = 1.008$) respectively. Both these values are closed 3. Also corresponding median (M) and mode (Z) values are 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there is several accounting information system of CIS. In most of the case respondents from both banks are having neutral opinion. However for collect and process the information both banks are difference in their opinions with the above fact.

Further we give details of auditing in GIS environment.

Table No: 5.3.1.7 (i)
Auditing in a CIS environment is generally described as

		Private sector bank						Public sector bank					
		R1	R2	R3	R4	R5	Total	R1	R2	R3	R4	R5	Total
Auditing through the computer	F	44	86	38	0	0	168	39	86	32	0	0	157
	%	26.2	51.2	22.6	0	0	100.0	24.8	54.8	20.4	0	0	100.0
Auditing around the computer	F	61	44	63	0	0	168	42	44	71	0	0	157
	%	36.3	26.2	37.5	0	0	100.0	26.8	28.0	45.2	0	0	100.0
Auditing with the computer	F	63	38	67	0	0	168	76	27	54	0	0	157
	%	37.5	22.6	39.9	0	0	100.0	48.4	17.2	34.4	0	0	100.0

Sources: Primary data

Interpretation

Above table provides ranking given by respondents about Auditing in a CIS environment is generally described as:

1. For **auditing through the computer**, out of total 168 respondents from Private Sector banks 86 (51.2%) have given second rank i.e. very important. Public sector banks out of total 157 respondents, 86 (54.8%) under auditing through the computer have given second rank i.e. very important
2. For **Auditing around the computer**, 63 (37.5%) have given third rank which means Important under Private Sector Bank. Under Auditing around the computer 71 (45.2%) have given third rank which means Important for Public Sector Bank.
3. For **Auditing with the computer**, 67 (39.9%) have given third rank which is important under Private Sector Bank. Under Auditing with the computer 76 (48.4%) have given first rank i.e. most important for Public Sector Bank

Hence from the above we may reveal that **auditing through the computer** is important whereas **Auditing around the computer** is less important.

For further in-depth analysis, we provide descriptive parameters related to auditing in CIS Environment. Details of which are given below.

Table No: 5.3.1.7 (ii)
Descriptive statistics related to Auditing in a CIS environment is generally described as

Approaches	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
Auditing through the computer	168	1.96	2.00	2	.700	157	1.96	2.00	2	.673
Auditing around the computer	168	2.01	2.00	3	.862	157	2.18	2.00	3	.831
Auditing with the computer	168	2.02	2.00	3	.882	157	1.86	2.00	1	.902

Sources: Primary data

Interpretation

From the above table it is observed that

1. In respect of **Auditing through the computer**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 1, 96 (with standard deviation $\sigma = 0.700$) and 1.96 (with standard deviation $\sigma = 0.673$) respectively. Both these values are less than 3. Also corresponding value of median (M) and

mode (Z) are equal to 2. This indicates that respondents from both these banks are similar in their opinion in respect to above aspect i.e. very important aspects.

- For the **Auditing around the computer**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 2.01 (with standard deviation $\sigma = 0.862$) and 2.18 (with standard deviation $\sigma = 0.831$) respectively. Both these mean values are less than 3. Also corresponding median (M) and mode (Z) values are 2 and 3 respectively. This indicates that respondents from both the banks are similar in their opinion in respect to above fact.
- For the **auditing with the computer**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.02 (with standard deviation $\sigma = 0.882$) and 1.86 (with standard deviation $\sigma = 0.902$) respectively. Both these values are less than 3. Also corresponding median (M) values equals to 2 and mode (Z) are 3 and 1 respectively. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several approaches of audit under CIS environment. In the most of the cases there is similarly in the opinion of the respondents from both the types of bank in respect of above aspect.

Next we provide details of Accounting Information System helping in the different aspects of CIS ensuring different amenities.

Table No: 5.3.1.8 (i)

Accounting Information System helping in the different aspects of CIS ensuring different amenities

		Private sector bank						Public sector bank					
		SD	D	NAND	A	SA	T	SD	D	NAND	A	SA	T
Audit is an independent examination of financial information of any entity.	F	14	17	50	62	25	168	14	9	39	65	30	157
	%	8.3	10.1	29.8	36.9	14.9	100.0	8.9	5.7	24.8	41.4	19.1	100.0
Audit software consists of computer Programmes used by the auditor, as part of the audit procedures data of audit significance form of entities accounting system	F	4	40	34	57	33	168	4	30	34	57	32	157
	%	2.4	23.8	20.2	33.9	19.6	100.0	2.5	19.1	21.7	36.3	20.4	100.0
Audit Trail traces the individual transactions through a system from source to completion.	F	13	42	52	35	26	168	12	37	45	39	24	157
	%	7.7	25.0	31.0	20.8	15.5	100.0	7.6	23.6	28.7	24.8	15.3	100.0
The Operation	F	8	26	51	54	29	168	10	25	43	53	26	157

Information System is a process of data generation and application of such information into business operations.	%	4.8	15.5	30.4	32.1	17.3	100.0	6.4	15.9	27.4	33.8	16.6	100.0
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Sources: Primary data

Interpretation

Above table provides ranking given by respondents about Accounting Information System help in the following aspects of CIS ensures the following amenities:

- For **Audit is an independent examination of financial information of any entity**, out of total 168 respondents from Private sector banks 62 (36.9%) agree. Public sector banks out of total 157 respondents, 65 (41.4%) under Audit is an independent examination of financial information of any entity agree
- For **Audit software consists of computer Programme used by the auditor**, as part of the audit procedures data of audit significance form of entities accounting system 57 (33.9%) agree under Private Sector Bank. Under Audit software consists of computer Programme used by the auditor, as part of the audit procedures data of audit significance form of entities accounting system 57 (36.3%) agree under Public Sector Bank.
- For **Audit Trail traces the individual transactions through a system** from source to completion, 52 (31%) Neither agrees nor disagrees in Private Sector Bank. Under Audit Trail traces the individual transactions through a system from source to completion 45 (28.7%) Neither agree nor disagree in Public Sector Bank
- For **The Operation Information System is a process of data generation and application** of such information into business operations, 54 (32.1%) agree under Private Sector Bank. For Public Sector Bank under The Operation Information System is a process of data generation and application of such information into business operations i.e. 53 (33.8%) agree.

Hence from the above, we may reveal that Analysis and Report the information is important whereas Process the information is more important.

For further in-depth analysis, we provide details of descriptive statistical parameters related to Accounting Information System helping in the different aspects of CIS ensuring different amenities

Table No: 5.3.1.8 (ii)
Descriptive statistical parameters related to Accounting Information System helping in the different aspects of CIS ensuring different amenities

	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
Audit is an independent examination of financial information of any entity.	168	3.40	4.00	4	1.117	157	3.56	4.00	4	1.134
Audit software consists of computer programmes used by the auditor, as part of the audit procedures data of audit significance form of entities accounting system.	168	3.45	4.00	4	1.125	157	3.53	4.00	4	1.095
Audit Trail traces the individual transactions through a system from source to completion.	168	3.11	3.00	3	1.176	157	3.17	3.00	3	1.176

The Operation Information System is a process of data generation and application of such information into business operations.	168	3.42	3.00	4	1.091	157	3.38	4.00	4	1.130
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Sources: Primary data

Interpretation

From the above table it is observed that

1. In respect of **Audit is an independent examination of financial information of any entity**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.40 (with standard deviation $\sigma = 1.117$) and 3.56 (with standard deviation $\sigma = 1.134$) respectively. Both these values are more than 3. Also corresponding median (M) and mode (z) values equals to 4. This indicates that respondents from both these banks are agreed in their opinion in respect to above aspect.
2. For the statement **Audit software consists of computer programmes** used by the auditor, as part of the audit procedures data of audit significance form of entities accounting system, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.45 (with standard deviation $\sigma = 1.125$) and 3.53 (with standard deviation $\sigma = 1.095$) respectively. Both these mean values are greater than 3. Also corresponding median (M) and mode (Z) values equals to 4. This indicates that respondents from Private sector banks are neutral in their opinion in respect to above aspect whereas respondents from Private sector banks are agreed with above fact.
3. For the statement **Audit Trail traces the individual transactions through a system** from source to completion, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.00 (with standard deviation $\sigma = 1.176$) and 3.17 (with standard deviation $\sigma = 1.176$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
4. For the statement the **Operation Information System is a process of data generation and application** of such information into business operations. Mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.24 (with standard deviation $\sigma = 1.091$) and 3.38 (with standard deviation $\sigma = 1.130$) respectively. Both these values are greater than 3. Also corresponding median (M) values equals to 3 and mode (Z) values are 4 and 4 respectively. This indicates that respondents from both these banks are agreed in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several Accounting Information System helps in the different aspects of CIS ensuring different amenities. In most of the case respondents from both banks are having agreed opinion in respect to above aspect.

5.3.2. Concept of Computerized Information System Audit

Computers themselves have moved from being just electronic data processing (EDP) systems to the realm of Information Technology (IT) Systems since they not only process data but also store, utilize and communicate a wide variety of information that influences decision making at various levels of an organization. The advent and growth of computer network systems, computer systems are transform into Information Systems (IS). Due to this drastic evaluation, the term "EDP audit" has largely been replaced by "Information Technology Audit" and "Information Systems Audit".

With the increase in the investment and dependence on computerized systems by an organization, it has become essential for audit to change the methodology and approach to audit because of the risks to data reliability, mistreatment, privacy, etc. In an IT system, especially implemented in an environment of deficient controls as compared to a manual system, an independent audit is required to provide assurance that adequate measures have been designed and are operated to minimize the exposure to various risks. Audit under CIS environment is conducting audit by using computer without changing the objective of audit. The following are the responses of Private Sector Bank and Public Sector Banks pertaining to the essential requisites affect the audit process under CIS environment.

To study and compare Audit under Computerized Information System respondents were asked to give their opinion on five point agreement scale with following codes.

1. Strongly disagree (SD)
2. Disagree (D)
3. Neither Agree Nor Disagree (NAND)
4. Agree (A)
5. Strongly agree (SA)

The details of this are given below.

Table no. 5.3.2.(i)
Details of Audit under Computerized Information System

		Private sector bank						Public sector bank					
		SD	D	NAND	A	SA	T	SD	D	NAND	A	SA	T
The absence of documentary evidence in CIS process affects the validity and reliability of CIS audit	F	17	31	77	39	4	168	18	20	57	50	12	157
	%	10.1	18.5	45.8	23.2	2.4	100.0	11.5	12.7	36.3	31.8	7.6	100.0
The CIS audit generates physical documents for verification and vouching.	F	4	42	56	52	14	168	5	28	45	54	25	157
	%	2.4	25.0	33.3	31.0	8.3	100.0	3.2	17.8	28.7	34.4	15.9	100.0
The CIS audit requires proper evidence for vouching transaction in Books of Accounts	F	6	31	66	47	18	168	10	35	56	40	16	157
	%	3.6	18.5	39.3	28.0	10.7	100.0	6.4	22.3	35.7	25.5	10.2	100.0
The organizations undertake training and development Programme to overcome the obstacles in CIS implementation.	F	15	31	42	59	21	168	16	21	50	45	25	157
	%	8.9	18.5	25.0	35.1	12.5	100.0	10.2	13.4	31.8	28.7	15.9	100.0
Feeding of data without documentation consider as misleading act in CIS process.	F	15	24	77	45	7	168	17	28	53	43	16	157
	%	8.9	14.3	45.8	26.8	4.2	100.0	10.8	17.8	33.8	27.4	10.2	100.0

Sources: Primary data

Interpretation

Above table provides details of **Audit under Computerized Information System**.

1. For **the absence of documentary evidence in CIS process affects the validity and reliability of CIS audit**, out of 168 respondents from Private Sector Bank 77 (45.8%) had given 3rd rank i.e. neither agree nor disagree while 39(23.2%) respondents gave 4th rank i.e. agree. It indicates that the valid and reliable documentary evidence is essential. Majority of respondents were in favoured for it may or may not affect the CIS process. In Public Sector Bank out 157 respondents 57(36.3%) had given 3rd rank i.e. neither agree nor disagree while 50(31.8%) respondents gave 4th rank i.e. agree. it indicates that the documentary evidence pays is essential for audit process in respect of level of transaction. Hence again these respondents are also divided in their opinion about the absence of documentary evidence in CIS process affects the validity and reliability of CIS audit.
2. For **the CIS audit generates physical documents for verification and vouching**, out of 168 respondents from Private Sector Bank 56 (33.3%) gave 3rd rank i.e. neither agree nor disagree while 52(31.0%) respondents gave 4th rank i.e. agree it means they are believed that CIS audit general physical documents for verification and vouching as when as required. In case of Public Sector Bank out of 157 respondents 54 (34.4%) has gave 4th rank i.e. agree that the CIS system generate physical documents for verification and vouching while 45 (28.7%) gave 3rd rank i.e. neither agree nor disagree about the generation of documents for verification and vouching. Hence respondents are having different opinion in this case.
3. For **the CIS audit requires proper evidence for vouching transaction in Books of Accounts**, from Private sector banks, 66 (39.3%) respondents gave third rank i.e. neither agree not neither disagree. While 47 (28.0%) had gave fourth rank i.e. agree. In case of Public Sector Bank 56 (35.7%) gave third rank i.e. neither agree not neither disagree. While 40 (25.5%) respondents gave fourth rank i.e. agrees. Hence respondents are having different opinion in this case. But in both the sector 18 (10.7%) and 16 (10.2%) gave 5th rank i.e. strongly agree. It means that CIS audit requires proper evidence for vouching transaction in the books of account.
4. For **the organisation undertake training and development programme to overcome the obstacles is CIS implementation**, out of 168 respondents from Private Public Sector 59 (35.1%) respondents has gave 4th rank i.e. agree while 42 (25.0%) respondents has given third rank i.e. neither agree nor disagree. In case of Public Sector Bank out of total respondents 45 (28.7%) respondents has gave 4th rank i.e. agree while 50 (31.8%) respondents has given third rank i.e. neither agree nor disagree. Hence respondents are having different opinion in this case.
5. For **Feeding of data without documentation consider as misleading act in CIS process**, 77 (45.8%) respondents from Private Sector has given third rank i.e. neither agree nor disagree. while 45(26.8%) respondents has gave fourth rank i.e. agree. In case of Public Sector Bank out of total respondents 53 (33.8%) has gave third rank i.e. neither agree nor disagree while 43 (27.4%) respondents has given the fourth rank i.e. agree. hence it indicates that respondents had different opinion in this case.

Hence from the above, we may reveal that there are several essential requisites which affect the audit process under CIS environment such as availability of documentary evidence, generation of physical documents varies from objective of audit. Due to the advent of computerized era it is demand of banks to provide training and development programme to train and updates the knowledge of staff. At the same time respondents believed that feeding of data without document may mislead the CIS audit process. The respondents are having difference of opinion.

For further in-depth analysis, we provide descriptive parameters related to essential requisite of affects the CIS audit process. Details of which are given below.

Table no. 5.3.2.(ii)
Descriptive statistics related to Audit under Computerized Information System

	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
The absence of documentary evidence in CIS process affects the validity and reliability of CIS audit.	168	2.89	3.00	3	.954	157	3.11	3.00	3	1.098
The CIS audit generates physical documents for verification and vouching.	168	3.18	3.00	3	0.98	157	3.42	4.00	4	1.057
The CIS audit requires proper evidence for vouching transaction in Books of Accounts	168	3.24	3.00	3	.992	157	3.11	3.00	3	1.066
The organizations undertake training and development programme to overcome the obstacles in CIS implementation.	168	3.24	3.00	4	1.159	157	3.27	3.00	3	1.184
Feeding of data without documentation consider as misleading act in CIS process.	168	3.03	3.00	3	.969	157	3.08	3.00	3	1.138

Sources: Primary data

Interpretation

From the above table it is observed that

- In respect of **effect of absence of documentary evidence in CIS process on the validity and reliability of CIS audit**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.80 (with standard deviation $\sigma = 0.954$) and 3.11 (with standard deviation $\sigma = 1.098$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For the statement **CIS audit generates physical documents for verification and vouching**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.18 (with standard deviation $\sigma = 0.98$) and 3.42 (with standard deviation $\sigma = 1.057$) respectively. Both these mean values are greater than 3. Also for Private sector banks corresponding median (M) and mode (Z) values equals to 3 whereas for Public sector banks median (M) and mode (Z) values equals to 4. This indicates that respondents from Private sector banks are neutral in their opinion in respect to above aspect whereas respondents from Public sector banks are agreed with above fact.
- For the statement **CIS audit requires proper evidence for vouching transaction in Books of Accounts**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.24 (with standard deviation $\sigma = 0.992$) and 3.11 (with standard deviation $\sigma = 1.066$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For the statement **the organizations undertake training and development programme to overcome the obstacles in CIS implementation**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.24 (with standard deviation $\sigma = 1.159$) and 3.27 (with standard deviation $\sigma = 1.184$) respectively. Both these values are greater than 3. Also corresponding median (M) values equals to 3 and mode (Z) values are 4 and 3 respectively. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

5. For the statement, **Feeding of data without documentation consider as misleading act in CIS process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.03 (with standard deviation $\sigma = 0.969$) and 3.08 (with standard deviation $\sigma = 1.138$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several essential requisites which affect the audit process under CIS environment. In most of the case respondents from both banks are having neutral opinion. However for CIS audit generates physical documents for verification and vouching, respondents from Private sector banks are neutral in their opinion and respondents from Public sector banks are agreed with above fact.

In the next table we provide details of conduct of IT Training courses for employees.

Table no. 5.3.2.(iii)
Details of conduct of IT Training courses for employees

	Private sector bank			Public sector bank		
	Yes	No	Total	Yes	No	Total
Frequency	165	3	168	154	3	157
Percent	98.2	1.8	100.0	98.1	1.9	100.0

Sources: Primary data

Interpretation

As there is continuous advancement in information technology, from the below table no. 5.3.2.(c) IT training session has to be conducted by bank. Private as well as Public Sector Bank nearly (more than 98%) respondents were in support that there should be IT training courses for employees.

IT training courses for staff is based on the invention and innovation of technology or adoption of new software system. Hence the following table indicates the frequency of different IT training courses could be organized.

5.3.2.(iv) Details of frequency of different IT Training courses for employees

		Private sector bank					Public sector bank				
		Monthly	Quarterly	Bi-annual	Occasionally	Total	Monthly	Quarterly	Bi-annual	Occasionally	Total
IT Awareness	F	11	29	51	77	168	19	24	62	52	157
	%	6.5	17.3	30.4	45.8	100.0	12.1	15.3	39.5	33.1	100.0
System Security & Audit	F	4	31	58	75	168	3	22	45	87	157
	%	2.4	18.5	34.5	44.6	100.0	1.9	14.0	28.7	55.4	100.0
Networking	F	6	20	56	86	168	6	33	50	68	157
	%	3.6	11.9	33.3	51.2	100.0	3.8	21.0	31.8	43.3	100.0
Recent trends in IT	F	5	23	56	84	168	7	26	41	83	157
	%	3.0	13.7	33.3	50.0	100.0	4.5	16.6	26.1	52.9	100.0

Sources: Primary data

Above table provides details of frequency of IT training program

Interpretations

1. **For IT awareness**, out of total respondents from Private Sector Bank 77(45.8%) were suggested that training Programme should be occasionally conducted, while 51 (30.4%) respondents for Bi-annual. In case of Public Sector Bank 62(39.5%) respondents suggested that the frequency of training should be Bi-annual while 52(33.1%) respondents suggested that the training frequency should be occasionally.

2. For **System Security & Audit**, out of 168 respondents from Private Sector Bank 75(44.6%) respondents were in the favour of occasionally IT training for system security and audit system while 58(34.5%) respondents felt that training on system security should be Bi- annual whereas 4 and 31 respondents were in favour of monthly and quarterly respectively. In case of Public Sector Bank 87 (55.4%) respondents agreed to occasionally training for system security and audit whereas 45 (28.7%) respondents are in the favour of Bi-annual training courses.
3. For **Networking**, out of total respondents 86 (51.2%) respondents from Private Sector Bank would like that occasionally training on networking should be conducted. While 56 (33.3%) respondents were in favour of Bi-annual. In case of Public Sector Bank out of total respondents 68 (43.3%) were suggested networking training should be occasionally and 50 (31.8%) in favour that training should be bi-annual. Whereas 6 and 20 respondents from Private and 6 and 33 respondents from Public Sector Bank suggested that the networking training should be monthly and quality.
4. For **recent trends in India**, out of 168 respondents from Private Sector Bank 86 (51.2%) were occasionally while 56 (33.3%) respondents are in the faovur of Bi-annual. In Public Sector Bank 83(52.9%) respondents were suggested for occasionally while 41(26.1%) respondents agreed that Bi-annual.

Hence with above it is cleared that the most of the respondents were in favour that the **IT training course for staff in IT Awareness, System security and Audit, Networking and Recent trends in IT** should be occasionally and Bi-annual. Less than 20% respondents had suggested that above training could be monthly or quarterly.

5.3.3. Approaches of CIS audit

There has been extreme transformation in audit approaches and methodologies as a result of materialization of CIS environment. The selection approaches depends upon the knowledge base expertise of auditors and several other factors. There are numerous approaches such as Audit Around the Computer and Audit Through the Computer and everyone has their own merits and demerits. From the following analysis the researcher is try to study the view of professional regarding CIS audit approaches.

To study this, data was collected through primary source from respondents. Again their opinion was taken on five point agreement scale (Likert scale). The codes are given below.

1. Strongly disagree (SD)
2. Disagree (D)
3. Neither Agree Nor Disagree (NAND)
4. Agree (A)
5. Strongly agree (SA)

The detail of this is given below.

