

A Comparative Study Of Audit Under Computerized Information System In Public Banks and Private Banks

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Abstract: 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. 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 a comparative study of audit under Computerised Information System in Public Banks and Private Banks of Mumbai City. This study basically highlights available CIS approaches and its financial aspects affects the application of it.

KEY WORDS: CIS, CIS Approach, CAATs

I. INTRODUCTION

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. In conducting the audit 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. Which directly or indirect add the cost on an organisations. With this aims the researcher has formulated the following objectives, problems and hypothesis.

II. 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

III. PROBLEMS OF THE STUDY

1. The financial constraint plays a key hindrance in deciding CIS audit approach.

IV. HYPOTHESIS OF THE STUDY

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

1. Application of CIS Audit is significantly affected by the financial constraints in the banking sector.

V. SCOPE OF THE STUDY

The present study works in following scales:

- i. Studied and analyzed existing techniques for implementation of CIS audit in an organization.
- ii. Studied review of literature in concerned area.

VI. RESEARCH METHODOLOGY OF THE STUDY

The study is based on quantitative research approach. Data is collected from primary sources as well as secondary sources.

Universe of the study

For the study purpose the researcher has select the branches of Public and Private Sector Banks (42 banks) of India in Mumbai City.

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 i.e. auditor and accountant.

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 (21Banks 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. Total number of respondents is (325), out of which 157 from Public sector banks and 168 from Private sector banks.

Reference Period of the study:

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

Tools for analysis the data:

Arithmetic tools have been used for descriptive analysis and for testing the hypothesis and significance Wilcoxon signed test, Kolmogorov-Smimov and t-test have been used. 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.

VII. SCOPE OF THE STUDY

- 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 study the different approaches of CIS audit.

VIII. LIMITATIONS OF THE STUDY**The researcher has set up the following limitations:**

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

IX. 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

Review of Literature

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.

XI. FINDINGS AND SUGGESTIONS OF THE STUDY:

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.

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 approach differs from bank to bank	F	4	17	30	56	61	168	4	11	31	73	38	157
	%	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	F	15	38	76	34	5	168	15	42	46	45	9	157

accounting software environment creates new requirement which an organisation cannot afford along annual income	%	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

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.

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.

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

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.

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**. The 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 summery 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.

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