Table no. 5.3.3 (i)
Details of the approaches of CIS audit

approaches of CIS audit		Private sector bank						Public sector bank					
		SD	D	NAND	A	SA	T	SD	D	NAND	A	SA	T
The accountant and auditors are well versed with CIS audit approach.	F	11	12	112	28	5	168	13	10	80	42	12	157
	%	6.5	7.1	66.7	16.7	3.0	100.0	8.3	6.4	51.0	26.8	7.6	100.0
CIS audit	F	4	17	30	56	61	168	4	11	31	73	38	157

approach differs from bank to bank	%	2.4	10.1	17.9	33.3	36.3	100.0	2.5	7.0	19.7	46.5	24.2	100.0
Cost of adoption of CIS audit adds to financial constraints for an organization	F	1	37	70	50	10	168	10	30	71	34	12	157
	%	.6	22.0	41.7	29.8	6.0	100.0	6.4	19.1	45.2	21.7	7.6	100.0
The cost of training and development of accounting staff and auditor affect the applications of CIS audit approach	F	10	34	70	46	8	168	21	38	51	41	6	157
	%	6.0	20.2	41.7	27.4	4.8	100.0	13.4	24.2	32.5	26.1	3.8	100.0
The application of CIS audit system is expensive as compared to manual audit process	F	10	63	71	20	4	168	15	34	74	31	3	157
	%	6.0	37.5	42.3	11.9	2.4	100.0	9.6	21.7	47.1	19.7	1.9	100.0
The IT based accounting software environment creates new requirement which an organisation cannot afford along annual income	F	15	38	76	34	5	168	15	42	46	45	9	157
	%	8.9	22.6	45.2	20.2	3.0	100.0	9.6	26.8	29.3	28.7	5.7	100.0
Periodical evaluation of security policy increase the maintenance cost	F	10	40	83	32	3	168	15	44	56	34	8	157
	%	6.0	23.8	49.4	19.0	1.8	100.0	9.6	28.0	35.7	21.7	5.1	100.0
Designing, implementing, executing and malfunction of system adds cost	F	13	37	69	43	6	168	20	23	55	42	17	157
	%	7.7	22.0	41.1	25.6	3.6	100.0	12.7	14.6	35.0	26.8	10.8	100.0

Sources: Primary data

Interpretation

From above table it is observed that,

1. For **the accountant and auditors are well versed with CIS audit approach**, out of total respondents from Private Sector Bank, 112 (66.7%) respondents had gave 3rd rank i.e. neither agree nor disagree. While 11 (6.5%) respondents gave 5th rank i.e. strongly disagree about the awareness of CIS audit approaches. In case of Public Sector Bank out of total respondents, 80 (51.0%) respondents gave 3rd rank

i.e. neither agree nor disagree while 42(26.8%) has gave 4th rank i.e. agree. there was difference in opinion due to several reason.

2. For **CIS audit approach differs from bank to bank**, 61(36.3%) respondents from Private Sector Bank had gave 5th rank i.e. strongly agree and 56 (33.3%) respondents gave fourth rank i.e. agree. while only two respondents 4(2.4%) gave first rank i.e. strongly disagree. In case of Public Sector Bank 73 (46.5%) respondents gave fourth rank i.e. agree and 38 (24.2%) respondents gave fifth rank i.e. strongly agree. while only 4 (2.5%) respondents gave first rank. It means almost respondents are agreed that the CIS audit differs from bank to bank.
3. For **Cost of adoption of CIS audit adds to financial constraints for an organisation**, out of 168 respondents of Private Sector Bank, 70 (41.7%) respondents had gave 3rd rank i.e. neither agree nor disagree whereas 50 (29.8%) respondents gave fourth rank i.e. agree. nearly, 35% respondents believed that the cost of adoption of this system can be the financial constraints for an organization. While under Public Sector Bank out of total respondents, 71(45.2%) respondents gave third rank i.e. neither agree nor disagree and 34 (21.7%) respondents gave of 4th rank i.e. agree. whereas 40 (25.2%) respondents in the favour of disagreement i.e. cost of adoption of CIS audit adds to financial constraints for an organization. The respond. Hence again these respondents are also divided in their opinion about cost of adoption of CIS audit adds to financial constraints for an organization.
4. **For the cost of training and development of accounting staff and auditor affect the applications of CIS audit approach**, out of 168 respondents from Private Sector Bank, 70 (41.7%) respondents neither agree nor disagree, whereas 54 (32.2%) respondents were gave favourable respond about it. While under Public Sector Bank out of total respondents 51(32.5%), respondents gave third rank i.e. neither agree nor disagree, whereas 59 (37.6%) were negative respond about it. Hence respondents are also divided in their opinion the cost of training and development of accounting staff and auditor affect the applications of CIS audit approach.
5. For **The application of CIS audit system is expensive as compared to manual audit process**, out of total respondents, 71(42.3%) gave third rank, i.e. neither agree nor disagree about it. Whereas 63 (37.5%) respondents gave second rank i.e. strongly disagree. While under Public Sector Bank out of total respondents, 74 (47.1%) respondents gave third rank i.e. neither agree nor disagree. Whereas, 34 (21.7%) respondents gave second rank i.e. strongly disagree with CIS application under audit is costly than manual system. There are variations of responses from both the sector in respect of this.
6. For **the IT based accounting software environment creates new requirement which an organisation cannot afford along annual income**, out of 168 respondents 76 (45.2%) respondents has gave third rank i.e. neither agree nor disagree. Whereas 38 (22.6%) respondents gave second rank i.e. strongly disagree. Only 5 (3%) respondents gave 5th rank i.e. strongly agree. while under Public Sector Bank out of total respondents, 46 (29.3%) respondents gave third rank i.e. neither agree nor disagree. 45(28.%) respondents gave fourth rank i.e. agree. These respondents are also divided in their opinion.
7. For **Periodical evaluation of security policy increase the maintenance cost**, out of total respondents, 83 (49.4%) respondents gave third rank i.e. neither agree nor disagree. Whereas 40(23.5%) respondents gave second rank i.e. strongly disagree and 35(20.8%) respondents has gave positive respond i.e. they may believed that the evaluation of security policy increase the maintenance cost for an organization. While in Public Sector Bank, 56 (35.7%) respondents had gave third rank i.e. neither agree nor disagree. Whereas 44(28%) respondents strongly disagree with periodical evaluation of security policy increase the cost. Whereas 42(26.8%) respondents were gave fourth and fifth rank about it. Hence the respondents are divided in their opinion.
8. For **Designing, implementing, executing and malfunction of system add cost**, out of total respondents from Private Sector Bank, 69(41.1%) respondents gave third rank i.e. neither agree nor disagree. Whereas 43(25.6%), respondents gave fourth rank i.e. agree and 3.6% gave fifth rank i.e strongly agree. while in Public Sector Bank, 55 (35%) respondents gave third rank i.e. neither agree nor disagree. Whereas 59(37.6%) respondents were enforced that the designing implementing, executing and malfunction of system adds cost. Hence the respondents are divided in their opinion.

Hence from the above, we may reveal that the application of CIS audit approaches is based on several factors such as skill and competency of accountant and auditor, the approaches differ from bank to bank and several cost affects. With the above it has clear that the there is different level of accountant and auditor and with the advancement of technology, the use of technology differs hence there may be variation in the knowledge level. Similarly, the application of CIS differs from bank to bank. This may due to available of several software systems. The banks use the software as per their convent. The cost of training and development, annual evaluation of system regularly, designing, implementation executing and malfunction of system, there is neutral responses. While the comparison of Manual Vs Modern approach, for Public Sector Bank manual system is quite reasonable as compare to modern system.

For further in-depth analysis, we provide descriptive parameters related to the approaches of CIS audit and what are the factors restrict its application. Details of which are given below.

Table no. 5.3.3.(ii)
Descriptive statistics related to the approaches of CIS audit

Approaches of CIS audit	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
The accountant and auditors are well versed with CIS audit approach.	168	3.02	3.00	3	.789	157	3.19	3.00	3	.968
CIS audit approach differs from bank to bank.	168	3.91	4.00	5	1.077	157	3.83	4.00	4	.962
Cost of adoption of CIS audit adds to financial constraints for an organization.	168	3.18	3.00	3	.866	157	3.05	3.00	3	.986
The cost of training and development of accounting staff and auditor affect the applications of CIS audit approach.	168	3.05	3.00	3	.953	157	2.83	3.00	3	1.081
The application of CIS audit system is expensive as compared to manual audit process	168	2.67	3.00	3	.851	157	2.83	3.00	3	.921
The IT based accounting software environment creates new requirement which an organisation cannot afford along annual income.	168	2.86	3.00	3	.943	157	2.94	3.00	3	1.082
Periodical evaluation of security policy increase the maintenance cost.	168	2.87	3.00	3	.852	157	2.85	3.00	3	1.033
Designing, implementing, executing and malfunction of system add cost.	168	2.95	3.00	3	.965	157	3.08	3.00	3	1.166

Sources: Primary data

Interpretation

From the above table it is observed that

1. In respect of **the accountant and auditors are well versed with CIS audit approach**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.02(with standard deviation $\sigma = 0.789$) and 3.19(with standard deviation $\sigma = 0.968$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
2. For the statement **CIS audit approach differs from bank to bank**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.91 (with standard deviation $\sigma = 1.077$) and 3.83 (with standard deviation $\sigma = 0.962$) respectively. Both these mean values are greater than 3. Also for Private

sector banks corresponding median (M) and mode (Z) values equals to 4 and 5 respectively whereas for Public sector banks median (M) and mode (Z) values equals to 4. This indicates that respondents from both these banks are agreed in their opinion in respect to above aspect.

3. For the statement **Cost of adoption of CIS audit adds to financial constraints for an organization**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.18 (with standard deviation $\sigma = 0.866$) and 3.05 (with standard deviation $\sigma = 0.986$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
4. For the statement **the cost of training and development of accounting staff and auditor affect the applications of CIS audit approach**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.05 (with standard deviation $\sigma = 0.953$) and 2.83 (with standard deviation $\sigma = 1.081$) respectively. Both these values are closed to 3. Also corresponding median (M) and mode (Z) values are 3 respectively. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
5. For the statement **the application of CIS audit system is expensive as compared to manual audit process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.67 (with standard deviation $\sigma = 0.851$) and 2.83 (with standard deviation $\sigma = 0.92$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
6. For the statement **the application of CIS audit system is expensive as compared to manual audit process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.86 (with standard deviation $\sigma = 0.943$) and 2.94 (with standard deviation $\sigma = 1.082$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
7. For the statement **periodical evaluation of security policy increase the maintenance cost**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.87 (with standard deviation $\sigma = 0.852$) and 2.85 (with standard deviation $\sigma = 1.033$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
8. For the statement **designing, implementing, executing and malfunction of system adds cost**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.95 (with standard deviation $\sigma = 0.965$) and 3.08 (with standard deviation $\sigma = 1.166$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several features and implication of CIS on audit process. In most of the case respondents from both banks are having neutral opinion. However for CIS audit approach differs from bank to bank, respondents from Private sector banks and Private sector banks are agree in their opinion in respect to above aspect.

Following are the opinion from the respondents regarding the development of accounting software.

Table no. 5.3.3.(iii)
Cost effective options recommend to develop Accounting Software

	Private sector bank		Public sector bank	
	Frequency	Percent	Frequency	Percent
Acquisition	33	19.6	27	17.2
Designing own software	68	40.5	80	51.0
Hiring	45	26.8	32	20.4

None	9	5.4	5	3.2
All	13	7.7	13	8.3
Total	168	100.0	157	100.0

Sources: Primary data

Interpretation

The above table no 5.3.3.(c), out of total respondents 68 (40.5%) respondents from Private sector bank and 80 (51%) respondents has gave first position for own designing of software. whereas, 33 (19.6%) and 27(17.2%) respondents has gave second position and 45 (26.8%) and 32 (20.4%) third position for hiring from Private and Public bank has suggested acquisition of CIS audit system.

Hence, with above it is cleared that **the designing of own software** is more feasible then **acquiring and hiring**.

5.3.4. Impact of CIS on audit process

As information technology has greater impact on contemporary society. It has revolutionized and dramatically changed the activities of business in several ways. Computerization has significant effect in the form of organisation controls, availability of document, information transformation and so on. In the real sense auditing in a CIS environment do not affect the main aim of auditing. It has definitely caused substantial changes in method of evidence collection and evaluation. The application of CIS in various organizations has coursed extreme effect on audit approaches, techniques, risk involved and internal control methods. The selection of CIS approaches depends upon the knowledge and capability of auditors.

Under CIS audit process once data is entered into system, many records are automatically updated. There is no need to re-enter the data into accounting system. This saves a lot of time and effort and enables an error free transaction processing system. With the study, the researcher has tried to understand the impact of CIS on audit process. The following table provides the responses of respondents on impact of CIS on audit process.

Again their opinion was taken on five point agreement scale (Likert scale). The codes are given below.

1. Strongly disagree (SD)
2. Disagree (D)
3. Neither Agree Nor Disagree (NAND)
4. Agree (A)
5. Strongly agree (SA)

The details of this are given below.

Table no. 5.3.4.(i)
Details of impact of CIS on audit process

		Private sector bank						Public sector bank					
		SD	D	NAND	A	SA	T	SD	D	NAND	A	SA	T
Excess uses of sophisticated audit software reflect greater impact of auditor's attitude.	F	24	50	76	16	2	168	32	37	76	9	3	157
	%	14.3	29.8	45.2	9.5	1.2	100.0	20.4	23.6	48.4	5.7	1.9	100.0
Quality of Audit Report infers the type of audit process used	F	9	34	50	69	6	168	8	31	39	72	7	157
	%	5.4	20.2	29.8	41.1	3.6	100.0	5.1	19.7	24.8	45.9	4.5	100.0
The level of internal	F	10	23	46	76	13	168	13	31	43	60	10	157

control decides the potential for authorized access in CIS audit	%	6.0	13.7	27.4	45.2	7.7	100.0	8.3	19.7	27.4	38.2	6.4	100.0
The consistencies of performance of CIS programmes affect the CIS audit reliability	F	55	28	35	38	12	168	63	24	31	31	8	157
	%	32.7	16.7	20.8	22.6	7.1	100.0	40.1	15.3	19.7	19.7	5.1	100.0
The vulnerability of CIS system requires extensive internal control.	F	11	59	52	25	21	168	8	48	57	30	14	157
	%	6.5	35.1	31.0	14.9	12.5	100.0	5.1	30.6	36.3	19.1	8.9	100.0
The true and fair view on financial statement is more accurate in CIS audit than manual audit process.	F	33	42	64	26	3	168	29	41	47	33	7	157
	%	19.6	25.0	38.1	15.5	1.8	100.0	18.5	26.1	29.9	21.0	4.5	100.0
The function of CIS audit is possible to segregate as in manual audit process	F	23	44	73	24	4	168	25	30	68	28	6	157
	%	13.7	26.2	43.5	14.3	2.4	100.0	15.9	19.1	43.3	17.8	3.8	100.0
The audit trail followed in CIS audit process is more complex than manual audit trail.	F	19	48	65	28	8	168	15	42	65	24	11	157
	%	11.3	28.6	38.7	16.7	4.8	100.0	9.6	26.8	41.4	15.3	7.0	100.0
The manual audit process in banking sector is ineffective	F	29	39	72	26	2	168	27	46	52	29	3	157
	%	17.3	23.2	42.9	15.5	1.2	100.0	17.2	29.3	33.1	18.5	1.9	100.0
The CIS process is easy and accurate as compared to manual audit process	F	15	44	56	44	9	168	16	33	60	37	11	157
	%	8.9	26.2	33.3	26.2	5.4	100.0	10.2	21.0	38.2	23.6	7.0	100.0
Record maintenance becomes an easy task with CIS	F	12	26	56	62	12	168	16	17	56	53	15	157
	%	7.1	15.5	33.3	36.9	7.1	100.0	10.2	10.8	35.7	33.8	9.6	100.0
The records can be maintained with the adoption of CIS	F	19	23	65	49	12	168	22	25	48	45	17	157
	%	11.3	13.7	38.7	29.2	7.1	100.0	14.0	15.9	30.6	28.7	10.8	100.0

Sources: Primary data

Interpretation

1. For **Excess uses of sophisticated audit software reflect greater impact of auditor's attitude**, output of total respondents, from Private Sector Bank 76 (45.2%) respondents gave third rank i.e. neither agree nor disagree and 50 (29.8%) respondents gave second rank i.e. Strongly disagree and 24(14.3%) gave first rank i.e. disagree. While under Public Sector Bank, out of total respondents 76(48.4%) respondents gave third rank i.e. neither agree nor disagree. Whereas 37(23.6%) respondents gave second ranks i.e. strongly disagree and 32(20.4%) respondents gave first rank. In the both types of bank less than 10% respondents agree with that excess use of sophisticated audit software reflect impact of auditor's attitude.
2. For **quality of audit report infers the type of audit process used**, output of total respondents, from Private Sector Bank 50 (29.8%) respondents gave third rank i.e. neither agree nor disagree and 69 (41.1%) respondents gave fourth rank i.e. agree and 24(20.2%) gave second rank i.e. agree. While under Public Sector Bank, out of total respondents 72(45.9%) respondents gave fourth rank i.e. agree. Whereas 39(24.8%) respondents gave third ranks i.e. neither agree nor disagree and 31(19.7%)

respondents gave second rank i.e. disagree. Hence there are similar responses from both the types of bank.

3. For **the level of internal control decides the potential for authorized access in CIS audit**, out of total respondents from Private Sector Bank, 76(45.2%) respondents were agree whereas 46(27.4%) respondents were neither agree nor disagree. While under Public Sector Bank, 60(38.2 %) respondents were agree and 43(27.4%) respondents were neither agree nor disagree whereas as 31 (19.7%) respondents were disagree with the statement. Hence there are difference in opinion on the level of internal control decides the potential for authorized access in CIS audit process.
4. For **Consistencies of performance of CIS programmes affect the CIS audit reliability**, out of total respondents from Private Sector Bank, 55(32.7%) respondents gave first rank i.e. strongly disagree. While 38(22.6%) respondents gave fourth rank i.e. agree. while in Public Sector Bank out of total respondents, 63(40.1%) respondents gave first rank i.e. strongly agree, whereas 31(19.7) respondents gave both neither agree nor disagree and agree.
5. For **the Vulnerability of CIS system requires extensive internal control**, out of total respondents from Private Sector Bank, 64 (31%) respondents gave third rank i.e. neither agree nor disagree. While 42 (35.1%) respondents gave second ranks i.e. disagree and 25 (14.9%) respondents were agree. Whereas in Public Sector Bank out of total respondents 57(36.3%) respondents gave third rank i.e. neither agrees nor disagree while 48(30.6%) respondents were disagree and 30(19.1%) respondents gave fourth rank.
6. For **the true and fair view on financial statement is more accurate in CIS audit than manual audit process**, out of total respondents from Private Sector Bank, 33 (19.6%) respondents gave first rank and 42(25%) respondents gave second rank i.e. disagree while only 26 (15.5%) respondents agree with CIS audit process is more accurate than Manual Audit process. Whereas in Public Sector Bank, 29(18.5 %) respondents gave first rand and 41(26.1%) respondents gave second rank while 33(21.0%) respondents were agree with **true and fair view of financial statement is more accurate in CIS audit than manual audit process**. Hence, there are all most similar responses regarding accuracy of system.
7. For **the function of CIS audit is possible to segregate as in manual audit process**, out of total respondents, In Private Sector 73(43.5%) respondents gave third rank whereas 44(26.2)% Respondents gave second rank i.e. disagree and 24(14.3%) respondents gave fourth rank is agree. while in Public Sector Bank 68(43.3%)respondents gave third rank whereas 30(19.1% respondents gave second rank and 28(17.8%) respondents gave fourth rank about the function of CIS audit is possible to segregate as in manual audit process.
8. For **the audit trail followed in CIS audit process is more complex than manual audit trail**, out of total respondents from Private Sector Bank, 65(38.7%) respondents gave third rank i.e. neither agree nor disagree. Whereas 48 (28.6%) respondents. While in Public Sector Bank 65(41.4%) gave third rank and 42(26.8%) gave second rank i.e. disagree. The proportion of agreement in Private Sector Bank is more than Public Sector Bank about the audit trail followed in CIS process is more complex than manual audit trail.
9. For, **the manual audit process in banking sector is ineffective**, out of total respondents, 72 (42.9%) respondents gave third rank neither agree nor disagree whereas 39 (23.2) respondents gave second rank i.e. disagree and 29 (17.3%) respondents gave first rank strongly disagree. While in Public Sector Bank, out of total respondents, 52 (33.1%) respondents and 46(29.3%) respondent gave disagree while 29 (18.5%) respondents gave fourth rank i.e. agree.
10. For **the CIS process is easy and accurate as compared to manual audit process**, out of total respondents from Private Sector Bank, 56 (33.3%) respondents were neither agree nor disagree whereas 44(26.2%) respondents disagree and similarly same numbers of respondents agree with that the CIS process is easy and accurate as compared to manual audit process. While under Public Sector Bank out of total respondents 60 (38.2%) respondents gave third rank i.e. neither agree nor disagree whereas 37

(23.6%) respondents gave fourth rank i.e. agree. Hence with above responses shows the two way responses i.e. CIS audit process is easy and accurate as compare to manual audit process.

11. For **Records maintenance becomes an easy task with CIS**, out of total respondents, 12(7.1%) respondents gave first rank i.e. strongly disagree and 26(15.5 %) respondents gave second rank is disagree whereas 62(36.9%) respondents agreed with the records maintenance becomes an easy task with CIS. While under Public Sector Bank, out of 157 respondents, nearly 33(21%) respondents were not in the favor of CIS maintain proper records. Whereas 53(33.8%) respondents gave fourth ranks i.e. agree with that. Hence there is similar kind of response from both the types of bank that in CIS audit system records maintenance is easy.
12. For **the Records can be maintained with the adoption of CIS**, out of total respondents from Private Sector Bank, 65 (38.7%) respondents gave third rank i.e. neither agree nor disagree. Whereas 49(29.2%) respondents gave fourth rank i.e. agree while under Public Sector Bank respondents 48(30.6%) gave third rank i.e. neither agree nor disagree whereas 45 (28.7%) respondents gave fourth rank i.e. agree. hence it shows that the CIS system can maintained proper records with adoption of Computerized Information System.

Hence, from the above it is clear that the application of CIS has great impact and the application of CIS requires high internal control which is possible through the manual audit system. There are different opinions on the excess use of sophisticated audit software reflect greater impact of auditor's attitude. Majority of respondents disagreed in both the types of bank where as 44% to 49% respondents neither agreed nor disagreed. As far as quality of Audit Report and level of internal control are concerned majority of respondents agreed that types of Audit system affect the quality of Audit Report and level of internal control decides the potential for authorized access in CIS audit. Majority of respondents strongly disagreed that the consistencies of performance of CIS programmes affects the CIS audit reliability. There is no clarity about the vulnerability of CIS system which requires extensive internal control i.e. most of the respondents neither agreed nor disagreed followed by agree. There is difference in agreement i.e. there is difference of almost 11% between Private Bank and Public Sector Bank. The True and Fair view on financial statement is not based on the system used for audit process. It is based on the appropriate and accurate recording of transactions.

With the above response, it is clear that most of the respondents disagreed with that, whereas CIS facilitate the segregation of function. The audit trail followed in CIS audit process is based on the types and systems used. Hence, most of the respondents were not in favor of the complexity of Computerized Information System. The audit process in both the system has its own features and requirement, therefore most of the respondents disagreed with that. There is a divided opinion for the CIS process that it is easy and accurate as compared to manual audit process. Under CIS audit system, the record can be easily maintained. Most of the respondents agreed with that. Most of the respondents believed that adoption of CIS helps to maintain the records.

For further in- depth analysis we provide description on the impact of CIS on audit process. Details of which are given below:

Table no. 5.3.4.(ii)
Descriptive statistics related to impact of CIS on audit process

	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
Impact of CIS on audit process										
Excess uses of sophisticated audit software reflect greater impact of auditor's attitude.	168	2.54	3.00	3	.895	157	2.45	3.00	3	.944
Quality of Audit Report infers the type of audit process used.	168	3.17	3.00	4	.973	157	3.25	4.00	4	.991

The level of internal control decides the potential for authorized access in CIS audit.	168	3.35	4.00	4	1.010	157	3.15	3.00	4	1.073
The consistencies of performance of CIS programmes affect the CIS audit reliability.	168	2.55	3.00	1	1.339	157	2.34	2.00	1	1.319
The vulnerability of CIS system requires extensive internal control.	168	2.92	3.00	2	1.124	157	2.96	3.00	3	1.031
The true and fair view on financial statement is more accurate in CIS audit than manual audit process.	168	2.55	3.00	3	1.031	157	2.67	3.00	3	1.134
The function of CIS audit is possible to segregate as in manual audit process.	168	2.65	3.00	3	.966	157	2.75	3.00	3	1.049
The audit trail followed in CIS audit process is more complex than manual audit trail.	168	2.75	3.00	3	1.019	157	2.83	3.00	3	1.031
The manual audit process in banking sector is ineffective.	168	2.60	3.00	3	.986	157	2.59	3.00	3	1.038
The CIS process is easy and accurate as compared to manual audit process.	168	2.93	3.00	3	1.047	157	2.96	3.00	3	1.067
Record maintenance becomes an easy task with CIS	168	3.21	3.00	4	1.027	157	3.22	3.00	3	1.094
The records can be maintained with the adoption of CIS	168	3.07	3.00	3	1.081	157	3.06	3.00	3	1.202

Sources: Primary data

Interpretation

From the above table it is observed that

- In respect of **excess uses of sophisticated audit software reflect greater impact of auditor's attitude**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.54(with standard deviation $\sigma = 0.895$) and 2.45(with standard deviation $\sigma = 0.944$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For the statement **Quality of Audit Report infers the type of audit process used**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.17 (with standard deviation $\sigma = 0.98$) and 3.25 (with standard deviation $\sigma = 0.991$) respectively. Both these mean values are greater than 3. Also for Private sector banks corresponding median (M) and mode (Z) values equals to 3 and 4 for Private Sector Banks whereas for Public sector banks median (M) and mode (Z) values equals to 4. This indicates that respondents from Private sector banks are neutral in their opinion in respect to above aspect whereas respondents from Private sector banks are agree with above fact.
- For the statement the **level of internal control decides the potential for authorized access in CIS audit**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.35 (with standard deviation $\sigma = 1.010$) and 3.15(with standard deviation $\sigma = 1.073$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 4 under Private Sector Bank and corresponding median (M) and mode (Z) values equals to 3 and 4 respectively under Public Sector Bank. This indicates that respondents from Private Sector Banks are agreed in their opinion in respect to above aspect. Whereas the respondents from Public Sector Banks are neutral in their opinion in respect to above aspect.

4. For the statement **the consistencies of performance of CIS programmes affect the CIS audit reliability**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.55 (with standard deviation $\sigma = 1.339$) and 2.34 (with standard deviation $\sigma = 1.319$) respectively. Both these values are close to 3. Also corresponding median (M) values equals to 3 and 2 respectively and mode (Z) values are equal to 1. This indicates that respondents from both these banks are disagreed with the above aspect.
5. In respect of **the vulnerability of CIS system requires extensive internal control**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.92 (with standard deviation $\sigma = 1.124$) and 2.96 (with standard deviation $\sigma = 1.031$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
6. In respect of **the true and fair view on financial statement is more accurate in CIS audit than manual audit process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.55 (with standard deviation $\sigma = 1.031$) and 2.67 (with standard deviation $\sigma = 1.134$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
7. In respect of **the function of CIS audit is possible to segregate as in manual audit process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.65 (with standard deviation $\sigma = 0.966$) and 2.75 (with standard deviation $\sigma = 1.094$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
8. In respect of **the audit trail followed in CIS audit process is more complex than manual audit trail**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.75 (with standard deviation $\sigma = 1.019$) and 2.83 (with standard deviation $\sigma = 1.031$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
9. In respect of **the manual audit process in banking sector is ineffective**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.60 (with standard deviation $\sigma = .986$) and 2.59 (with standard deviation $\sigma = 1.038$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
10. In respect of **the CIS process is easy and accurate as compared to manual audit process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.93 (with standard deviation $\sigma = 1.047$) and 2.96 (with standard deviation $\sigma = 1.067$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
11. In respect of **the record maintenance becomes an easy task with CIS**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.21 (with standard deviation $\sigma = 1.027$) and 3.22 (with standard deviation $\sigma = 1.094$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3 for Public Sector Banks and 3 and 4 for Private Sector Banks. This indicates that respondents from Public Sector Banks are neutral and from Private Sector Banks are agreed in their opinion in respect to above aspect.
12. In respect of **the records can be maintained with the adoption of CIS**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.07 (with standard deviation $\sigma = 1.081$) and 3.06 (with standard deviation $\sigma = 1.202$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several impacts of CIS which affect the audit process. In most of the case respondents from both banks are having neutral opinion. However for **Quality of Audit Report infers the type of audit process** used Private Sector Banks are agreed, **for the consistencies of performance of CIS programmes affect the CIS audit reliability** both these banks are disagree in their opinion in respect to above aspect. And respondents from Public sector banks are neutral in their opinion for **the record maintenance becomes an easy task with CIS** and respondents from Private sector banks are agree with above fact.

From the above study, it is clear that the application of Computerized Information System affect the audit process.

Table no 5.3.4. (c), provides more details about the significant impact of CIS on audit process.

Table no. 5.3.4.(iii)
Details of significant impact CIS on audit process

	Private sector bank		Public sector bank	
	Frequency	Percent	Frequency	Percent
Yes	160	95.2	148	94.3
No	8	4.8	9	5.7
Total	168	100.0	157	100.0

Sources: Primary data

Interpretation

The table shows that out of total respondents from Private Sector Bank nearly 160 (95.2%) respondents were agreed whereas from Public Sector Bank nearly 148 (94.3%) respondents are agreed that the CIS application affect the audit process. While only 8 (4.8%) and 9(5.2%) respondents were in favor of no i.e. CIS does not affect the audit process form Private and Public Sector Bank respectively.

5.3.5. Impact of CIS environment on True and Fair view of financial statement

The application of CIS has a greater impact due to following reasons:

1. Mains to instantaneous groundwork of accounts and makes obtainable the statements of accounts and records on proper time.
2. Enables control over accounts work and records.
3. Errors and mistakes would be less in computerized accounting.

Unequivocal and logical computer information means it is clear and crisp. There is no chance that the data could wrongly or misinterpreted. Alternatively, uncertain information can be interpretation in several ways, which can cause puzzlement and dispute in a system's framework. Even if the information is clarified, the harm to a consumer's perception of the data may be undying or may take time to turn around.

Authentication of the precision and totality of the computer information is crucial to certify that the computer information meets business needs.

If a system is sluggish or goes dejected occasionally, it can disturb a end user aptitude to achieve job responsibilities effectually. Organizations can be benefitted by instigating an outline that empowers unpretentious admission to computer data. This ensures that the users have proper permissions to sight, insert or control information contained within a system.

Again their opinion was taken on five point agreement scale (Likert scale). The codes are given below.

- Strongly disagree (SD)
- Disagree (D)
- Neither Agree Nor Disagree (NAND)

- Agree (A)
- Strongly agree (SA)

The details of this are given below.

Table no. 5.3.5 (i)
Details of impact of CIS environment on True and Fair view of financial statement

impact of CIS environment		Private sector bank						Public sector bank					
		SD	D	NAND	A	SA	T	SD	D	NAND	A	SA	T
Impact of CIS environment on True and Fair view of financial statement	F	12	13	72	67	4	168	14	16	66	53	8	157
System Software control provides reasonable assurance regarding system software development authorization and efficiency	%	7.1	7.7	42.9	39.9	2.4	100.0	8.9	10.2	42.0	33.8	5.1	100.0
Failure of software system disturbs integrated business operation and ultimately affects True and Fair view	F	5	34	36	67	26	168	4	35	30	65	23	157
Man –Machine interface ensures maximum effectiveness of the information system	%	3.0	20.2	21.4	39.9	15.5	100.0	2.5	22.3	19.1	41.4	14.6	100.0
CIS audit helps in quick preparation and accuracy of Annual Audit Report	F	6	42	56	40	24	168	8	36	55	40	18	157
The test data process plays an important role to provide true and fair view	%	3.6	25.0	33.3	23.8	14.3	100.0	5.1	22.9	35.0	25.5	11.5	100.0
Control risk in CIS audit process affects the true and fair view of the organization	F	10	27	57	48	26	168	19	31	42	45	20	157
Dependence of	%	6.0	16.1	33.9	28.6	15.5	100.0	12.1	19.7	26.8	28.7	12.7	100.0
	F	12	34	50	46	26	168	22	32	42	46	15	157
	%	7.1	20.2	29.8	27.4	15.5	100.0	14.0	20.4	26.8	29.3	9.6	100.0
	F	17	39	47	47	18	168	12	20	54	48	23	157
	%	10.1	23.2	28.0	28.0	10.7	100.0	7.6	12.7	34.4	30.6	14.6	100.0
	F	14	28	55	54	17	168	22	31	44	37	23	157

other controls over computer processing affects the status of True and Fair view	%	8.3	16.7	32.7	32.1	10.1	100.0	14.0	19.7	28.0	23.6	14.6	100.0
Potential of human error in the development, maintenance and execution of CIS affects the status of True and Fair view	F	2	35	51	58	22	168	16	21	59	43	18	157
	%	1.2	20.8	30.4	34.5	13.1	100.0	10.2	13.4	37.6	27.4	11.5	100.0
Acquisition of application system from third party affects True and Fair view	F	12	23	56	55	22	168	23	19	58	40	17	157
	%	7.1	13.7	33.3	32.7	13.1	100.0	14.6	12.1	36.9	25.5	10.8	100.0

Sources: Primary data

Interpretation

- For True and Fair View of Financial Statement - system software control provides reasonable assurance regarding system software development authorization and efficiency**, out of total respondents from Private Sector Bank, 72(42.9%) respondents gave third rank i.e. neither agree nor disagree and 67 (39.9%) respondents gave 4th rank i.e. strongly agreed with the same. Whereas from Public Sector Bank out of total respondents 66 (42%) respondents gave 3rd rank while 53(33.8%) respondents gave 4th rank i.e. strongly agreed that **the system software control provides reasonable assurance regarding system software development authorization and efficiency**.
- For Failure of software system disturbs integrated business operation and ultimately affects True and Fair View**, out of total respondents from Private Sector Bank, 67(39.9%) respondents gave 4th rank i.e. agree where as between 20% to 21% respondents were gave both the types of respondents i.e. either agree nor disagree and disagree with failure of software system disturbs integrated business affect True and Fair View. Whereas out of total respondents from Public Sector Bank 65(41.4%) respondents gave fourth rank i.e agree and while 35(22.3%) respondents gave second rank i.e. disagree. There was difference in option of the respondents. But majority of respondents had accepted that **the future of Software System disturbs integrated business operation and ultimately affect the True and Fair View**.
- For Man-Machine interface ensures maximum effectiveness of the information system**, out of total respondents from Private Sector Bank, 56(33.3%) respondents gave third rank i.e. neither agree nor disagree. While is slight difference in opinion about it, i.e. 42(25%) and 40 (23.8%) respondents gave second (disagree) and fourth (agree) rank. It means there is duel impact. Whereas under Public Sector Bank out of total respondents, 55(35%) respondents gave third ranks i.e. neither agrees nor disagrees and there is slight difference view for it. All together 28 % respondents were on disagree mental state whereas 37% respondents were on agree mental state as compare to Private Sector Bank. Hence **the interface of Man and Machine may affect the effectiveness of the information system**.
- For CIS audit helps in quick preparation and accuracy of Annual Audit Report**, out of total respondents from Private Sector Bank, 48(28.6%) respondents gave fourth rank i.e. agree and 26 (15.5%) respondents were strongly agree whereas out of total respondents from Public Sector Bank, 45(28.7%) respondents were agree and 20 (12.7%) respondents were disagree. Hence with the available responses it is clear that **CIS audit helps in quick preparation and accuracy of Annual Audit Report**.
- For the test data process plays an important role to provide true and fair view**, out of total respondents from Private Sector Bank 50 (29.8%) respondents and from Public Sector Bank 46 (29.3%)

respondents gave third rank i.e. neither agree nor disagree. Whereas 48 (28.6%) respondents from Private Sector Bank and 45 (28.7%) respondents from Public Sector Bank gave fourth rank is agree. hence it is clear that **the test data process plays an important role to provide true and fair view**

6. **For control risk in CIS audit process affects the true and fair view of the organization**, out of total respondents from Private Sector Bank 47 (28%) respondents and from Public Sector Bank 54 (34.4%) respondents gave third rank i.e. neither agree nor disagree. There was difference in opinion of respondents in both the sector i.e. 33.3% and 20.3% respectively were disagree with that control risk in CIS audit process affects the true and fair view of the organization. Whereas 47 (28 %) respondents from Private Sector Bank and 48 (30.6 %) respondents from Public Sector Bank gave fourth rank is agree. hence it is clear that to some extent **control risk in CIS audit process affects the true and fair view of the organization**.
7. **For Dependence of other controls over computer processing affects the status of True and Fair View**, out of total respondents from Private Sector Bank 55(32.7%) respondents gave third rank i.e. neither agree nor disagree. Whereas 54(32.1%) respondents gave fourth rank. While under Public Sector Bank 44(28%) respondents gave third rank and 37 (23.6%) gave fourth rank i.e. agree. and 23 (14.6%) respondents gave fifth rank i.e. strongly agree.
8. **For Potential of human error in the development, maintenance and execution of CIS affects the status of True and Fair View**, out of total respondents from Private Sector Bank 51(30.4%) respondents gave third rank i.e. neither agree nor disagree and 58 (34.5%) respondents gave fourth rank i.e. agree. While from Public Sector Bank out of total respondents, 59(37.6%) respondents gave third rank i.e. neither agree nor disagree and 43(27.4%) respondents gave fourth rank i.e. agree. Hence it is clear that **potential of human error in the development, maintenance and execution of CIS affects the status of True and Fair View**.
9. **For acquisition of application system from third partly affects True and Fair View**, out of total respondents from Private Sector Bank, 56(33.3%) respondents gave third rank i.e. neither agree nor disagree and 77(45.8%) respondents were agree that acquisition of application system from third partly affect true and fair view. Whereas under Public Sector Bank out of total respondents 58(36.9%) respondents gave third rank i.e. neither agree nor disagree and 40 (25.5%) respondents gave fourth rank i.e. agree. hence it is clear that the acquisition of application system from third partly may affect the true and fair view of financial statements .

Hence the above table indicates that the majority of respondents for impact of CIS environment on True and Fair view of financial statement **System Software control provides reasonable assurance regarding system software development authorization and efficiency** are from both the banks. For **Failure of software system disturbs integrated business operation and ultimately affects True and Fair view**, majority of the respondents agreed in their respect of above facts. Both the types of respondents are neutral in their opinion. The study can conclude that there are several aspects which affect the audit process.

For further in-depth analysis we provide details of Descriptive statistics related to impact of CIS environment on True and Fair view of financial statement

Table no. 5.3.5.(ii)
Descriptive statistics related to impact of CIS environment on True and Fair view of financial statement

	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
Impact of CIS environment										
System Software control provides reasonable assurance regarding system software development authorization and efficiency.	168	3.23	3.00	3	.900	157	3.16	3.00	3	.990

Failure of software system disturbs integrated business operation and ultimately affects True and Fair view.	168	3.45	4.00	4	1.071	157	3.43	4.00	4	1.070
Man –Machine interface ensures maximum effectiveness of the information system.	168	3.20	3.00	3	1.081	157	3.15	3.00	3	1.063
CIS audit helps in quick preparation and accuracy of Annual Audit Report	168	3.32	3.00	3	1.101	157	3.10	3.00	4	1.215
The test data process plays an important role to provide true and fair view	168	3.24	3.00	3	1.154	157	3.00	3.00	4	1.204
Control risk in CIS audit process affects the true and fair view of the organization.	168	3.06	3.00	3 ^b	1.162	157	3.32	3.00	3	1.110
Dependence of other controls over computer processing affects the status of True and Fair view	168	3.19	3.00	3	1.094	157	3.05	3.00	3	1.260
Potential of human error in the development, maintenance and execution of CIS affects the status of True and Fair view.	168	3.38	3.00	4	.995	157	3.17	3.00	3	1.120
Acquisition of application system from third party affects True and Fair view.	168	3.31	3.00	3	1.089	157	3.06	3.00	3	1.183

Sources: Primary data

Interpretation

From the above table it is observed that

1. In respect of **System Software control provides reasonable assurance regarding system software development authorization and efficiency**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.23 (with standard deviation $\sigma = 0.900$) and 3.16 (with standard deviation $\sigma = 0.990$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
2. For the statement **failure of software system disturbs integrated business operation and ultimately affects True and Fair view**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.45 (with standard deviation $\sigma = 1.071$) and 3.43 (with standard deviation $\sigma = 1.070$) respectively. Both these mean values are greater than 3. Also corresponding median (M) and mode (Z) values equals to 4.. This indicates that respondents from both the banks are agree in their opinion in respect to above aspect.
3. For the statement **Man –Machine interface ensures maximum effectiveness of the information system**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.20 (with standard deviation $\sigma = 1.081$) and 3.15 (with standard deviation $\sigma = 1.063$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
4. For the statement **the CIS audit helps in quick preparation and accuracy of Annual Audit Report**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.32 (with standard deviation $\sigma = 1.101$) and 3.10 (with standard deviation $\sigma = 1.215$) respectively. Both these values are greater than 3. Also corresponding median (M) values equals to 3 and mode (Z) values are 3 and 4

respectively. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect.

5. For the statement **the test data process plays an important role to provide true and fair view**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.2 (with standard deviation $\sigma = 1.154$) and 3.00(with standard deviation $\sigma = 1.204$) respectively. Both these values are equal to 3. Also corresponding median (M) values equals to 3 and mode (Z) values are 3 and 4 respectively. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect.
6. For the statement, **Control risk in CIS audit process affects the true and fair view of the organization**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.06 (with standard deviation $\sigma = 1.162$) and 3.32(with standard deviation $\sigma = 1.110$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
7. For the statement, **dependence of other controls over computer processing affects the status of True and Fair view**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.19 (with standard deviation $\sigma = 1.094$) and 3.05(with standard deviation $\sigma = 1.260$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
8. For the statement, **potential of human error in the development, maintenance and execution of CIS affects the status of True and Fair view**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.38 (with standard deviation $\sigma = 0.995$) and 3.17(with standard deviation $\sigma = 1.120$) respectively. Both these values are close to 3. Also corresponding median (M) values equal to 3 and mode (Z) values equals to 4 and 3. This indicates that respondents from both these banks are difference in their opinion in respect to above aspect.
9. For the statement **acquisition of application system from third party affects True and Fair view**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.31 (with standard deviation $\sigma = 1.089$) and 3.06(with standard deviation $\sigma = 1.183$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several impact of CIS environment on True and Fair view of financial statement. In most of the case respondents from both banks are having neutral opinion. However for **failure of software system disturbs integrated business operation and ultimately affects True and Fair view** there are agree opinion on it. For **potential of human error in the development, maintenance and execution of CIS, test data process** plays an important role to provide true and fair view and the CIS audit helps in quick preparation and accuracy of Annual Audit Report, respondents from both the banks are difference in their opinion in respect of the above statements. In the next part we provide details of effect of Security Controls on True and Fair view of financial statements.

Table no. 5.3.5.(iii)
Details of effect of Security Controls on True and Fair view of financial statements

		Private sector bank			Public sector bank		
		Yes	No	Total	Yes	No	Total
Physical Access	F	125	43	168	106	51	157
	%	74.4	25.6	100.0	67.5	32.5	100.0
Data & Software Access	F	98	70	168	95	62	157
	%	58.3	41.7	100.0	60.5	39.5	100.0
Network Access	F	119	49	168	118	39	157
	%	70.8	29.2	100.0	75.2	24.8	100.0

Sources: Primary data

Interpretation

From the above study it is clear that the impact of CIS audit Process affect the True and Fair View of Financial Statement. The table no 5.(c) provides more details about the significant effect of Security Controls on True and Fair View of the Financial Statement. The table shows that out of total respondents from Private Sector Bank nearly 125 (74.4%) respondents were agreed whereas from Public Sector Bank nearly 106 (67.5%) respondents are agreed that the physical access is affect. There is similar kind of responds for Data and Software Access form the both the types of bank. It means the use of data and software access decided the status of true and fair view. For Network Access both the types of respondents in the favor of yes i.e. 119 (70.8 %) and 118 (75.2%) respectively from both the types of bank.

5.3.6. Factor responsible for audit under CIS environment

Computerized Information System has a greater demand in the contemporary society. Digitization has come up with lots of innovation and invention in every field of business. Hence it is necessary for every sector to accept it. As every business sector has its own limitation to accept it. The validity and efficacy of the implementation is based on several aspects. Hence to the following tables will make to understand the factor responsible for audit under CIS environment. Again their opinion was taken on five point agreement scale (Likert scale). The codes are given below.

- Strongly disagree (SD)
- Disagree (D)
- Neither Agree Nor Disagree (NAND)
- Agree (A)
- Strongly agree (SA)

The detail of this is given below.

Table no.5.3.6.(i)
Details of the factor responsible for audit under CIS environment

the factor responsible for audit under CIS environment		Private sector bank						Public sector bank					
		SD	D	NAND	A	SA	T	SD	D	NAND	A	SA	T
The centralization process does not lead to accuracy	F	15	19	90	41	3	168	22	24	76	31	4	157
	%	8.9	11.3	53.6	24.4	1.8	100.0	14.0	15.3	48.4	19.7	2.5	100.0
The transference of data through the middle level management leads to Non transparency factor	F	8	21	54	73	12	168	4	24	47	68	14	157
	%	4.8	12.5	32.1	43.5	7.1	100.0	2.5	15.3	29.9	43.3	8.9	100.0
The accuracy of data depends upon the decentralization process	F	7	36	67	40	18	168	11	44	61	35	6	157
	%	4.2	21.4	39.9	23.8	10.7	100.0	7.0	28.0	38.9	22.3	3.8	100.0
The top level management should be in direct contact with the low level management to maintain accuracy and transparency	F	10	31	75	43	9	168	23	30	59	39	6	157
	%	6.0	18.5	44.6	25.6	5.4	100.0	14.6	19.1	37.6	24.8	3.8	100.0

The centralization process leads to no proper distribution of work which in turn creates differences between the employees in the organization	F	17	33	62	49	7	168	20	28	71	34	4	157
	%	10.1	19.6	36.9	29.2	4.2	100.0	12.7	17.8	45.2	21.7	2.5	100.0

Sources: Primary data

Interpretation

The above table no.5.3.6. (a) Reflects the factor affecting the audit under CIS environment.

1. For, **the centralization process does not lead to accuracy** out of total respondents 168 form Private Sector Bank, 90 (53.6%) respondents have gave third rank i.e. neither agree nor disagree, whereas 41 (24.4%) respondents have gave fourth rank i.e. agree. While under Public Sector Bank out of total respondents 76 (48.4%) respondents gave third rank i.e. neither agree nor disagree and 31 (19.7%) respondents gave fourth rank i.e. agree. With the review of respondents it is though there is most of respondents not sure about the whither the **centralization process does not lead to accuracy** but the respondents on fourth rank form both the sector bank are agreed that the centralization process does not lead to accuracy.
2. For **the transference of data through the middle level management leads to non transparency factor**, out of total respondents from Private Sector Bank, 54 (32.1%) respondents gave third rank i.e. neither agree nor disagree and 73 (43.5%) respondents have given fourth rank i.e. agree and 12 (7.1%) have given fifth rank i.e. strongly agree i.e. all together 50.6% respondents are agree that the transference of data through the middle level management level to non transparency factor. While under Public Sector Bank out of total respondents 47 (29.9%) respondents have gave third rank i.e. neither agree nor disagree, whereas 68 (43.3%) have given fourth rank i.e. agree and 14 (8.9%) respondents have given fifth rank i.e. strongly agree. With the view of respondents from the both the types bank it is clear that the both the types of respondents considered that the **transference of data through the middle level management leads to non transparency factor**.
3. For **the accuracy of data depends upon the decentralization process**, out of total respondents from Private Sector Bank, 36(21.4%) respondents have given second rank i.e. disagree , 67 (39.9%) respondents have given third rank i.e. neither agree nor disagree and 40 (23.8%) respondents have given fourth rank i.e. agree whereas under Public Sector Bank out of respondents 44(28%) respondents have given second rank i.e. disagree, 61 (38.9%) respondents have given third rank i.e. neither agree nor disagree and 35 (22.3%) respondent have given fourth rank i.e. agree. with the above respondents it is clear that there is difference in the opinion regarding **the accuracy of data depends upon the decentralization process**.
4. For **the top level management should be direct contact with the low level management to maintain accuracy and transparency** out of total respondents from Private Sector Bank, 75 (44.6%) respondents have given third rank i.e, neither agree nor disagree and 43(25.6%) respondents have given fourth rank i.e. agree while under Public Sector Bank, out of total respondents 59 (37.6%) respondents have given third rank i.e. neither agree nor disagree and 39(24.8%) respondents gave given fourth rank i.e. agree. nearly 31% respondents are on agreed in Private Sector Bank while under Public Sector Bank 28.6% respondents are on agreed.
5. For **the centralization process leads to no proper distribution of work which in turn creates difference between the employees in the organization**, out of total respondents under Private Sector Bank 62(36.9%) respondents have given third rank i.e. neither agree nor disagree and 49 (29.2%) respondents have given fourth rank i.e. agree while under Public Sector Bank out of total respondents 71(45.2%) respondents have given third rank i.e. neither agree nor disagree and 34 (21.7%) respondents have given fourth rank i.e. agree.

With the above study it is clear that there is division in the opinion of the respondents about the factor responsible for audit under CIS environment.

For further in- depth analysis we provide description on the factor responsible for audit under CIS environment. Details of which are given below:

Table no. 5.3.6.(ii)
Descriptive statistics related to the factors responsible for audit under CIS environment

the factor responsible for audit under CIS environment	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
The centralization process does not lead to accuracy.	168	2.99	3.00	3	.889	157	2.82	3.00	3	.992
The transference of data through the middle level management leads to Non transparency factor.	168	3.36	4.00	4	.956	157	3.41	4.00	4	.940
The accuracy of data depends upon the decentralization process.	168	3.15	3.00	3	1.015	157	2.88	3.00	3	.963
The top level management should be in direct contact with the low level management to maintain accuracy and transparency	168	3.06	3.00	3	.946	157	2.84	3.00	3	1.077
The centralization process leads to no proper distribution of work which in turn creates differences between the employees in the organization.	168	2.98	3.00	3	1.032	157	2.83	3.00	3	.993

Sources: Primary data

Interpretation

From the above table it is observed that

- In respect of **the centralization process does not lead to accuracy**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.99(with standard deviation $\sigma = 0.889$) and 2.82(with standard deviation $\sigma = 0.992$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For the statement **the transference of data through the middle level management leads to Non transparency factor**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.36 (with standard deviation $\sigma = 0.956$) and 3.41 (with standard deviation $\sigma = 0.940$) respectively. Both these mean values are greater than 3. Also corresponding median (M) and mode (Z) values equals to 4. This indicates that respondents from both these banks are agreed in their opinion in respect to above aspect.
- For the statement **the accuracy of data depends upon the decentralization process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.15 (with standard deviation $\sigma = 1.015$) and 2.88 (with standard deviation $\sigma = 0.963$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
- For the statement **the top level management should be in direct contact with the low level management to maintain accuracy and transparency**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.06 (with standard deviation $\sigma = 0.946$) and 2.84(with standard deviation $\sigma = 1.077$) respectively. Both these values are greater than 3. Also corresponding median (M) and mode (Z) values are 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

- For the statement, **centralization process leads to no proper distribution of work which in turn creates differences between the employees in the organization**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 2.98 (with standard deviation $\sigma = 1.032$) and 2.83 (with standard deviation $\sigma = 0.993$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several the factors responsible for audit under CIS environment which affect the True and Fair View. In most of the case respondents from both banks are having neutral opinion. However for the transference of data through the middle level management leads to Non transparency factor respondents from both the banks are agree in their opinion with respect to the above fact.

5.3.7. ICAI provisions on CIS- audit

The application of accounting and auditing principles and policies is essential for reporting and evaluation of financial statement. Such application of standardizes accounting and auditing provision leads to clear and easy understanding of available information. It helps to bring equality in presenting and understand of the financial transaction. There are several auditing policies and provision introduced by accounting institution. ICAI has developed various provisions pertaining to audit under CIS. Every provision has its utility. Based on the study, table 5.3.7. (a) provides the details of ICAI provisions on CIS- audit. Again their opinion was taken on five point agreement scale (Likert scale). The codes are given below.

1. Strongly disagree (SD)
2. Disagree (D)
3. Neither Agree Nor Disagree (NAND)
4. Agree (A)
5. Strongly agree (SA)

The detail of this is given below.

Table no. 5.3.7. (i)
Details of ICAI provisions on CIS- audit

ICAI provisions on CIS- audit		Private sector bank						Public sector bank					
		SD	D	NAND	A	SA	T	SD	D	NAND	A	SA	T
The mindset of the people has to be changed in order to make the work more easy and to maintain accuracy	F	13	19	73	60	3	168	9	10	71	58	9	157
	%	7.7	11.3	43.5	35.7	1.8	100.0	5.7	6.4	45.2	36.9	5.7	100.0
The working environment of an organization gets disturbed due to non acceptance of CIS	F	5	26	50	67	20	168	7	21	42	63	24	157
	%	3.0	15.5	29.8	39.9	11.9	100.0	4.5	13.4	26.8	40.1	15.3	100.0
It is very difficult for	F	9	19	78	40	22	168	7	34	55	41	20	157

the senior employees working in the banking sector to accept a sudden change by the introduction of electronic system	%	5.4	11.3	46.4	23.8	13.1	100.0	4.5	21.7	35.0	26.1	12.7	100.0
On the job training can change the behavior or attitude of the person towards the use of CIS process	F	7	20	61	64	16	168	12	28	49	54	14	157
	%	4.2	11.9	36.3	38.1	9.5	100.0	7.6	17.8	31.2	34.4	8.9	100.0
The working environment becomes very much unhealthy due to unacceptance of the CIS process	F	17	13	39	69	30	168	20	25	28	65	19	157
	%	10.1	7.7	23.2	41.1	17.9	100.0	12.7	15.9	17.8	41.4	12.1	100.0
The differences that are created due to unacceptance of CIS process affect the productivity level of an organization	F	16	25	71	48	8	168	28	24	59	38	8	157
	%	9.5	14.9	42.3	28.6	4.8	100.0	17.8	15.3	37.6	24.2	5.1	100.0
An organization cannot achieve success and profit if the internal resources are not satisfied and have certain differences between them	F	13	31	62	51	11	168	16	20	72	39	10	157
	%	7.7	18.5	36.9	30.4	6.5	100.0	10.2	12.7	45.9	24.8	6.4	100.0

Sources: Primary data

Interpretation

From the above table it is observed that

1. For **the mindset of the people has to be changed in order to make the work more easy and to maintain accuracy**, out of total respondents from Private Sector Bank, 73 (43.5%) respondents has given third rank i.e. neither agree nor disagree and 60 (35.7%) respondents has given fourth rank i.e. agree. While under Public Sector Bank out of total respondents 71(45.2%) has given third rank i.e. neither agrees nor disagrees and 58 (36.9 %) respondents have given fourth rank i.e. agreed. As compare to Private Sector Bank, Public Sector Bank were in more favor i.e. by 5 to 6%.
2. For **the working environment of an organization gets disturbed due to non acceptance of CIS**, out of total respondents from Private Sector Bank 67 (39.9%) respondents has given fourth rank i.e. agree and 20 (11.9%) respondents has given fifth rank i.e. strongly agree. whereas under Public Sector Bank out of total respondents 63 (40.1%) respondents has been given fourth rank i.e. agree and 24 (15.3%) respondents has given fifth rank i.e. strongly agree. as compare to Private Sector Bank Public Sector bank respondents had in the favour of it.
3. For **it is very difficult for the senior employees working in the banking sector to accept a sudden change by the introduction of electronic system**, out of total respondents from Private Sector Bank, 78

(46.4%) respondents has given third rank i.e. neither agree nor disagree and 40 (23.8%) respondents has given fourth rank i.e. agree. the study shows that the only 28 respondents were disagree with the statement where as 62 respondents were agreed that the for senior employees working in the banking sector to accept a sudden change by the introduction to electronic system. Whereas under Public Sector Bank out of total respondents only 55 (35%) respondents has given third rank i.e. neither agree nor disagree whereas 41 (26.1%) respondents has given fourth rank i.e. agree. As compare to Private Sector Bank, Public Sector Bank respondents were more against about the acceptance of electronic system they believed that the sudden change by the introduction of electronic system by senior did not affect the acceptance of digital system.

4. For **on the job training can change the behaviour or attitude of the person towards the use of CIS process**, out of total respondents from Private Sector Bank, 61 (36.3%) respondents has given third rank i.e. neither agree nor disagree and 64 (38.1%) respondents has given fourth rank i.e. agree while under Public Sector Bank out of total respondents 49 (31.2%) respondents has given third rank i.e. neither agree nor disagree and 54 (34.4%) respondents has given fourth rank i.e. agree. The study shows that in both the types of bank respondents considered that **on the job training can change the behaviour or attitude of the person towards the use of CIS process Table no.**
5. For **the working environment becomes very much unhealthy due to non acceptance of the CIS process** out of total respondents from Private Sector Bank 69 (41.1%) respondents has been given fourth rank i.e. agree and 30 (17.9%) respondents has given fifth rank i.e. strongly agree. While under Public Sector Bank out of total respondents, 65 (41.4%) respondents has given fourth rank i.e. agree and 19 (12.1%) respondents has given fifth rank is strongly agree. Under Public Sector Bank nearly respondents has given first, second and third rank i.e. 12.7%, 15.9%, and 17.8% respectively.
6. For **the difference that are created to due to non-acceptance of CIS process affect the productivity level of an organization** out of total respondents from Private Sector Bank, 71 (42.3%) respondents has given third rank i.e. neither agree nor disagree and 48 (28.6%) respondents has given fourth rank i.e. agree and altogether 41 respondents were against that the difference that are created to due to no acceptance of CIS process affect the productivity level of an organization. Whereas under Public Sector Bank out of total respondents 59 (37.6%) respondents has given third rank i.e. neither agree nor disagree and 38 (24.2%) respondents has given fourth rank i.e. agree and almost 34.1% respondents were against that **non acceptance of CIS process affect the productivity level of an organization i.e.** the respondents assume that the acceptance level differs the proper functioning of an organization as compare to Private Sector Bank.
7. For **an organization cannot achieve success and profit if the internal resources are not satisfied and have certain difference between them**, out of the total respondents from Private Sector Bank 62 (36.9%) respondents has given third rank i.e. neither agree nor disagree and 51 (30.4%) respondents has given fourth rank i.e. agree. All together 36.9% respondents was in favour that **an organization cannot achieve success and profit if the internal resources are not satisfied and have certain difference between them**. Whereas under Public Sector Bank out of total respondents 72(45.9%) respondents has given third rank i.e. agree. 39 (24.8%) respondents has given fourth rank i.e. agree. almost 36.1% respondents from Private Sector Bank and 31.2% respondents from Public Sector Bank were agreed that it is difficult to an organization to achieve success and profit if the internal resources are not satisfied and have certain difference between them.

For further in- depth analysis we provide description on ICAI provisions on CIS audit. Details of which are given below:

Table no. 5.3.7 (ii)
Descriptive statistics related to ICAI provisions on CIS- audit and its impact

	Private sector bank					Public sector bank				
	N	\bar{X}	M	Z	σ	N	\bar{X}	M	Z	σ
The mindset of the people has to be changed in order to make the work more easy and to maintain accuracy.	168	3.13	3.00	3	.917	157	3.31	3.00	3	.896
The working environment of an organization gets disturbed due to non acceptance of CIS	168	3.42	4.00	4	.988	157	3.48	4.00	4	1.048
It is very difficult for the senior employees working in the banking sector to accept a sudden change by the introduction of electronic system	168	3.28	3.00	3	1.009	157	3.21	3.00	3	1.062
On the job training can change the behavior or attitude of the person towards the use of CIS process.	168	3.37	3.00	4	.958	157	3.19	3.00	4	1.075
The working environment becomes very much unhealthy due to unacceptance of the CIS process.	168	3.49	4.00	4	1.174	157	3.24	4.00	4	1.232
The differences that are created due to unacceptance of CIS process affect the productivity level of an organization.	168	3.04	3.00	3	1.005	157	2.83	3.00	3	1.137
An organization cannot achieve success and profit if the internal resources are not satisfied and have certain differences between them.	168	3.10	3.00	3	1.028	157	3.04	3.00	3	1.021

Sources: Primary data

Interpretation

From the above table it is observed that

1. In respect of **the mindset of the people has to be changed in order to make the work more easy and to maintain accuracy**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.13 (with standard deviation $\sigma = 0.917$) and 3.31 (with standard deviation $\sigma = 0.896$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
2. For the statement, **working environment of an organization gets disturbed due to non acceptance of CIS**, mean (\bar{X}) values for respondents of Private sector bank and Public sector bank are 3.42 (with standard deviation $\sigma = 0.988$) and 3.48 (with standard deviation $\sigma = 1.048$) respectively. Both these mean values are greater than 3. Also corresponding median (M) and mode (Z) values equals to 4. This indicates that respondents from both these banks are agreed in their opinion in respect to above aspect.
3. For the statement, **it is very difficult for the senior employees working in the banking sector to accept a sudden change by the introduction of electronic system**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.28 (with standard deviation $\sigma = 1.009$) and 3.21 (with standard deviation $\sigma = 1.062$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
4. For the statement, **on the job training can change the behaviour or attitude of the person towards the use of CIS process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are

3.37 (with standard deviation $\sigma = 0.958$) and 3.19 (with standard deviation $\sigma = 1.075$) respectively. Both these values are greater than 3. Also corresponding median (M) values equals to 3 and mode (Z) values are 4 and 3. This indicates that respondents from both these banks are agreed in their opinion in respect to above aspect.

5. For the statement, **working environment becomes very much unhealthy due to unacceptance of the CIS process**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.49 (with standard deviation $\sigma = 1.174$) and 3.24 (with standard deviation $\sigma = 1.232$) respectively. Both these values are greater than 3. Also corresponding median (M) and mode (Z) values are equals 4. This indicates that respondents from both these banks are agreed in their opinion in respect to above aspect.
6. For the statement, **differences that are created due to unacceptance of CIS process affect the productivity level of an organization**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.04 (with standard deviation $\sigma = 1.005$) and 2.83 (with standard deviation $\sigma = 1.137$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.
7. For the statement, **an organization cannot achieve success and profit if the internal resources are not satisfied and have certain differences between them**, mean (\bar{X}) values for respondents of Private sector banks and Public sector banks are 3.10 (with standard deviation $\sigma = 1.028$) and 3.04 (with standard deviation $\sigma = 1.021$) respectively. Both these values are close to 3. Also corresponding median (M) and mode (Z) values equals to 3. This indicates that respondents from both these banks are neutral in their opinion in respect to above aspect.

Hence from the above, we may reveal that there are several ICAI provisions on CIS- audit and its impact on acceptance of CIS. In most of the case respondents from both banks are having neutral opinion. However **working environment of an organization gets disturbed due to non acceptance of CIS, on the job training can change the behaviour or attitude of the person towards the use of CIS process and working environment becomes very much unhealthy due to unacceptance of the CIS process**, respondents from both the banks are agree in their opinion in respect of the above fact.

The acceptance of CIS system is based on the ICAI provision the following table reflect the status of acknowledgement of provisions.

Table no. 5.3.7.(iii)
Details of awareness of auditing and assurance standard implemented by ICAI

		Private sector bank			Public sector bank		
		Yes	No	Total	Yes	No	Total
Are you well aware of auditing and assurance standard implemented by ICAI?	F	109	59	168	94	63	157
	%	64.9	35.1	100.0	59.9	40.1	100.0

Sources: Primary data

Interpretation

The table no. 7(c) indicates the respondents about the awareness of auditing and assurance standard implemented by ICAI, out of total respondents from Private sector 65.9% respondents agreed that they are aware about the available provisions whereas 59.9% respondents from Public Sector are agreed that they are aware of provisions available.

The below table shows the responses on customization in the software system laid down by ICAI.

Table no. 5.3.7.(iv)**Details of standard procedure laid down by ICAI to bring about customization in the software**

		Private sector bank			Public sector bank		
		Yes	No	Total	Yes	No	Total
Is there any standard procedure laid down by ICAI to bring about customization in the software?	F	125	43	168	120	37	157
	%	74.4	25.6	100.0	76.4	23.6	100.0

Sources: Primary data

Interpretation

The table no. 5.3.7.(d) indicates the response from both the types of bank about the customization in the software laid down by ICAI. Almost 74.4% respondents from Private Sector Bank and 76.4% respondents from Public Sector Bank are agreed that there are standard procedures laid down by ICAI to bring customization in the software system.

The following table gives brief about the understanding about the awareness of CIS audit standard provisions available.

Table no.5.3.7.(v): Details of list of standard provisions

		Private sector bank			Public sector bank		
		Yes	No	Total	Yes	No	Total
Guidelines for governing CIS audit	F	137	31	168	133	24	157
	%	81.5	18.5	100.0	84.7	15.3	100.0
CIS Documentation	F	105	63	168	82	75	157
	%	62.5	37.5	100.0	52.2	47.8	100.0
CIS Audit evidence	F	122	46	168	124	33	157
	%	72.6	27.4	100.0	79.0	21.0	100.0
Risk assessment and internal control in CIS audit	F	114	54	168	89	68	157
	%	67.9	32.1	100.0	56.7	43.3	100.0

Sources: Primary data

Interpretation

The above table no. 5.3.7 (e), gives the responses on availability of standard provisions.

1. For **Guidelines for governing CIS audit**, out of total respondents from Private Sector Bank, 81.5% respondents agreed whereas under Public Sector Bank 84.7% respondents agreed with the same which is higher by 3%.
2. For **CIS Documentation**, out of total respondents from Private Sector Bank, 37.5% respondents do not agreed whereas from Public Sector Bank 47.8% respondents against the same which is higher by 10%.
3. For **CIS audit evidence**, around 72.6% and 79.0% respondents from Private and Public Sector Bank respective considered that there is Standard on audit evidence AAS 500. The audit evidence is focused on the types of evidence required and kept by auditor /accountant to verify the transactions.
4. For **Risk assessment and internal control in CIS audit**, out of total respondents from both the banks around 67.9% and 56.7% respondents from Private and Public Sector Bank respectively in favor of availability of auditing standard on risk assessment and internal control in CIS audit.

Hence with the above response it is clear that there are several standard to maintain and keep the standardized audit system.

5.4. INFERENCE ANALYSIS OF HYPOTHESIS

Inferential analysis is the tool of analysis of the collected data. It is used to simplify the results gained from a accidental (likelihood) illustration back to the populace from which the illustration was pinched. Inferential

digits are commonly used to riposte cause-and-effect queries and draw predictions. In the current learning researcher used this analysis for hypothesis testing.

Role of figures in investigation is to work as a utensil in scheming investigation examining its data and sketching inferences on it. Most of the investigation studies result in a huge capacity of uncooked statistics which must be abridged so that the identical can be recited effortlessly and it can be castoff for supplementary analysis.

Descriptive measurements distress with the growth of certain directories from fresh data, whereas inferential indicators concern with the procedure of generalization. Inferential figures are also recognized as specimen indicators and are chiefly troubled with 2 major types of problems:

1. The estimation of population parameters and
2. Testing of hypothesis.

Inferences on population parameters are often made on the origin of sample observations especially when the population is large and it may not be possible to enumerate entire specimen components fitting to the population. Such supposition about the populace is labeled as arithmetic supposition and supposition is seasoned on the foundation of model standards. This supposition is confirmed with obtainable indication and a verdict is made whether to admit this proposition or cast-off it.

In the context of statistical analysis we often talk about null and alternate hypothesis.

The null hypothesis is generally symbolized as H_0

The alternate hypothesis is generally symbolized as H_1

Researcher has used these measures of statistical analysis according to the requirement of data analysis. For testing hypothesis or test of significance we use both parametric and non-parametric tests. Parametric tests shoulder within possessions of the inhabitants from which we draw samples. Such conventions may be nearby populace strictures, mockup magnitude etc. In this type of research parametric tests are used. Important parametric tests are as follows:

- a. Z test
- b. t-test
- c. chi-square test
- d. F test etc.

In our study researcher applied different parametric as well as non-parametric tests. Details of which are given below.

Kolmogorov-Smirnov

In statistics, the **Kolmogorov-Smirnov test (K-S test)** is a nonparametric test of the parity of incessant, one-dimensional probability distributions that can be used to associate a sample with a reference probability distribution (one-sample K-S test), or to compare two samples (two-sample K-S test). The Kolmogorov-Smirnov statistic quantifies a distance between the empirical distribution function of the sample and the cumulative distribution function of the orientation delivery, or amid the experiential delivery functions of two models. The null distribution of this measurement is intended under the null hypothesis that the illustrations are drained from the same dispersal (in the two-sample case) or that the illustration is drawn from the locus distribution (in the one-sample case). In each case, the supplies painstaking under the unacceptable supposition are unceasing circulations but are then unobstructed.

The two-sample K-S test is one of the most valuable and over-all nonparametric approaches for likening two mock-ups, as it is subtle to alterations in both position and shape of the experiential increasing circulation functions of the two samples.

The Kolmogorov–Smirnov test can be reformed to oblige as a goodness of fit test. In the singular circumstance of challenging for normality of the circulation, testers are homogenous and likened with an average usual circulation. This is equal to background the unkind and adjustment of the situation spreading equal to the illustration approximations, and it is known that using these to define the explicit orientation delivery changes the valueless dissemination of the test measurement: see below. Various revisions have bring into being that, even in this adjusted form, the test is fewer commanding for testing familiarity than the Shapiro–Wilk test or Anderson–Darling test. Though, other examinations have their own shortcomings. For occurrence the Shapiro–Wilk test is known not to work well with many bonds (many identical values).

The Wilcoxon signed-rank test

The Wilcoxon signed-rank test is the nonparametric test equivalent to the dependent t-test. As the Wilcoxon signed-rank test does not shoulder ordinariness in the data, it can be used when this supposition has been dishonoured and the use of reliant on t-test is unsuitable. It is used to associate two circles of notches that come from the identical accomplices. This can happen when we desire to inspect any variation in grooves from one time topic to a new, or when folks are exposed to more than one complaint.

As for the symbol test, the Wilcoxon signed rank sum test is used is used to test the unacceptable supposition that the intermediate of a dispersal is equivalent to roughly value.

It can be used a) in residence of a one-sample t-test b) in place of a balancing t-test or c) for well-ordered uncompromising data where an arithmetical gauge is unsuitable but where it is conceivable to abundant the explanations.

Carrying out the Wilcoxon signed rank sum test

Case 1: Paired data

1. State the null hypothesis - in this case it is that the median difference, M , is equal to zero.
2. Calculate each paired difference, $d_i = x_i - y_i$, where x_i , y_i are the pairs of observations.
3. Rank the dis, ignoring the signs (i.e. assign rank 1 to the smallest $|d_i|$, rank 2 to the next etc.)
4. Label each rank with its sign, according to the sign of d_i .
5. Calculate W_+ , the sum of the ranks of the positive dis, and W_- , the sum of the ranks of the negative dis. (As a check the total, $W_+ + W_-$, should be equal to $n(n+1)/2$, where n is the number of pairs of observations in the sample).

Case 2: Single set of observations

1. State the null hypothesis - the median value is equal to some value M .
2. Calculate the difference between each observation and the hypothesized median,
 $d_i = x_i - M$.
3. Apply Steps 3-5 as above.

Under the null hypothesis, we would expect the distribution of the differences to be approximately symmetric around zero and the distribution of positives and negatives to be distributed at random among the ranks. Under this assumption, it is possible to 1 work out the exact probability of every possible outcome for W .

To carry out the test, we therefore proceed as follows:

- 1 Choose $W = \min(W_-, W_+)$.
2. Use tables of critical values for the Wilcoxon signed rank sum test to find the probability of observing a value of W or more extreme. Most tables give both one-sided and two-sided p-values. If not, double the one-sided p-value to obtain the two-sided p-value. This is an exact test.

Normal approximation

If the number of observations/pairs is such that $n(n+1)/2$ is large enough (> 20), a normal approximation can be used with $\mu_W = n(n+1)/4$,

$$\sigma_w = \sqrt{\frac{r}{n(n+1)(2n+1)} \cdot 24}$$

Dealing with ties

There are two types of tied observations that may arise when using the Wilcoxon signed rank test:

1. Observations in the sample may be exactly equal to M (i.e. 0 in the case of paired differences). Ignore such observations and adjust n accordingly.
2. Two or more observations/differences may be equal. If so, average the ranks across the tied observations and reduce the variance by $\frac{t-1}{t}$ for each group of t tied ranks.

One sample t- test

A t-test is used to determine if the scores of two groups differ on a single variable. A t-test is designed to test for the differences in mean scores. To conduct a one-sample test when the population standard deviation is not known, we use a variant of the z_{stat} called the t_{stat} . The advantage of the t_{stat} is that it can use sample standard deviation s instead of σ to formulate the estimated standard error of the mean.

Hypotheses: The null and alternative hypotheses are identical to those used by the z test. The null hypothesis is $H_0: \mu = C$ Alternatives are

$$H_1: \mu \neq \mu_0 \text{ (two-sided)}$$

$$H_1: \mu > \mu_0 \text{ (one-sided to right)}$$

$$H_1: \mu < \mu_0 \text{ (one-sided to left)}$$

Test statistic: The one-sample t statistic is: $t = \frac{\text{Mean Difference}}{\text{Error Variance}} = \frac{\text{Sample Mean} - \text{Population Mean}}{\text{Standard Deviation} / \sqrt{\text{Sample Size}}}$

This statistic has n – 1 degrees of freedom.

P-value and conclusion: The t_{stat} is converted to a p value with a computer program or t table. When using the t table, we will only be able to find boundaries for the p value. Small values of P provide evidence against H_0 .

Hypothesis testing

Hypothesis 1

Null hypothesis (H₀): CIS audit is not significantly affected by the documentation and training in the banking sector.

Alternative hypothesis (H₁): CIS audit is significantly affected by the documentation and training in the banking sector.

For testing null hypothesis we use relevant data gathered by researcher from respondents of private and public sector banks. The details of which are given below.

**Table no. 5.4.1 (i)
Details of Scores, variables and Normality test**

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private_ CIS audit is normal with mean 3.115 and S.D. 0.57	One sample kolmogorov-smimov test	0.143	Retain null hypothesis

Public CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public_ CIS audit is normal with mean 3.199 and S.D. 0.61	One sample kolmogorov- smimov test	0.187	Retain null hypothesis
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Sources: Primary data

Interpretation

From the above table it is observed that,

‘p’ values for variables Private CIS audit and Public CIS audit are 0.143 and 0.187 respectively. Both these values are greater than Critical p value 0.05. Hence we retain null hypothesis and data is normally distributed. We use parametric one sample ‘t’ test for testing significance of these variables with hypothesized mean value 3.

Results of parametric one sample ‘t’ test for testing significance of variables Private CIS audit and Public CIS audit with hypothesized mean value 3.

Table no. 5.4.1 (ii)

Descriptive statistics for variables Private CIS audit and Public CIS audit

	N	Mean	Std. Deviation	Std. Error Mean
Private CIS audit	168	3.1155	0.57053	0.04402
Public CIS audit	157	3.1987	0.61164	0.04881

Sources: Primary data

Interpretation

From the above table it is observed that, Mean score values for variables **Private CIS audit and Public CIS audit** are 3.1155 and 3.1987. These values are greater than hypothesized value 3. This indicates that respondents are agree with fact that CIS audit is significantly affected by the documentation and training in the banking sector.

Table No. 5.4.1 (iii)

One sample ‘t’ test of mean vs hypothesized score 3 for variables Private CIS audit and Public CIS audit regarding effect of documentation and training in the banking sector by CIS audit

Variable	Test Value = 3		
	T	Degree of freedom (df)	Sig. (2-tailed) p value
Private CIS audit	2.623	167	0.010
Public CIS audit	4.071	156	0.000

Sources: Primary data

Interpretation

From the above table it is observed that ‘p’ values for variables **Private CIS audit and Public CIS** are 0.010 and 0.000 (both < 0.05). Hence null hypothesis that there is no significant difference between calculated means value and hypothesizes mean value 3 is rejected in each of these cases (at 5% level of significance).

Hence we may reveal that Mean score values for variables **Private CIS audit and Public CIS** are greater than 3.

This indicates that both types of respondents have agreed with the fact that CIS audit is significantly affected by the documentation and training in the banking sector.

Finding: CIS audit is significantly affected by the documentation and training in the banking sector.

Hypothesis 2

Null hypothesis (H₀): Application of CIS Audit is not significantly affected by the financial constraints in the banking sector.

Alternative hypothesis (H_1): Application of CIS Audit is significantly affected by the financial constraints in the banking sector.

For testing null hypothesis we use relevant data gathered by researcher from respondents of private and public sector banks. The details of which are given below.

Table no. 5.4.2 (i)
Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private Application CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private Application CIS audit is normal with mean 3.115 and S.D. 0.57	One sample kolmogorov-smimov test	0.007	Reject null hypothesis
Public Application CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public_ Application_ CIS audit is normal with mean 3.199 and S.D. 0.61	One sample kolmogorov-smimov test	0.002	Reject null hypothesis

Sources: Primary data

Interpretation

From the above table it is observed that,

‘p’ values for variables Private Application CIS audit and Public Application CIS audit are 0.007 and 0.002 respectively. Both these values are less than critical p value 0.05. Hence we reject null hypothesis and data is not normally distributed. We use non-parametric Wilcoxon Signed test for testing significance of these variables with hypothesized mean value 3.

Results of non-parametric Wilcoxon Signed test for testing significance of variables Private Application CIS audit and Public Application CIS audit with hypothesized median value 3.

Table no. 5.4.2 (ii)
Descriptive statistics for variables Private Application CIS audit and Public Application CIS audit

	Private Application CIS audit	Public Application CIS audit
N	168	157
Median	3.00	3.00

Sources: Primary data

Interpretation

It is clear that median score values for both variables are equal to 3. This indicates that respondents are neither agree nor disagree with fact that Application of CIS Audit is significantly affected by the financial constraints in the banking sector.

Table no. 5.4.2 (iii)
Hypothesis test summary of one sample non parametric Wilcoxon Signed test:

Null hypothesis	P value	Decision
The median of Private Application CIS audit equals to 3.00	0.156	Retain null hypothesis
The median of Public Application CIS audit equals to 3.00	0.275	Retain null hypothesis

Sources: Primary data

Interpretation

From the above table it is observed that for the variables Private Application CIS audit and Public Application CIS audit, p values are 0.156 and 0.275 respectively. These values are greater than 0.05. Therefore we retain null hypothesis for these variables.

Hence we may reveal that Mean score values for variables Private Application CIS audit and Public Application CIS audit are both equals to 3.

This indicates that both types of respondents are not agreed with the fact that Application of CIS Audit is significantly affected by the financial constraints in the banking sector

Finding: Application of CIS Audit is not significantly affected by the financial constraints in the banking sector.

Hypothesis 3

Null hypothesis (H₀): The internal controls in a CIS system do not significantly depend on the same principles as those in the case of manual system.

Alternative hypothesis (H₁): The internal controls in a CIS system significantly depend on the same principles as those in the case of manual system.

For testing null hypothesis we use relevant data gathered by researcher from respondents of private and public sector banks. The details of which are given below.

Table no. 5.4.3.(i)
Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private internal controls CIS	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private internal controls CIS is normal with mean 2.852 and S.D. 0.50	One sample kolmogorov-smimov test	0.004	Reject null hypothesis
Public internal controls CIS	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public Private internal controls CIS is normal with mean 2.855 and S.D. 0.47	One sample kolmogorov-smimov test	0.017	Reject null hypothesis

Sources: Primary data

Interpretation

From the above table it is observed that,

‘p’ values for variables Private internal controls CIS and Public internal controls CIS are 0.004 and 0.017 respectively. Both these values are less than critical p value 0.05. Hence we reject null hypothesis and data is not normally distributed. We use non-parametric Wilcoxon Signed test for testing significance of these variables with hypothesized mean value 3.

Results of non-parametric Wilcoxon Signed test for testing significance of variables Private internal controls CIS and Public internal controls CIS with hypothesized median value 3.

Table no. 5.4.3.(ii)
Descriptive statistics for variables Private internal controls CIS and Public internal controls CIS

	Private internal controls CIS	Public internal controls CIS
N	168	157
Median	2.75	2.75

Sources: Primary data

Interpretation

It is clear that median score values for both variables are less than 3. This indicates that respondents disagree with fact that the internal controls in a CIS system significantly depend on the same principles as those in the case of manual system.

Table no. 5.4.3.(iii)**Hypothesis test summary of one sample non parametric Wilcoxon Signed test:**

Null hypothesis	P value	Decision
The median of Private internal controls CIS equals to 3.00	0.000	Reject null hypothesis
The median of Public internal controls CIS equals to 3.00	0.000	Reject null hypothesis

Sources: Primary data

Interpretation

From the above table, it is observed that for the variables **Private internal controls CIS** and **Public internal controls CIS**, p values are 0.000 and 0.000 respectively. These values are less than 0.01. Therefore we reject null hypothesis for these variables.

Hence, we may reveal that Mean score values for variables **Private internal controls CIS** and **Public internal controls CIS** are both less 3.

This indicates that both types of respondents are disagree with the fact that the internal controls in a CIS system significantly depend on the same principles as those in the case of manual system.

Finding: The internal controls in a CIS system do not significantly depend on the same principles as those in the case of manual system.

Hypothesis 4

Null hypothesis (H₀): Poor working knowledge of EDP implementation do not significantly affect the status of true and fair view.

Alternative hypothesis (H₁): Poor working knowledge of EDP implementation significantly affect the status of true and fair view.

For testing null hypothesis, we use relevant data gathered by researcher from respondents of private and public sector banks. The details of which are given below.

Table no. 5.4.4.(i): Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private EDP implementation	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private EDP implementation is normal with mean 3.263 and S.D. 0.64	One sample kolmogorov-smimov test	0.000	Reject null hypothesis
Public EDP implementation	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public EDP implementation is normal with mean 2.855 and S.D. 0.47	One sample kolmogorov-smimov test	0.001	Reject null hypothesis

Sources: Primary data

Interpretation

From the above table it is observed that, ‘p’ values for variables Private EDP implementation and Public EDP implementation are 0.000 and 0.001 respectively. Both these values are less than critical p value 0.05. Hence we reject null hypothesis and data is not normally distributed. We use non-parametric Wilcoxon Signed test for testing significance of these variables with hypothesized mean value 3.

Results of non-parametric Wilcoxon Signed test for testing significance of variables Private EDP implementation and Public EDP implementation with hypothesized median value 3.

Descriptive statistics for variables Private EDP implementation and Public EDP implementation

Table no. Table no. 5.4.4.(ii)

	Private EDP implementation	Public EDP implementation
N	168	157
Median	3.111	3.00

Sources: Primary data

Interpretation

It is clear that median score value for first is greater than 3 but second variable is equal to 3. This indicates that respondents of private sector bank agree while public sectors banks are neither agree nor disagree with fact that Poor working knowledge of EDP implementation significantly affect the status of true and fair view.

Table no. Table no. 5.4.4.(iii)

Hypothesis test summary of one sample non parametric Wilcoxon Signed test:

Null hypothesis	P value	Decision
The median of Private EDP implementation equals to 3.00	0.000	Reject null hypothesis
The median of Public EDP implementation equals to 3.00	0.029	Reject null hypothesis

Sources: Primary data

Interpretation

From the above table, it is observed that for the variables **Private EDP implementation and Public EDP implementation**, p values are 0.000 and 0.029 respectively. These values are less than 0.05. Therefore we reject null hypothesis for these variables.

Hence, we may reveal that Mean score values for variables **Private EDP implementation and Public EDP implementation** are both more than 3.

This indicates that both types of respondents are agree with the fact that Poor working knowledge of EDP implementation significantly affect the status of true and fair view.

Finding: Poor working knowledge of EDP implementation significantly affect the status of true and fair view.

Hypothesis 5

Null hypothesis (H₀): Centralization of accounting functions does not lead to issues in banking sector.

Alternative hypothesis (H₁): Centralization of accounting functions leads to issues in banking sector.

For testing null hypothesis we use relevant data gathered by researcher from respondents of private and public sector banks. The details of which are given below.

Table no. 5.4.5. (i)

Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private Centralization	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private Centralization is normal with mean 3.085 and S.D. 0.60	One sample kolmogorov-smimov test	0.230	Retain null hypothesis
Public Centralization	1: Strongly Disagree; 2: Disagree 3: Neutral ;	The distribution of Public Centralization is	One sample kolmogorov-smimov test	0.173	Retain null hypothesis

	4: Agree; 5: Strongly Agree	normal with mean 3.260 and S.D. 0.48			
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Sources: Primary data

Interpretation

From the above table it is observed that,

‘p’ values for variables Private Centralization and Public Centralization are 0.230 and 0.173 respectively. Both these values are greater than Critical p value 0.05. Hence we retain null hypothesis and data is normally distributed. We use parametric one sample ‘t’ test for testing significance of these variables with hypothesized mean value 3.

Results of parametric one sample ‘t’ test for testing significance of variables Private Centralization and Public Centralization with hypothesized mean value 3.

Table no. 5.4.5. (ii)
Descriptive statistics for variables Private Centralization and Public Centralization

	N	Mean	Std. Deviation	Std. Error Mean
Private Centralization	168	3.0853	.60134	.04639
Public Centralization	157	2.9352	.56603	.04517

Sources: Primary data

Interpretation

From the above table it is observed that, Mean score values for variables **Private Centralization and Public Centralization** are 3.0853 and 2.9352. First value is greater than hypothesized value 3 whereas second is less than 3 but both are close to 3. This indicates that respondents are neither agree nor disagree with fact that Centralization of accounting functions leads to issues in banking sector.

Table no. 5.4.5. (iii)

One sample ‘t’ test of mean vs hypothesized score 3 for variables Private Centralization and Public Centralization regarding Centralization of accounting functions leads to issues in banking sector

Variable	Test Value = 3		
	T	Degree of freedom (df)	Sig. (2-tailed) p value
Private Centralization	1.839	167	0.068
Public Centralization	-1.433	156	0.154

Sources: Primary data

Interpretation

From the above table, it is observed that ‘p’ values for variables **Private Centralization and Public Centralization** are 0.068 and 0.154 (both > 0.05). Hence null hypothesis that there is no significant differences between calculated mean value and hypothesizes mean value 3 is **retained** in each of these cases (at 5% level of significance).

Hence, we may reveal that Mean score values for variables **Private Centralization and Public Centralization** are equal to 3.

This indicates that both types of respondents are neither agreed nor disagreed with the fact that Centralization of accounting functions leads to issues in banking sector.

Finding: Centralization of accounting functions does not lead to issues in banking sector.

Hypothesis 6

Null hypothesis (H₀): The efficiency of CIS audit is not significantly dependent on the mindset of the people working in the banking sector.

Alternative hypothesis (H₁): The efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector.

For testing null hypothesis we use relevant data gathered by researcher from respondents of private and public sector banks. The details of which are given below.

Table no. 5.4.6. (i): Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private efficiency CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private efficiency CIS audit is normal with mean 3.260 and S.D. 0.48	One sample kolmogorov-smimov test	0.080	Retain null hypothesis
Public efficiency CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public efficiency CIS audit is normal with mean 3.187 and S.D. 0.51	One sample kolmogorov-smimov test	0.251	Retain null hypothesis

Sources: Primary Data

Interpretation

From the above table it is observed that,

‘p’ values for variables Private efficiency CIS audit and Public efficiency CIS audit are 0.080 and 0.251 respectively. Both these values are greater than Critical p value 0.05. Hence we retain null hypothesis and data is normally distributed. We use parametric one sample ‘t’ test for testing significance of these variables with hypothesized mean value 3.

Results of parametric one sample ‘t’ test for testing significance of variables Private efficiency CIS audit and Public efficiency CIS audit with hypothesized mean value 3.

Table no. 5.4.6. (ii)

Descriptive statistics for variables Private efficiency CIS audit and Public efficiency CIS audit

	N	Mean	Std. Deviation	Std. Error Mean
Private efficiency CIS audit	168	3.2602	.48042	.03706
Public efficiency CIS audit	157	3.1874	.51250	.04090

Source: Prepared by researcher by using primary data

Interpretation

From the above table it is observed that, Mean score values for variables **Private CIS audit** and **Public CIS audit** are 3.2602 and 3.1874. These values are greater than hypothesized value 3. This indicates that respondents are agreed with fact that the efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector.

Table No. Table no. 5.4.6. (iii)

One sample ‘t’ test of mean vs hypothesized score 3 for variables Private efficiency CIS audit and Public efficiency CIS audit regarding efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector

Test Value = 3			
Variable	T	Degree of freedom (df)	Sig. (2-tailed) p value
Private CIS audit	7.020	167	0.000
Public CIS audit	4.583	156	0.000

Source: Prepared by researcher by using primary data

Interpretation

From the above table, it is observed that 'p' values for variables **Private efficiency CIS audit and Public efficiency CIS audit** are 0.000 and 0.000 (both < 0.01). Hence, null hypothesis that there is no significant difference between calculated means value and hypothesized mean value 3 is rejected in each of these cases (at 1% level of significance).

Hence, we may reveal that Mean score values for variables **Private efficiency CIS audit and Public efficiency CIS audit** are greater than 3.

This indicates that both types of respondents are agreed with the fact that the efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector.

Finding: The efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector.

CHAPTER - 6
FINDINGS, CONCLUSIONS AND SUGGESTIONS

6.1 SUMMARY OF THE STUDY

The initiation of IT has changed the way it functions in every unit in several ways. Computer is used everywhere for multipurpose. CIS implementation has made drastic change in regular functions of accounting and auditing system. It has made the business unit to shift from pen and paper of manual system to computerised system. It is a digital era where lockers and solutions are substituted by watchwords and credentials ciphers that confine admission to automated files. Since the last few decades, most of the Government Departments, Public Sector Enterprises and autonomous bodies have started applying in IT on large scale. Initially, computers were used only by large scale business unit due to huge number of transaction and high operational costs. Later, the arrival of individual processors and decrease in the operational costs facilitate medium sized organisations to adopt IT. In today's epoch the obtain ability of influential palmtops and their related wrapped software has occasioned in an extensive development of computer in all sectors. As Electronic Data Processing (EDP) systems is sphere of Information Technology (IT) Systems. It does not only processes data but also stores, utilizes and communicates a broad range of information that influences decision making process in an entity. The term EDP audit is replaced by a term Information Technology audit and Information system audit. The efficiency and effectiveness of audit under CIS environment is based on several factors. It has both positive and negative aspects. The accomplishment of primary objective of audit is depend on the control of risks or obstacles involved in system.

IT based accounting systems has increased excess application of Computerized Information System which leads to great challenges in front of the auditors. Auditors focus on the demand of IT in bookkeeping systems, the need for IT regulator, and the influence of processors on capability to achieve confirmation amenities. Starring role of Information Systems in Banks has been discussed. The tender of Information System has exaggerated accounting and internal control system of an organization. Unlike manual audit system, computerised audit system has different kind of risks which can be controlled. Such jeopardise can be measured through general or special CIS control.

Mainly CIS approaches are classified into Auditing Around the Computer, Auditing Through the Computer and Auditing With the Computer. Each approach has two faces positive and negative. The application of CIS approaches is decided as per the demand. Auditing through the computer has more reliability and validity then auditing around the computer. The approaches suggested by the expert have their own pros and cons. Each approach has distinct feature and satiability level. As auditing around the computer is similar to manual audit process hence, it is applicable to small scale organization. Auditing through the computer is more advance than auditing around the computer. Due to general and application controlling system it makes the audit process more effective and efficient. Auditing with a computer is actual working with the computer. It consists of different techniques such as CAAT.

IT based apparatus and techniques are required to facilitate an auditor to access, analyse and evaluate a facts saved in the computers. Application of such approach depends on nature of business, knowledge of computer, availability of computer system and interior control system in an organization. Review emphasized on guidance note provided by different accounting associations and policies and procedures followed to provide true and Fairview of financial statements. ICAI recognizes that CAAT's may enhance proficiency and productivity of audit measures. Auditing is a scrutiny of books of account by following a guideline and procedure given by the ICAI. Such guidance is provided in terms of auditing standards. Auditing standards are nothing but auditing principles like Accounting Standards. AAS 29 issued by Institute of Chartered Accountant of India (ICAI). ICAI has introduced several guidelines such as Standard on Auditing.

The audit under Computerised Information System facilitates in a smooth function of audit process. The access to creation data, dreading that audit software may hinder with the dispensation, the indecorous dispensation of transfers, the improper input of file meanings and so on. Capitalizing in drill on the audit software is indispensable and this price should be pain staked while acquiring software. The drill should not be limited to the instructions and tariffs in the software but must comprise factual exercises using one of the submissions in succession in an organization. It would also if the trainer is not firmly an IT person, but has some audit background too. Although the first effort at using audit software is conscientious, there need to be no qualms on the welfares and improvements of sustained placement, so the need is to persist and victory through the early teething troubles with the help from the IS section and the coach.

Researcher has tried to analyze the factor affecting the audit process and impact of CIS on audit process, types of audit approaches under CIS environment and auditing provisions issued by accounting association at national and international level. Awareness about CIS audit system. For this purpose, researcher has collected primary data from the Private and Public Sector Banks in the Mumbai City. Secondary Data was collected from various research journals, websites and books. Collected data was analyzed using various statistical tools and techniques. Results and findings of such analysis are presented in this chapter.

The study comprises of six chapters. In the first chapter of “**Introduction and Research Design**”, the researcher has described the method, in which investigation is carried out, what are the problems and objectives of research, what is the sample size, how the samples are selected, what are the tools that have been used and how the designation of the study justifies the work is explained.

The second chapter of the study is “**Review of Literature**”, this chapter is dedicated to review the literature comprising of earlier studies related to the Audit under Computerised Information System. The study conducted in the field of audit under CIS environment related to several banking as well as non banking sectors and relevant literatures is reviewed to find the gap in the literature and accordingly frames the problems, hypothesis and objectives of the study.

Third chapter of the study is “**Auditing under Computerised Information System Environment: Auditing Approaches**”. This chapter deals with the different approaches of Audit in Computerised Environment, Shifting from Traditional Audit to Computerised Audit and disparity between approaches.

The fourth chapter of the study is “**Auditing and Assurance Standard in CIS Environment**”. This chapter gives the complete information about accounting and auditing provisions at national, international level and standards on auditing under CIS environment.

The fifth chapter of the study is “**Analysis and Interpretation of Data**”. This chapter deals with both sources of data collected by auditor and accountant from private and public banking sector are processed through statistical packages, data is being evaluated to study objectives and to test the hypothesis mentioned with descriptive and inference analysis.

The last chapter is “**Findings, Conclusions and Suggestions**”. It deals with an outcome of the data analysis and interpretation. It gives an idea about the findings of descriptive and inference analysis based on primary and secondary data collection. Researcher has given the suggestions for the same and scope for further research is also stated.

6.2 FINDINGS OF THE STUDY

6.2.1 FINDINGS BASED ON DESCRIPTIVE ANALYSIS

In the earlier chapter researcher has analysed the data collected from primary and secondary sources. Such analysis was conducted for details understanding of the objectives of the study. Evocative examination is fundamentally the study of dispersal of one variable. This study has provided us with respondent’s description in terms of gender, number of working experience, age and zonal area of selected banks. Concept of CIS audit, impact of CIS audit under banking sector, factor affecting audit process under CIS audit, CIS audit approaches and accounting and auditing provision under CIS audit process. Researcher has also presented various tables, graphs and charts for better understanding.

FOLLOWING ARE THE FINDINGS OF THE STUDY BASED ON OBJECTIVES:

- A. The first objective of the study was **to understand the concept of Computerised Information System**. Under this objective researcher focuses to enquire the view of respondents about concept of computerised information system. Here it analyzes the understanding of respondents (Private and Public Sector Banks) regarding CIS. Researcher has taken opinion on five point agreement scales. The codes are as Most important – 5, Very Important -4, Important -3, Somewhat important -2, Least important – 1, and Strongly Agree -5, Agree – 4, Neither Agree Nor Disagree -3, Disagree – 2 and Strongly Disagree -1

Following are the findings

1. Out of total respondents from Private and Public sector bank 51 (30.4%) and 57 (36.3%) respondents believed that people are least important elements and 42 (25%) and 54 (34.4%) respondents believed that people are very important elements under CIS environment. For technology 47 (28%) respondents

believed that it is somewhat important whereas as 36 (22.9%) respondents considered that it is most important respectively. According to 45 (26.8 %) and 46 (29.3%) respondents from both the banks facility is somewhat important and according to 56 (33.3%) and 50 (31.8%) respondents from both the banking sector data and application is most important elements under CIS environment. For process and planning 47 (28.0%) respondents from private sector believed that it is most important elements whereas 46 (29.3%) respondents considered that it is important. The mean value of private sector banks and public sector banks for data and application are 2.57 and 2.67 respectively which is closed to each other. It means availability of data and application is one of the important elements of CIS.

2. Out of total respondents from Private and Public sector bank 82 (48.8 %) and 69 (43.9 %) respondents believed that evaluation of an organization is most important. For management, 86 (51.2 %) and 74 (47.1 %) respondents respectively believed that it is very important. According to 93 (55.4 %) and 94 (59.9 %) respondents from both the banks believed that evaluation of employee under CIS is somewhat important and according to 160 (95.2 %) and 149 (94.9 %) respondents from both the banking sector respectively considered that CIS does not force on other aspect. The mean value of private sector banks and public sector banks for an organization is 1.72 and 1.75 respectively which is closed to each other. It means evaluation of an organization is very much important under CIS.
3. Out of total respondents from Private and Public sector bank 40 (23.8 %) and 50 (31.8 %) respondents believed that confidentiality is least important amenities under CIS. For integrity, 51 (30.4 %) and 57 (36.3 %) respondents respectively believed that it is very important services by CIS. According to 52 (31.0 %) and 43 (27.4 %) respondents from both the banks believed that availability and reliability of data is most important service provided by CIS. Adherence to relevant legal and regulatory requirements is an essential which is supported by 97 and 69 respondents. 61 (36.3 %) and 53 (33.8 %) respondents from both the banking sector respectively considered that CIS does not that ministry of finance. The mean value of private sector banks and public sector banks for integrity and availability and reliability of data is (2.97 and 2.56) and (2.48 and 2.70) respectively which is closed to each other. It means CIS facilitate best service in this regards.
4. Out of total respondents from Private sector bank, 57 (33.9 %) respondents considered that CAATs is tools and techniques and very important whereas 64 (40.8 %) respondents believed that it is most important element under CAATs. For Vouching and Verification, 55 (32.7 %) and 54 (34.4 %) respondents respectively believed that CAATs facilitate for the same. It is very important aspects of CAATs. According to 58 (34.5 %) and 75 (47.8 %) respondents from both the banks believed that Auditing process and Planning is an important features of CAATs. As the view of respondents MIS is somewhat important component of CAATs which is supported by 113 (67.3%) and 113 (72.0%) respondents. The lowest mean value of Private sector banks and Public sector banks is 2.09 and 1.89 respectively for tools and techniques whereas the mean value for MIS is highest i.e. 3.35 and 3.45 respectively. It means tools and techniques is most important than MIS features of CAATs.
5. Out of total respondents from Private and Public sector bank 70 (41.7 %) and 55 (35.0 %) respondents believed that generalized audit software is most important component of CAATs. For audit command language 47 (28.0 %) and 58 (36.9 %) respondents respectively believed that it is least important component of CAATs. According to 45 (26.8 %) and 40 (25.5 %) respondents from both the banks believed that Utility software is very important component of CAATs. Test data is as per the respondents from both the Private and Public sector bank somewhat important which is supported by 31.5% and 33.8%. 58 (34.5 %) and 42 (26.8 %) respondents from both the banking sector respectively considered that Application software tracing and mapping of is least important and important component of CAATs. The lowest mean value of Private sector banks and Public sector banks is 2.49 and 2.59 respectively for generalized audit software. It means application software tracing and mapping is most essential component of CAATs.
6. Out of total respondents from Private and Public sector bank 57 (33.9 %) and 55 (35.0 %) respondents believed that collecting the information is least important in accounting information system under CIS environment. For Process of information 61 (36.3 %) and 61 (38.9 %) respondents respectively believed that it is very important in the accounting information system under CIS environment. According to 49

(29.2 %) and 51 (32.5%) respondents from both the banks believed report of the information is important aspect under CIS. Analysis information is as per a respondent from both the Private and Public sector bank important which is supported by 39.9 % and 43.9 %. 58(34.5 %). The mean value of process the information is 2.38 and 2.34 which is lowest under Private sector banks and Public sector banks. It means process of information is important accounting information system.

7. Out of total respondents from Private and Public sector bank 86 (51.2 %) and 86 (54.8 %) respondents believed that Auditing through the computer is very important in approach under CIS environment. For Auditing around the computer 63 (37.5 %) and 71 (45.2 %) respondents respectively believed that it is less important auditing approach than auditing through the computer. According to 67 (39.9 %) and 54 (34.4 %) respondents from both the banks believed that auditing with the computer is important approach under CIS. All the respondents felt it important than other approaches. The mean value of process the information is 2.38 and 2.34 which is lowest under Private sector banks and Public sector banks. It means process of the information is important accounting information system. The mean value of Auditing around the computer is 2.01 and 2.18 respectively with minute difference. And the mean value of Auditing with the computer is 1.86 under Public Sector Bank which is lowest than Private sector bank.

Most of the respondents from Private and Public sector bank are agreed that audit under CIS environment is an independent examination of financial information of an entity and audit software consists of computer Programmes which is used in accounting system. Most of the respondents are neutral in opinion for tracing the individual transaction through a system. CIS helps process of data generation and application of such information into business operations.

Hence from the above finding, it is revealed that there is difference in opinions of respondents for **concept of Computerised Information System**.

- B. The second objective of the study was **to understand the concept Computerised Information System audit**. Under this objective the researcher focused to enquire the view of respondents about concept of computerised information system- audit. Here to analyze the understanding of respondents (Private and Public sector banks) regarding CIS. Researcher have taken opinion on five point agreement scales. The codes are as Strongly Agree -5, Agree – 4, Neither Agree Nor Disagree -3, Disagree – 2 and Strongly Disagree -1

Following are the findings

1. Out of total respondents from Private and Public sector bank 77 (45.8%) and 57 (36.3 %) respondents gave third rank i.e. neither agree nor disagree that absence of documentary evidence in CIS process affects the validity and reliability of CIS audit. similarly whether CIS generates physical documents for verification and vouching which requires proper evidence for vouching transaction in the Books of Accounts has neutral opinion more than 30% respondents from both the banking sector have neither agree nor disagree. Whereas under Private sector bank 59(35.1%) respondents are given fourth rank i.e. agree and Public sector bank 50 (31.8%) are given third rank i.e neither agree nor disagree that an organizations undertake training and development Programme to overcome the obstacles in CIS implementation. For feeding of data without documentation consider as misleading act in CIS process has as neutral opinion regarding it. The mean values for stated statements are closed to 3, which signify all the respondents somehow believed that it may affect the CIS audit process.
2. Advancement and implementation of new technology, IT training course is an essential requisite for the manpower. A study showed more than 98% banks conduct training and development programme for their employees.
3. It is very important to conduct training and development courses undertaken by an organisation and their maintenance frequency of training. Majority of total respondents from private and public sector banks stated that training on **IT Awareness, System Security & Audit, Networking Recent trends in IT** are undertaken occasionally.

Hence from the above finding it is revealed that there is similarity in opinions of respondents **concept Computerised Information System audit** and it uses. To understand it more cleared training and development programme undertaken by banks as per the requirements.

C. The third objective of the study was **to study the approaches of CIS audit**. Under this objective the researcher focuses to enquire the view of respondents about approaches under computerised information system- audit. Here to analyze the understanding of respondents (Private and Public sector banks) regarding CIS approaches and its utility. Researcher have taken opinion on five point agreement scales. The codes are as Strongly Agree -5, Agree – 4, Neither Agree Nor Disagree -3, Disagree – 2 and Strongly Disagree -1

Following are the findings

1. Out of total respondents from Private and Public sector bank 112 (66.7%) and 80 (51 %) respondents gave third rank i.e. neither agree nor disagree about the awareness of CIS audit approaches.
2. Out of total respondents from Private and Public sector bank almost 117 (69.6.7%) and 118 (70.7 %) respondents agreed with CIS audit approach differs from bank to bank.
3. Out of total respondents most of respondents from Private and Public sector bank 70 (41.7%) and 71 (45.2 %) respondents respectively are neutral in their opinion regarding cost of adoption of CIS audit adds to financial constraints for an organization.
4. Out of total respondents majority of respondents from Private and Public sector bank 70 (41.7%) and 51 (32.5 %) respondents respectively are neutral in their opinion and more than 25% respondents from both the banks agreed that the cost of training and development of accounting staff and auditor affect the applications of CIS audit approach.
5. Out of total respondents majority of respondents from Private and Public sector bank 71 (42.3%) and 74 (47.1 %) respondents respectively are neutral in their opinion whereas 63 (37.5%) and 34 (21.7%) respondents from both the banks have disagree with the application of CIS audit system which is expensive as compare to manual audit process.
6. Out of total respondents majority of respondents from Private and Public sector bank 76 (45.2%) and 46 (29.3%) respondents respectively are neutral in their opinion whereas 38 (22.6%) and 45 (28.7%) respondents from both the banks disagree and agree with IT based accounting software environment creates new requirement which an organisation cannot afford along annual income. There is difference in opinion with reference to the same.
7. Out of total respondents majority of respondents from Private and Public sector bank 83 (49.4 %) and 56 (35.7 %) respondents respectively are neutral in their opinion whereas 40 (23.8%) and 44 (28.0%) respondents from both the banks disagree with Periodical evaluation of security policy increase the maintenance cost. There is difference in opinion with reference to the same.
8. Out of total respondents majority of respondents from Private and Public sector bank 69 (41.1 %) and 55 (35.0 %) respondents respectively are neutral in their opinion whereas 43 (25.6%) and 44 (28.0%) respondents from both the banks agree that designing, implementing, executing and malfunction of system adds cost. There is difference in opinion with reference to the same.
9. The mean values related to the accountant and auditors are well versed with CIS audit approach are 3.02 and 3.19 respectively with low standard deviation value 0.789 and 0.968 of both the banks. Respondents have neutral opinion. Hence we may infer that accountant and auditor may or may not well verse with CIS audit approach.
10. The mean values related to CIS audit approach differs from bank to bank are 3.91 and 3.83 respectively with low standard deviation value 1.077 and 0.962 of both the bank respectively. It means respondents agreed that CIS audit approach differs from bank to bank.
11. The mean values related to cost of adoption of CIS audit adds to financial constraints for an organization are 3.18 and 3.05 respectively with low standard deviation value 0.866 and 0.986 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
12. The mean values related to the cost of training and development of accounting staff and auditor affect the applications of CIS audit approach are 3.05 and 2.83 respectively with low standard deviation value

0.953 and 1.081 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.

13. The mean values related the application of CIS audit system is expensive as compared to manual audit process are 2.67 and 2.83 respectively with low standard deviation value 0.851 and 0.921 of both the bank respectively. It means respondents are neutral in their opinion in respect to above aspect.
14. The mean values related the IT based accounting software environment creates new requirement which an organisation cannot afford along annual income is 2.86 and 2.94 respectively with low standard deviation value 0.943 and 1.082 of both the bank respectively. It means respondents are neutral in their opinion in respect to above aspect
15. The mean values related the periodical evaluation of security policy increase the maintenance cost are 2.87 and 2.85 respectively with low standard deviation value 0.852 and 1.033 of both the bank respectively. It means respondents are neutral in their opinion with respect to above aspect.
16. The mean values related the Designing, implementing, executing and malfunction of system add cost are 2.95 and 3.08 respectively with low standard deviation value 0.965 and 1.116 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
17. Most of the respondents from both the bank recommended that designing own software will be cost effective option for develop Accounting Software which is supported by 40.5% and 51% respectively.

Hence from the above finding, it is revealed that there is similarity in opinions of respondents **about the approaches of CIS** and factor affecting it.

D. The fourth objective of the study was **to show study impact of CIS on audit process**. Under this objective researcher focuses to enquire the view of respondents about impact of CIS on audit process. Here to analyze the understanding of respondents (Private and Public sector banks) regarding the impact of CIS on audit process. Researcher have taken opinion on five point agreement scales. The codes are as Strongly Agree -5, Agree – 4, Neither Agree Nor Disagree -3, Disagree – 2 and Strongly Disagree -1

Following are the findings

1. Out of total respondents from Private and Public sector bank 76 (45.2%) and 76 (48.4 %) respondents gave third rank i.e. neither agree nor disagree about the excess uses of sophisticated audit software reflect greater impact of auditor's attitude and minority of respondents in the favour of disagree or strongly disagree as compare to agree one from the both the banks.
2. Out of total respondents from Private and Public sector bank almost 69 (41.1%) and 72 (45.9%) respondents are agreed with quality of Audit Report infers the type of audit process used.
3. Out of total respondents most of respondents from Private and Public sector bank 76 (45.2%) and 60 (38.2%) respondents respectively are agreed that the level of internal control decides the potential for authorized access in CIS audit.
4. Out of total respondents majority of respondents from Private and Public sector bank 55(32.7%) and 63(40.1 %) respondents respectively are strongly disagree that the consistencies of performance of CIS programmes affect the CIS audit reliability.
5. Out of total respondents majority of respondents from Private and Public sector bank 59 (35.1 %) and 48 (30.6 %) respondents respectively are disagree and 52 (31.0) and 57 (36.3%) respondents respectively have neutral in their opinion with the vulnerability of CIS system requires extensive internal control.
6. Out of total respondents majority of respondents from Private and Public sector bank 64 (38.1%) and 47 (29.9%) respondents respectively have neutral in their opinion whereas 42(25%) and 41(26.1%) respondents from both the banks are disagree with The true and fair view on financial statement is more accurate in CIS audit than manual audit process.

7. Out of total respondents majority of respondents from Private and Public sector bank 73 (43.5 %) and 68 (43.3 %) respondents respectively have neutral in their opinion whereas 44 (26.2%) and 30 (19.1%) respondents from both the banks are disagree with a function of CIS audit is possible to segregate as in manual audit process.
8. Out of total respondents majority of respondents from Private and Public sector bank 65 (38.7 %) and 65 (41.4 %) respondents respectively have neutral in their opinion whereas 48 (28.6%) and 42 (26.8 %) respondents from both the banks are disagree that the audit trail followed in CIS audit process is more complex than manual audit trail.
9. Out of total respondents majority of respondents from Private and Public sector bank 72 (42.9 %) and 52 (33.1 %) respondents respectively have neutral in their opinion whereas 68 (40.5%) and 73 (46.5 %) respondents from both the banks are disagree that the manual audit process in banking sector is ineffective.
10. Out of total respondents majority of respondents from Private and Public sector bank 56 (33.3 %) and 60 (38.2 %) respondents respectively are neutral in their opinion whereas 44 (26.2%) and 37 (23.6 %) respondents from both the banks are agreed that the CIS process is easy and accurate as compared to manual audit process
11. Out of total respondents majority of respondents from Private and Public sector bank 62 (36.9 %) and 53 (33.8 %) respondents respectively are agreed in their opinion that Record maintenance becomes an easy task with CIS
12. Out of total respondents majority of respondents from Private and Public sector bank 65 (38.7 %) and 48 (30.6 %) respondents respectively have neutral in their opinion whereas 49 (29.2 %) and 45 (28.7 %) respondents from both the banks are agree that a records can be maintained with an adoption of CIS.
13. The mean values related to excess uses of sophisticated audit software reflect greater impact of auditor's attitude are 2.54 and 2.45 respectively with low standard deviation value 0.895 and 0.944 of both the bank respectively. It respondents from both these banks are neutral in their opinion in respect to above aspect.
14. The mean values related to quality of Audit Report infer the type of audit process used is 3.17 and 3.25 respectively with low standard deviation value 0.973 and 0.991 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
15. The mean values for level of internal control decides the potential for authorised access in CIS audit are 3.35 and 3.15 respectively with low standard deviation value 1.010 and 1.073 of both the bank respectively. It means respondents have agreed in their opinion in respect to above aspect.
16. The mean values related the consistencies of performance of CIS programmes affect the CIS audit reliability are 2.55 and 2.34 respectively with low standard deviation value 1.33 and 1.319 of both the bank respectively. It means respondents have disagreed in their opinion in respect to above aspect.
17. The mean value related to vulnerability of CIS system requires extensive internal controls are 2.92 and 2.96 respectively with low standard deviation value 1.124 and 1.031 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
18. The mean values for the true and fair view on financial statement is more accurate in CIS audit than manual audit process are 2.55 and 2.67 respectively with low standard deviation value 1.031 and 1.134 of both the bank respectively. It means respondents have neutral in their opinion with respect to above aspect.
19. The mean values related to the function of CIS audit is possible to segregate as in manual audit process is 2.65 and 2.75 respectively with low standard deviation value 0.966 and 1.049 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
20. The mean values related the audit trail followed in CIS audit process is more complex than manual audit trail is 2.75 and 2.83 respectively with low standard deviation value 1.019 and 1.031 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.

21. The mean values related the manual audit process in banking sector is ineffective is 2.60 and 2.59 respectively with low standard deviation value .986 and 1.038 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
22. The mean values related the CIS process is easy and accurate as compared to manual audit process is 2.93 and 2.96 respectively with low standard deviation value 1.047 and 1.067 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
23. The mean values related the record maintenance becomes an easy task with CIS is 3.21 and 3.22 respectively with low standard deviation value 1.027 and 1.094 of both the bank respectively. It means respondents have difference in their opinion in respect to above aspect.
24. The mean values related the records can be maintained with the adoption of CIS is 3.07 and 3.06 respectively with low standard deviation value 1.081 and 1.202 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
25. More than 94% respondents from both the banks infer that there is significant impact of CIS on audit process.

Hence from the above finding it is exposed that there is differences in opinions of respondent on the impact of CIS on audit process and to the great extend **it affect the audit process.**

E. The fifth objective of the study was to find the impact of CIS environment on True and Fair view of financial statement. Under this objective researcher focuses to enquire the view of respondents about impact of CIS on True and Faire view of Financial Statement. Here to analyse the view of respondents (Private and Public sector banks) regarding impact of CIS on True and Fair view of Financial Statement. Researcher have taken opinion on five point agreement scales. The codes are as Strongly Agree -5, Agree – 4, Neither Agree Nor Disagree -3, Disagree – 2 and Strongly Disagree -1

Following are the findings

1. Out of total respondents most of the respondents from Private and Public sector bank i.e. 72 (42.9 %) and 66 (42 %) respondents gave third rank i.e. neither agree nor disagree about System Software control provides reasonable assurance regarding system software development authorization and efficiency and majority of respondents i.e. 67 (39.9%) and 53 (33.8%) are agreed for the same.
2. Out of total respondents from Private and Public sector bank almost 67 (39.9%) and 65 (41.4%) respondents are agreed with Failure of software system disturbs integrated business operation and ultimately affects True and Fair view.
3. Out of total respondents most of respondents from Private and Public sector bank 56 (33.3%) and 55 (35.0%) respondents respectively are neither agree nor disagree that Man –Machine interface ensures maximum effectiveness of the information system. On the other hand under private sector bank next to neutral opinion majority of them are disagree whereas under public sector bank respondents are agree in their opinion for the statements.
4. Out of total respondents majority of respondents from Private and Public sector bank 57(33.9%) and 42(26.8 %) respondents respectively have neutral opinion whereas more than 28% respondents are agreed that audit helps in quick preparation and accuracy of Annual Audit Report.
5. Out of total respondents majority of respondents from Private and Public sector bank 50(29.8%) and 42(26.8 %) respondents respectively have neutral opinion whereas more than 29% respondents are agreed with the test data process plays an important role to provide true and fair view.
6. Out of total respondents majority of respondents from Private and Public sector bank 47 (28%) and 54 (34.4%) respondents respectively are neutral in their opinion whereas 65(38.7%) and 71(45.2%) respondents from both the banks are agree and strongly agree with control risk in CIS audit process affects the true and fair view of an organization.
7. Out of total respondents majority of respondents from Private and Public sector bank 71 (42.2 %) and 60 (38.2%) respondents respectively are agree and strongly agree. with dependence of other controls over computer processing affects the status of True and Fair view.

8. Out of total respondents majority of respondents from Private and Public sector bank 80 (58.1 %) and 61 (43.1%) respondents respectively are agree and strongly agree with the potential of human error in the development, maintenance and execution of CIS affects the status of True and Fair view.
9. Out of total respondents majority of respondents from Private and Public sector bank 56 (33.3 %) and 58 (36.9 %) respondents respectively are neutral in their opinion whereas 77 (55.13 %) and 57 (36.1 %) respondents from both the banks are agree and strongly agree that acquisition of application system from third party affects true and fair view.
10. The mean values related to system Software control provides reasonable assurance regarding system software development authorization and efficiency are 3.23 and 3.16 respectively with low standard deviation value 0.900 and 0.990 of both the bank respectively. It respondents from both these banks are neutral in their opinion with respect to above aspect.
11. The mean values related to failure of software system disturbs integrated business operation and ultimately affects True and Fair view are 3.45 and 3.43 respectively with low standard deviation value 1.071 and 1.070 of both the bank respectively. It means respondents are agree in their opinion with respect to above aspect.
12. The mean values related to Man –Machine interface ensures maximum effectiveness of the information system is 3.20 and 3.15 respectively with low standard deviation value 1.080 and 1.063 of both the bank respectively. It means respondents have neutral in their opinion with respect to above aspect.
13. The mean values related to CIS audit helps in quick preparation and accuracy of Annual Audit Report are 3.32 and 3.10 respectively with low standard deviation value 1.101 and 1.215 of both the bank respectively. It means respondents are agreed in their opinion with respect to above aspect.
14. The mean values related to the test data process plays an important role to provide true and fair view are 3.24 and 3.00 respectively with low standard deviation value 1.154 and 1.204 of both the bank respectively. It means respondents have neutral in their opinion with respect to above aspect.
15. The mean values related the control risk in CIS audit process affects the true and fair view of the organization are 3.06 and 3.32 respectively with low standard deviation value 1.162 and 1.110 of both the bank respectively. It means respondents have neutral in their opinion with respect to above aspect.
16. The mean values related the dependence of other controls over computer processing affects the status of True and Fair view is 3.19 and 3.05 respectively with low standard deviation value 1.094 and 1.260 of both the bank respectively. It means respondents have neutral in their opinion with respect to above aspect.
17. The mean values related potential of human error in the development, maintenance and execution of CIS affects the status of True and Fair view is 3.38 and 3.17 respectively with low standard deviation value 0.995 and 1.120 of both the bank respectively. It means respondents have difference in their opinion in respect to above aspect.
18. The mean values related acquisition of application system from third party affects True and Fair view is 3.31 and 3.06 respectively with low standard deviation value 1.089 and 1.183 of both the bank respectively. It means respondents have agreed in their opinion with respect to above aspect.
19. Out of total respondent from both the banks 74.4% and 67.5% respondents respectively are agreed that Security Controls on True and Fair view of financial statements affect physical access.
20. Out of total respondent from both the banks 58.3 % and 60.5 % respondents respectively are agreed that Security Controls on True and Fair view of financial statements affect the data and software access.
21. Out of total respondent from both the banks 70.8% and 75.2% respondents respectively are agreed that Security Controls on True and Fair view of financial statements affect the network access.

Hence from the above finding it is revealed that there is several aspect of CIS environment which affect the True and Fair view of financial statement.

F. The sixth objective of a study is to find out the factor responsible for audit under CIS environment. Under this objective researcher focuses to enquire the view of respondents about factor responsible for audit under CIS environment. Here to analyze the view of respondents (Private and Public sector banks) regarding the factor affecting audit under CIS Environment. Researcher have taken opinion on five point agreement scales. The codes are as Strongly Agree -5, Agree – 4, Neither Agree Nor Disagree -3, Disagree – 2 and Strongly Disagree -1

Following are the findings

1. Out of total respondents most of the respondents from Private and Public sector bank i.e. 90 (53.6 %) and 76 (48.4 %) respondents gave third rank i.e. neither agree nor disagree about the centralization process does not lead to accuracy and majority of respondents i.e. 41(24.4%) and 31 (19.7%) are agree for the same.
2. Out of total respondents from Private and Public sector bank almost 73 (43.5%) and 68 (43.3%) respondents are agreed with the transference of data through a middle level management leads to Non transparency affect the audit process.
3. Out of total respondents most of respondents from Private and Public sector bank 67 (39.9%) and 61 (35 %) respondents respectively are neither agree nor disagree that an accuracy of data depends upon the decentralization process On the other hand under private sector bank next to neutral opinion majority of them are disagree whereas under public sector bank respondents are agree in their opinion for the statements.
4. Out of total respondents majority of respondents from Private and Public sector bank 75(44.6%) and 59(37.6%) respondents respectively have neutral opinion whereas more than 24% respondents are agreed that a top level management should be in direct contact with the low level management to maintain accuracy and transparency.
5. Out of total respondents majority of respondents from Private and Public sector bank 62(36.9%) and 71(45.2 %) respondents respectively have neutral opinion whereas more than 20% respondents are agreed with centralization process leads to no proper distribution of work which in turn creates differences between the employees in an organization
6. The mean values related to the centralization process does not lead to accuracy are 2.99 and 2.82 respectively with low standard deviation value 0.889 and 0.992 of both the bank respectively. It respondents from both these banks are neutral in their opinion with respect to above aspect.
7. The mean values related to the transference of data through a middle level management leads to Non transparency factor are 3.36 and 3.41 respectively with low standard deviation value 0.956 and 0.940 of both the bank respectively. It means respondents are agreed in their opinion with respect to above aspect.
8. The mean values related to the accuracy of data depends upon a decentralization process is 3.15 and 2.88 respectively with low standard deviation value 1.015 and 0.963 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
9. The mean values related to the top level management should be in direct contact with the low level management to maintain accuracy and transparency are 3.06 and 2.84 respectively with low standard deviation value 0.946 and 1.077 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
10. The mean values related to a centralization process leads to no proper distribution of work which in turn creates differences between the employees in an organization are 2.98 and 2.83 respectively with low standard deviation value 1.032 and 0.993 of both the bank respectively. It means respondents have neutral in their opinion with respect to above aspect.

Hence from the above finding it is revealed that there is several factor affect the audit under CIS environment.

G. The seventh objective of the study is to study ICAI provisions on CIS- audit. Under this objective researcher focuses to enquire the view of respondents about ICAI provision on CIS- audit. Here to analyze the view of respondents (Private and Public sector banks) regarding the ICAI provision on CIS- audit. Researcher have taken opinion on five point agreement scales. The codes are as Strongly Agree -5, Agree – 4, Neither Agree Nor Disagree -3, Disagree – 2 and Strongly Disagree -1

Following are the findings

1. Out of total respondents most of the respondents from Private and Public sector bank i.e. 73 (43.5 %) and 71 (45.2 %) respondents gave third rank i.e. neither agree nor disagree about the mindset of the people has to be changed in order to make the work more easy and to maintain accuracy and majority of respondents i.e. 60 (35.7%) and 58 (36.9 %) are agree for the same.
2. Out of total respondents from Private and Public sector bank almost 67 (39.9%) and 63 (40.1%) respondents are agreed with the working environment of an organization gets disturbed due to non acceptance of CIS.
3. Out of total respondents most of respondents from Private and Public sector bank 78 (46.4%) and 55 (35 %) respondents respectively are neither agree nor disagree that It is very difficult for a senior employees working in the banking sector to accept a sudden change with introduction of electronic system. On the other hand next to neutral opinion majority of them are agreed with the statement.
4. Out of total respondents majority of respondents from Private and Public sector bank 64(38.1%) and 54(34.4%) respondents respectively have agreed opinion whereas more than 30% respondents are have neutral opinion that on the job training can change the behaviour or attitude of a person towards the use of CIS process.
5. Out of total respondents majority of respondents from Private and Public sector bank 69(41.1%) and 65(41.4%) respondents respectively have agreed that the working environment becomes very much unhealthy due to non acceptance of the CIS process.
6. Out of total respondents majority of respondents from Private and Public sector bank 71(42.3%) and 59(37.6%) respondents respectively have neither agreed nor disagreed opinion whereas more than 24% respondents are agreed that the differences that are created due to non acceptance of CIS process affect the productivity level of an organization.
7. Out of total respondents majority of respondents from Private and Public sector bank 62(36.9 %) and 72 (45.9 %) respondents respectively have neutral opinion that an organization cannot achieve success and profit if the internal resources are not satisfied and have certain differences between them.
8. The mean value related to the mindset of a people has to be changed in order to make the work easier and to maintain accuracy are 3.13 and 3.31 respectively with low standard deviation value 0.917 and 0.896 of both the bank respectively. It respondents from both these banks have neutral in their opinion in respect to above aspect.
9. The mean values related to the working environment of an organization gets disturbed due to non acceptance of CIS are 3.43 and 3.48 respectively with low standard deviation value 0.988 and 1.048 of both the bank respectively. It means respondents are agreed in their opinion in respect to above aspect.
10. The mean values related to it is very difficult for a senior employees working in the banking sector to accept a sudden change by the introduction of electronic system is 3.28 and 3.21 respectively with low standard deviation value 1.009 and 1.062 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
11. The mean values related to the on the job training can change the behaviour or attitude of a person towards the use of CIS process are 3.37 and 3.19 respectively with low standard deviation value 0.958 and 1.075 of both the bank respectively. It means respondents are agreed in their opinion in respect to above aspect.

12. The mean value related to the working environment becomes very much unhealthy due to non acceptance of the CIS process are 3.49 and 3.24 respectively with low standard deviation value 1.174 and 1.232 of both the bank respectively. It means respondents are agreed in their opinion in respect to above aspect.
13. The mean values related to differences that are created due to non acceptance of CIS process affect the productivity level of an organization are 3.04 and 2.83 respectively with low standard deviation value 1.005 and 1.137 of both the bank respectively. It means respondents are neutral in their opinion in respect to above aspect.
14. The mean values related to an organization cannot achieve success and profit if the internal resources are not satisfied and have certain differences between them on are 3.00 and 3.04 respectively with low standard deviation value 1.028 and 1.021 of both the bank respectively. It means respondents have neutral in their opinion in respect to above aspect.
15. Out of total respondents from Private and Public sector bank 64.9% and 59.9% respondents are aware with auditing and assurance standard implemented by ICAI.
16. Out of total respondents from Private and Public sector bank 74.4 % and 76.4 % respondents are agreed that there standard procedure laid down by ICAI to bring about customization in the software.
17. Out of total respondents from Private and Public sector bank 81.5 % and 84.7 % respondents are aware about the standard provision on Guidelines for governing CIS audit.
18. For CIS Documentation 62.5% and 52.2% respectively respondents from both banks are agreed,
19. 72.6% and 79.0% respondents from both these banks respectively are stated that there is standard on CIS Audit evidence.
20. 67.9% and 56.7% respondents from both these banks respectively are stated that there is standard on Risk assessment and internal control in CIS audit.

Hence from the above finding it is revealed that there are accounting and auditing standard laid down by ICAI on CIS- audit.

6.2.2 FINDINGS BASED ON INFERENTIAL ANALYSIS

Inferential analysis is used to generalize the results obtained from a random (probability) sample back to the population from which a sample was drawn. Inferential statistics are frequently used to answer cause and effect questions and make predications. In the present study researcher used this analysis for hypothesis using. The hypothesis of present study is as follows.

A. The first null hypothesis was **“CIS audit is not significantly affected by the documentation and training in the banking sector”**. To test the stated null hypothesis we use parametric one sample ‘t’ test for testing significance of these variables with hypothesized mean value 3. Because p-value of both the types of banks are greater than 0.05.

a. Significance of variables Private CIS audit and Public CIS audit with hypothesized mean value 3.

Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private CIS audit is normal with mean 3.115 and S.D. 0.57	One sample kolmogorov-smimov test	0.143	Retain null hypothesis
Public CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ;	The distribution of Public CIS audit is normal with mean	One sample kolmogorov-smimov test	0.187	Retain null hypothesis

	4: Agree; 5: Strongly Agree	3.199 and S.D. 0.61			
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- b. ‘p’ values for variables Private CIS audit and Public CIS audit are 0.143 and 0.187 respectively. Both these values are greater than Critical p value 0.05. Hence we retain null hypothesis and data is normally distributed.

Descriptive statistics for variables Private CIS audit and Public CIS audit

	N	Mean	Std. Deviation	Std. Error Mean
Private CIS audit	168	3.1155	0.57053	0.04402
Public CIS audit	157	3.1987	0.61164	0.04881

- c. From the above table it is observed that, Mean score values for variables **Private CIS audit and Public CIS audit** are 3.1155 and 3.1987. These values are greater than hypothesized value 3. This indicates that respondents are agree with fact that CIS audit is significantly affected by the documentation and training in the banking sector.

One sample ‘t’ test of mean vs hypothesized score 3 for variables Private CIS audit and Public CIS audit regarding effect of documentation and training in the banking sector by CIS audit

Variable	Test Value = 3		
	T	Degree of freedom (df)	Sig. (2-tailed) p value
Private CIS audit	2.623	167	0.010
Public CIS audit	4.071	156	0.000

- d. From the above table it is observed that ‘p’ values for variables **Private CIS audit and Public CIS** are 0.010 and 0.000 (both < 0.05). Hence null hypothesis that there is no significant difference between calculated means value and hypothesizes mean value 3 is rejected in each of these cases (at 5% level of significance).
- e. Mean score values for variables **Private CIS audit and Public CIS** are greater than 3. This indicates that both types of respondents are agreed with the fact that CIS audit is significantly affected by the documentation and training in the banking sector.
- B. The second null hypothesis was “**Application of CIS Audit is not significantly affected by the financial constraints in the banking sector**”. We use non-parametric Wilcoxon Signed test for testing significance of these variables with hypothesized mean value 3.
- a. Significance of variables Private Application CIS audit and Public Application CIS audit with hypothesized median value 3.

Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private Application CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private Application CIS audit is normal with mean 3.115 and S.D. 0.57	One sample kolmogorov-smimov test	0.007	Reject null hypothesis
Public Application CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public Application CIS audit is normal with mean 3.199 and S.D. 0.61	One sample kolmogorov-smimov test	0.002	Reject null hypothesis

- b. ‘p’ values for variables Private Application CIS audit and Public Application CIS audit are 0.007 and 0.002 respectively. Both these values are less than critical p value 0.05. Hence we reject null hypothesis and data is not normally distributed.

Descriptive statistics for variables Private Application CIS audit and Public Application CIS audit

	Private Application CIS audit	Public Application CIS audit
N	168	157
Median	3.00	3.00

- c. It is clear that median score values for both variables are equal to 3. This indicates that respondents are neither agree nor disagree with fact that Application of CIS Audit is significantly affected by the financial constraints in the banking sector.

Hypothesis test summary of one sample non parametric Wilcoxon Signed test

Null hypothesis	P value	Decision
The median of Private Application CIS audit equals to 3.00	0.156	Retain null hypothesis
The median of Public Application CIS audit equals to 3.00	0.275	Retain null hypothesis

- d. From the above table it is observed that for the variables Private Application CIS audit and Public Application CIS audit, p values are 0.156 and 0.275 respectively. These values are greater than 0.05. Therefore we retain null hypothesis for these variables.
- e. The mean score values for variables Private Application CIS audit and Public Application CIS audit are both equals to 3. This indicates that both types of respondents are not agreed with the fact that Application of CIS Audit is significantly affected by the financial constraints in the banking sector.
- C. The third null hypothesis was “**The internal controls in a CIS system do not significantly depend on the same principles as those in the case of manual system**”. We use non-parametric Wilcoxon Signed test for testing significance of these variables with hypothesized mean value 3
- a. The significance of variables Private internal controls CIS and Public internal controls CIS with hypothesized median value 3.

Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private internal controls CIS	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private internal controls CIS is normal with mean 2.852 and S.D. 0.50	One sample kolmogorov-smimov test	0.004	Reject null hypothesis
Public internal controls CIS	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public Private internal controls CIS is normal with mean 2.855 and S.D. 0.47	One sample kolmogorov-smimov test	0.017	Reject null hypothesis

- b. ‘p’ values for variables Private internal controls CIS and Public internal controls CIS are 0.004 and 0.017 respectively. Both these values are less than critical p value 0.05. Hence we reject null hypothesis and data is not normally distributed

Descriptive statistics for variables Private internal controls CIS and Public internal controls CIS

	Private internal controls CIS	Public internal controls CIS
N	168	157
Median	2.75	2.75

c. It is clear that median score values for both variables are less than 3. This indicates that respondents disagree with fact that the internal controls in a CIS system significantly depend on the same principles as those in the case of manual system.

Hypothesis test summery of one sample non parametric Wilcoxon Signed test:

Null hypothesis	P value	Decision
The median of Private internal controls CIS equals to 3.00	0.000	Reject null hypothesis
The median of Public internal controls CIS equals to 3.00	0.000	Reject null hypothesis

d. From the above table it is observed that for the variables **Private internal controls CIS** and **Public internal controls CIS**, p values are 0.000 and 0.000 respectively. These values are less than 0.01. Therefore we reject null hypothesis for these variables.

e. The Mean score values for variables **Private internal controls CIS** and **Public internal controls CIS** are both less 3. This indicates that both types of respondents are disagree with the fact that the internal controls in a CIS system significantly depend on the same principles as those in the case of manual system.

D. The fourth null hypothesis was **“Poor working knowledge of EDP implementation do not significantly affect the status of true and fair view** We use non-parametric Wilcoxon Signed test for testing significance of these variables with hypothesized mean value 3

a. Significance of variables Private EDP implementation and Public EDP implementation with hypothesized median value 3.

Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private EDP implementation	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private EDP implementation is normal with mean 3.263 and S.D. 0.64	One sample kolmogorov-smimov test	0.000	Reject null hypothesis
Public EDP implementation	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public EDP implementation is normal with mean 2.855 and S.D. 0.47	One sample kolmogorov-smimov test	0.001	Reject null hypothesis

b. ‘p’ values for variables Private EDP implementation and Public EDP implementation are 0.000 and 0.001 respectively. Both these values are less than critical p value 0.05. Hence we reject null hypothesis and data is not normally distributed..

Descriptive statistics for variables Private EDP implementation and Public EDP implementation

	Private EDP implementation	Public EDP implementation
N	168	157
Median	3.111	3.00

- c. It is clear that median score value for first is greater than 3 but second variable is equal to 3. This indicates that respondents of private sector bank agree while public sectors banks are neither agree nor disagree with fact that Poor working knowledge of EDP implementation significantly affect the status of true and fair view.

Hypothesis test summary of one sample non parametric Wilcoxon Signed test:

Null hypothesis	P value	Decision
The median of Private EDP implementation equals to 3.00	0.000	Reject null hypothesis
The median of Public EDP implementation equals to 3.00	0.029	Reject null hypothesis

- d. From the above table it is observed that for the variables **Private EDP implementation** and **Public EDP implementation**, p values are 0.000 and 0.029 respectively. These values are less than 0.05. Therefore we reject null hypothesis for these variables.
- e. Mean score values for variables **Private EDP implementation** and **Public EDP implementation** are both more than 3. This indicates that both types of respondents are agree with the fact that Poor working knowledge of EDP implementation significantly affect the status of true and fair view.
- E. The fifth null hypothesis was “**Centralization of accounting functions does not lead to issues in banking sector**”. We use non-parametric Wilcoxon Signed test for testing significance of these variables with hypothesized mean value 3
- a. Significance of variables Private Centralization and Public Centralization with hypothesized mean value 3

Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private Centralization	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private Centralization is normal with mean 3.085 and S.D. 0.60	One sample kolmogorov-smimov test	0.230	Retain null hypothesis
Public Centralization	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public_ Centralization is normal with mean 3.260 and S.D. 0.48	One sample kolmogorov-smimov test	0.173	Retain null hypothesis

- b. “p” values for variables Private_ Centralization and Public_ Centralization are 0.230 and 0.173 respectively. Both these values are greater than Critical p value 0.05. Hence we retain null hypothesis and data is normally distributed.

Descriptive statistics for variables Private Centralization and Public Centralization

	N	Mean	Std. Deviation	Std. Error Mean
Private Centralization	168	3.0853	.60134	.04639
Public Centralization	157	2.9352	.56603	.04517

- c. From the above table it is observed that mean score values for variables **Private_ Centralization** and **Public_ Centralization** are 3.0853 and 2.9352. First value is greater than hypothesized value 3 whereas second is less than 3 but both are close to 3. This indicates that respondents have neither agree nor disagree with fact that Centralization of accounting functions leads to issues in banking sector.

One sample ‘t’ test of mean vs hypothesized score 3 for variables Private Centralization and Public Centralization regarding Centralization of accounting functions leads to issues in banking sector

Variable	Test Value = 3		
	T	Degree of freedom (df)	Sig. (2-tailed) p value
Private Centralization	1.839	167	0.068
Public Centralization	-1.433	156	0.154

- d. From the above table it is observed that ‘p’ values for variables **Private Centralization and Public Centralization** are 0.068 and 0.154 (both > 0.05). Hence null hypothesis that there is no significant differences between calculated mean value and hypothesized mean value 3 is **retained** in each of these cases (at 5% level of significance).
- e. Mean score values for variables **Private Centralization and Public Centralization** are equal to 3. This indicates that both types of respondents are neither agreed nor disagreed with the fact that Centralization of accounting functions leads to issues in banking sector. It means Centralization of accounting functions does not lead to issues in banking sector.
- F. The sixth null hypothesis was “**The efficiency of CIS audit is not significantly dependent on the mindset of the people working in the banking sector**”. We use parametric one sample ‘t’ test for testing significance of these variables with hypothesized mean value 3
- a. Significance of variables Private efficiency CIS audit and Public efficiency CIS_ audit with hypothesized mean value 3.

Details of Scores, variables and Normality test

Variable	Five point Rating scale with code	Null for Normality test	Normality test	P value	Result of normality test
Private efficiency CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Private efficiency CIS audit is normal with mean 3.260 and S.D. 0.48	One sample kolmogorov-smimov test	0.080	Retain null hypothesis
Public efficiency CIS audit	1: Strongly Disagree; 2: Disagree 3: Neutral ; 4: Agree; 5: Strongly Agree	The distribution of Public efficiency_CIS audit is normal with mean 3.187 and S.D. 0.51	One sample kolmogorov-smimov test	0.251	Retain null hypothesis

- b. ‘p’ values for variables Private_ efficiency CIS audit and Public efficiency CIS audit are 0.080 and 0.251 respectively. Both these values are greater than Critical p value 0.05. Hence we retain null hypothesis and data is normally distributed.

Descriptive statistics for variables Private efficiency CIS audit and Public efficiency CIS_ audit

	N	Mean	Std. Deviation	Std. Error Mean
Private efficiency CIS audit	168	3.2602	.48042	.03706
Public efficiency CIS audit	157	3.1874	.51250	.04090

- c. From the above table it is observed that, Mean score values for variables **Private CIS audit and Public CIS audit** are 3.2602 and 3.1874. This value is greater than hypothesized value 3. This indicates that respondents have agreed with fact that the efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector.

One sample ‘t’ test of mean vs hypothesized score 3 for variables Private efficiency CIS audit and Public efficiency CIS_ audit regarding efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector

Variable	Test Value = 3		
	T	Degree of freedom (df)	Sig. (2-tailed) p value
Private CIS audit	7.020	167	0.000
Public CIS audit	4.583	156	0.000

- d. From the above table it is observed that 'p' values for variables **Private efficiency CIS audit and Public efficiency CIS audit** are 0.000 and 0.000 (both < 0.01). Hence null hypothesis that there is no significant difference between calculated means value and hypothesized mean value 3 is rejected in each of these cases (at 1% level of significance).
- e. Mean score values for variables **Private efficiency CIS audit and Public efficiency CIS audit** are greater than 3. This indicates that both types of respondents are agreed with the fact that the efficiency of CIS audit is significantly dependent on the mindset of the people working in the banking sector.

6.3 CONCLUSIONS OF THE STUDY

The first part of study is mainly focused on verifying objective of the study. Based on the above finding following are the conclusions based on descriptive analysis.

6.3.1 CONCLUSIONS BASED ON DESCRIPTIVE ANALYSIS

- As there is difference in opinions of respondents for **concept of Computerised Information System** from Private as well as Public Sector Banks. It means every respondent have different view regarding Computer Information System on several aspect of CIS. During the study it was observed that there was age gap and difference in sector of banks which may affect the evaluation of respondents. Even the view of **accountant and auditor may differ as the nature of work, qualification and objective.**
- As audit under CIS environment is one of the tools and techniques used in the auditing process. It is application software system used in an organization. There is similarity in opinion of respondents **for the concept Computerised Information System audit.** Utmost of the defendants are unbiased in their opinions for many of the aspect of CIS. It means respondents are not sure for the elements or procedure of CIS audit process. The application of audit under CIS environment, training and development programme has been organised by banks on several areas such as **IT Awareness, System Security & Audit, Networking, and Recent trends in IT** occasionally.
- Computerised Information System can be used in different way under auditing process. Mainly auditing around the computer, auditing through the computer and auditing with the computer are available. As audit under CIS environment can take place with the selected software or approaches used by the banks. Plaintiffs are cognizant of such approaches and the factor which can disturb the receipt of particular approach under CIS environment. During the study it was observed that **some of the Banks used their own developed software system to maintain confidence and security.**
- The application of any kind of **system software has greater impact on audit process.** It has positive as well as negative impact. The study concludes that the accomplishment of audit with effectively and efficiently based on software system applied. The respondents from both the banks have difference in their opinions on attitude of users, internal control system, quality of audit report, completion of audit, accessibility, documentation, authenticity, audit trails, security of system, involvement of manual system. CIS environment significantly affects the audit process.
- The primary objective of the auditing is the details examination of financial statement on entity and gives the opinion on it whether the pecuniary proclamation is providing True and Fair view or not. The primary objective can be achieved only when the financial statements without error and fraud. True and Fair view of financial statement may affect due to error and fraud prevailing in the books of accountant. The study revealed that **there are various reason such as control on software system, failure of software system, interface of man and machine, dependence of other controls, acquisition of software system from third parties, skill and competence of man power, test data, etc. affecting the authenticity of financial statement.**

6. Unlike manual audit process, CIS audit process is different application. Under CIS environment audit is based on computerised system. It means the data saved in the computer can easily alter or modified without any permission which is difficult to locate. Along with that there are various systems through which the records can be changed or modified and coding can be detected very easily. There are various factors which influence **the audit process such as centralization of work, transference of data from one level to another, centralisation of duties and responsibility in one hand leads to controversy among the employees etc.**
7. Auditing is based on certain standard provisions laid by financial institution. The main aim of auditing standard is to make maintain uniformity in the auditing. Hence certain guideline is very essential. The study reflects that there are numerous auditing provisions formed by the ICAI. The respondents from both the banks have different in their opinion on it. There are various reasons for non acceptance of CIS such as working environment, sudden change in working style, facilitate of on the job training, due the non-acceptance of CIS the productive also may affect.

6.3.2 CONCLUSIONS BASED ON INFERENTIAL ANALYSIS

The second share of study is mainly absorbed on testing of hypothesis of the study. Based on the overhead finding following are the conclusions based on inferential analysis

1. CIS audit is significantly affected by the documentation and training in the banking sector.
2. Application of CIS Audit is significantly affected by the financial constraints in the banking sector.
3. The internal controls in a CIS system significantly depend on the same principles as those in the circumstance of manual system.
4. Poor working knowledge of EDP implementation significantly affect the status of true and fair view.
5. Centralization of accounting functions does not top to issues in banking sectors.
6. The efficiency of CIS audit is significantly dependents on the mind-set of the people working in the banking sector.

6.4 SUGGESTIONS OF THE STUDY

6.4.1 SUGGESTIONS TO THE PRIVATE SECTOR BANK AND PUBLIC SECTOR BANK

Following are the suggestions of researcher based on a study and analysis of data through the descriptive and inferential analysis.

1. Training and development programme should be organised frequently as per the obligation of bank.
2. The accounting and auditing staff should be aware of a system followed by banks.
3. Amendment and addition in the accounting and auditing standard shall be informed to staff and it shall be enforced.
4. Supplement to CIS audit process, manual audit process should not be ignored.
5. Amenities of documentary evidence shall consider.
6. Banks shall select cost effective software system for audit process.
7. Security coding system should not disclose.
8. Security risk must be analysed and measured.
9. The Effective User & Password Management can give reasonable assurance that authorised Persons access the system.
10. Approval and authorization for transactions shall be considered.
11. Appropriate allocation of duty and responsibility can reduced a person's prospect to obligate frauds or errors.
12. Centralisation of accessibility should be there and must not disconsolate by any other staff.

13. Centralisation of accessibility should be acceptable only when there is no disconsolate by any other staff.
14. Innovation and invention of system shall be regularly monitor and updated.
15. Banks shall develop their own software system rather than depending on others.
16. Software system should be cost effective.
17. Out dated techniques should be not used.
18. The gap between age and experience should be mandatory filled up with on job and off job training and development program.
19. Theoretically, the approaches under CIS environment auditing is possible whereas practically it is complicated to identify and apply.
20. Tracing tools and techniques should be design to make sure that transactions and events are recorded.
21. Electronic audit evidences must be kept adequately and safely, so that it can be retrieved as per requirements.
22. The step-by-step system process shall be sufficiently documented to provide adequate audit evidence
23. Create separate post for System Administrator and should not be involved on the regular business operations
24. Banks shall form Information Systems Audit and Security cell to prepare Information Systems Audit Policy for banks
25. During the authentication and challenging phase of implementations of software system, an auditor could also deliver appreciated contribution about arranging the systems.

6.4.2 SUGGESTIONS TO THE INSTITUTE OF CHARTERED ACCOUNT OF INDIA (ICAI)

Following are the suggestion of researcher based on a study:

1. Auditor should consider new CIS environment that is effective and efficient for the auditing process.
2. The prime aims of audit under CIS environment should not be changed.
3. The plan and enactment of appropriate test of control, compliance and substantive procedures to achieve the audit objectives are likely to change.
4. Formulate easy and simple audit procedure to diminish the menace and deficiencies in audit programme.
5. Auditor should have understanding of accounting internal control system must sufficiently to plan an effective approach.
6. Standards and provisions on other area shall be enforcing in an organisation.
7. Every aspect of audit process must be taken in account while make auditing standards related to audit under CIS environment.
8. Standard approaches should be implemented.
9. Segmentation of duties and responsibilities must be a part of CIS audit process.
10. Practitioners and educators should extend their skill sets, knowledge based to cope up not only with up-to-date vicissitudes but also with upcoming challenges.
11. Regularly certificate training and development program should be organised for new up gradation and amendments related to accounting and auditing.
12. International Education Standards (IES) for professional accountant and auditor should be issued regularly after a thorough research.

13. Chartered Institute of Public Finance and Accountancy (CIPFA), International Federation of Accountants (IFAC), IABS and ICAI shall make the provisions for skill enhancement courses for accountant and auditor.
14. Practical aspects must be considered into accounting while drafting syllabus for professional courses such as Chartered Accountant's, Company Secretary, Cost and Works Accountant etc.
15. The Ministry of Finance and Treasury has to develop training and development programme.
16. Due to rapid technological advancement in software, system should also train the staff and provide them with the knowledge for the same. They should also be motivated to get adapted to the system by training them. Hence, the accounting and auditing institute shall keep provisions of promotion based on skilled and competence of an auditor.
17. Enhances actual separation of responsibilities by applying safety controls in requests, databases, and functioning systems.
18. The AAS lays down standard in respect of assistances and capability obligatory by the auditor to demeanor an audit of CIS environment, factors to reflect while preparation such as audit, peculiar features of CIS environment, valuation of risks, audit events to reduce audit danger, credentials in such audits.

6.5 SCOPE FOR FURTHER STUDY

The analysis provided in this thesis suggests a number of areas for the future research:

1. The present research study is on a comparative study of audit under CIS in Private and Public sector banks of Mumbai city. Further, research can be conducted for other service sector like hospitals, insurance companies, education institution, communication sector etc. with reference to other metro cities of India.
2. Researcher has made an endeavour to study the concept of CIS, Concept of CIS –audit, approaches of CIS, impact of CIS on true and fair view, factor affecting the CIS audit process and ICAI provisions. Further study can be conducted with reference to issues and obstacles in implementation and problems faced by an organization, staff. Role of International Standards in CIS audit process.
3. Investigator has made an endeavour to do proportional study of private and public sector banks in relation to audit under CIS environment. Further, study can be conducted on comparative study of manual audit process and CIS audit process with reference to banks.
4. The study consists of approaches of CIS audit. Further, study can be conducted on obstacles faced in the audit processing and approaches of CIS. The factor affecting for the selection of audit approaches in CIS environment and several other software related to CIS should be easily available.
5. The examiner should be cognizant and knowledgeable about audit approaches in CIS environment hence further study can be conducted in that area to analysis the gap and recovery for the same.
6. The sample of study was accountant and auditor. Further, study can be conducted with the management and staff of accounting association.
7. Most importantly, CIS is the one of part of syllabus under IPPC, hence the further study can be conducted to study the review of students.
8. Awareness and knowledge of audit staff among the CA's firms can be study for up-gradation and amendment to improvise the audit under CIS environment.
9. Internal control system is the part of study as the factor affecting audit under CIS environment. The further study should be conducted on provisions or measures undertaken by information security cell (ISC) by an organization

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ANNEXURE I

LIST OF ABBREVIATIONS

IT	Information Technology
SWOT	Strength, Weakness, Opportunity and Threats
CIS	Computerized Information System
ERP	Enterprise Resource Planning
ISA	Information System Auditor
CAATs	Computer Assisted Audit Techniques
OIS	Operations information systems
MIS	Management Information Systems
EDI	Electronic Data Interchange
INFINET	India Financial Net
VANSP	Value Added Network Service Providers
EDP	Electronic Data Process
CBS	Core Banking Solutions
LPMs	Ledger Posting Machines
ALPMs	Advance Ledger Posting Machines
EDPAA	Electronic Data Processing Auditors Association
CobiT	Control Objectives for information and related Technology
ISACA	Information Systems Audit and Control Association
ICQ	Internal Control Questionnaire
ICE	Internal Control Evaluation
GAS	Generalized Audit Software
ISA	International Standard on Auditing ISA
AIS	Information System
SCT	Security Concept Techniques
DES	Data Encryption Standard
PKI	Public Key Infrastructure
AICPA	American Institute of Certified Public Accountants
AAS	Auditing and Assurance Standard
ICAI	Institute of Chartered Accountant of India ICAI
AASB	Auditing Assurance Standards Board
SRE	Standard on review engagements
SAE	Standard on assurance engagement
SRS	Standard on Related Services
CARO	Companies Auditor Report Order
SQC	Standard on Quality Control

GAAP	Generally Accepted Accounting Principles
FASB	Financial Accounting Standard Board
IFRS	International Financial Reporting Standards
IIA	The Institute of Internal Auditors
GTAG	Global Technology Audit Guide
ISMS	Information Security Management Standards
SDLC	System Development Life Cycle Methodology
ITGT	Information Technology Governance Institute
LAN	Local area network
LPG	Liberalization privatization and globalization
WAN	Wide area network
GIGO	Garbage- In- Garbage – Out
PCAOB	The Public Company Accounting Oversight Board
GAP	Generalized Audit Programs (GAP)
CICA	Canadian Institute of Chartered Accountants
IFAC	International Federation of Accountants

About the Book

Audit and Accountancy have been revolutionized by computerisation. During the earlier stage of computerisation, batch processing methods were used so that the auditors were not bothered about processing of information and were treating computers as a black box, never bothering to see what was happening inside it. They were getting input and output statements, registers, ledgers accounts etc. and computers were used only to print them. The real power of computers was never understood or utilized. Even accountants and auditors are so overwhelmed today by the use of mainframes that sometimes we get to hear that the auditor has prepared quality audit reports. It is mandatory for an auditor to perform tasks which until recently did not be existent or were not in the preview of the auditor. If the weaknesses could be controlled in manual environment, then corrective changes could have been easily formulated and suggested which a difficult task to do so. The part of an auditor is changing and a new profession called Information System Auditor (ISA) has emerged. Since, corrective measures for control weakness are difficult to implement, and auditor has to be involved with designing and development of Computerised Information System (CIS). Computer based tools and skills are required to enable the auditors to access, analyse and evaluate the data stored on the computers, since it is not possible to review or evaluate and handle the data manually or mechanically. This book attempts to enlighten the concept of Computerised Information System and its approaches, provisions and standards made by ICAI, review of several experts and a comparative study of audit under Computerized Information System in Public Banks and Private Banks of Mumbai city.



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