
NEW CHALLENGES OF ACCOUNTING AND AUDITING IN E-ENVIRONMENT IN INDIA*

NOVOS DESAFIOS DE CONTABILIDADE E AUDITORIA NO AMBIENTE ELETRÔNICO NA ÍNDIA

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ABSTRACT

E-commerce is rapidly transforming the way accounting and auditing functions are performed, posing new challenges to the accounting profession. A few guidelines exist for meeting some of these new challenges, however, sheer magnitude and diversity of problems render these guidelines grossly inadequate to comprehend their intricacies. Most of the studies on e-commerce have examined the extent of its activities in the advanced countries. However, no attempt seems to have been made to examine the accounting and auditing aspects of e-commerce. The present work, therefore, bridges a research gap: it aims at identifying critical issues related to e-accounting and e-auditing that the professional community is presently confronted with. Two sets of pre-structured questionnaires have been used to collect information from 75 accounting professionals and 75 auditors who are members of the Institute of Chartered Accountants of India. The research has underlined the need for standards related to measurement, recording and disclosure of certain e-transactions. E-environment has also changed the manner of audit and the nature of services required from an auditor. It is hoped that the present work would be useful for professionals, policy makers, regulatory bodies and managers in the development of strategies for better handling of e-commerce environment. It would provide some insight into identification,

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measurement, communication and verification of economic information about e-commerce transactions.

Key words: Accounting. Auditing. E-commerce. India.

RESUMO

O comércio eletrônico está transformando rapidamente a forma como as funções contábeis e de auditoria são desempenhadas, apresentando novos desafios à profissão contábil. Algumas diretrizes existem para atender a alguns desses novos desafios, porém, a própria magnitude e diversidade de problemas fazem com que essas diretrizes sejam inadequadas para compreender seus detalhes. A maioria dos estudos acerca do comércio eletrônico examinou a extensão de suas atividades nos países avançados. Porém, parece que não houve uma tentativa de examinar os aspectos contábeis e de auditoria do comércio eletrônico. O presente trabalho, portanto, cobre uma lacuna de pesquisa: pretende identificar questões cruciais relacionadas com a contabilidade e a auditoria eletrônica com que a comunidade profissional se defronta. Dois conjuntos de questionários pré-estruturados foram usados para coletar informações de 75 contadores e de 75 auditores que são membros do *Institute of Chartered Accountants* da Índia. A pesquisa reforçou a necessidade de padrões relacionados à mensuração, ao registro e à divulgação de certas transações eletrônicas. O ambiente eletrônico também mudou a forma de realizar auditoria e a natureza dos serviços exigidos de um auditor. Espera-se que o presente trabalho seja útil para profissionais, legisladores, reguladores e gestores no desenvolvimento de estratégias para melhor lidar com o ambiente de comércio eletrônico. A intenção é fornecer uma visão sobre a identificação, mensuração, comunicação e verificação de informações econômicas acerca de transações de comércio eletrônico.

Palavras-chave: Contabilidade. Auditoria. Comércio eletrônico. Índia.

1 INTRODUCTION

E-commerce is rapidly transforming the way accounting and auditing functions are performed. Distinct as they are from conventional commercial activities, electronic transactions have posed new challenges to the accounting profession. It has also helped the fraternity of accountants to improve the service levels and variety of services to the clients. The Chief Financial Officers of the past have become Chief Analytical Officers of today. The professionals have to face a number of new situations and problems while doing the accounting and audit of companies operating in electronic environment. Emergence of e-commerce has raised several issues demanding accountant's attention, viz., treatment of the website development cost, depreciation of computer hardware and software, advertising barter transactions, etc. Apart from transaction-level accounting issues, there are certain important disclosure issues also such as list of important customers (privacy), use of licensed software, separate reporting of online sales, hosting and barter arrangements as well as significant costs and accounting policies, e.g., revenue recognition for special arrangements.

Accounting bodies, the world over, have not been oblivious of the issues arising out of e-commerce. For example, The Emerging Issues Task Force (EITF) of the Federal Accounting Standards Board (FASB) addressed to the various issues in e-commerce accounting. In India, the

Institute of Chartered Accountants of India (ICAI) issued a Guidance Note on accounting by dot.com companies and other entities engaged in electronic commerce in the year 2001. The Institute notes that whereas some of the accounting issues are particular to the new business models atypical of e-commerce, there also are some issues that may be addressed to viz-à-viz traditional commerce. No doubt, a few guidelines exist for meeting some of these new challenges, sheer magnitude and diversity of problems renders these guidelines grossly inadequate to comprehend their intricacies. An attempt has been made to identify critical issues related to e-accounting that the professional community is presently confronted with.

Electronic commerce has also increased the complexity of transactions as they are being increasingly done among parties who have never met. In such an environment, it is important to have an assurance about the quality and reliability of trading partners, financial viability of companies, data security, reliability of systems and many such issues. E-environment has, thus, changed the manner of audit, and the nature of services required from an auditor. It has become imperative for the auditors to be multi-skilled in the use of IT, apart from proficiency in their domain areas of expertise. As audits in the future become virtual, auditors will also be able to globalize their operations. Auditors will be able to concentrate on core management issues rather than routine functioning of scrutinizing various financial documents.

An attempt has been made in this study to discuss the views of auditing and accounting professionals on various issues related to e-audit and e-accounting. The paper has been organized into six sections. Section 2 reviews some of the existing empirical works. Section 3 describes the methodology used to collect the data. It also details the profile of responding Chartered Accountants (CAs). Section 4 presents findings and opinions of accountants and auditors on various issues. Finally, Section 5 provides the summary.

2 LITERATURE REVIEW

E-commerce is becoming popular among organizations nowadays across the world. Many surveys have been made to estimate the growth of e-commerce in various countries. Carr (1985) conducted a study of 24 organizations in U.K. Based on the responses of 344 certified accountants, the survey suggested that benefits which might arise by giving technological support to accountants will be mainly in the form of time saving and improved work quality. The technology will help the accountant to carry out practice of accountancy more effectively rather than change the nature of accountancy.

PRTM, Washington (1999), in an e-business survey found that for 66 per cent companies, customer service was the main e-business goal. 85 per cent companies regarded e-business strategy as important to their success. According to Webmergers.com (2001), 210 internet companies went out of business in 2000. 75 per cent of dotcoms that went out of business were in B2C sector. Pricewaterhouse Coopers (2001) conducted a study of 78 large manufacturing corporations in US. It found that only 40 per cent of them could receive orders online and only 28 per cent could accept payments online.

Data from Forrester Research, Cowles and Simba Information indicates that consumer spending online was \$ 240 million in 1994 which increased to \$ 993.4 million in 1996 and was expected to reach \$ 6.9 billion by 2000. Jupiter (2001) suggests that in 2005, 80 per cent of B2B transactions will be e-commerce transactions.

The Thomas Register and Visa, USA conducted a survey of 3,000 purchasing executives working in different industries. They revealed that about 25 per cent executives purchased between \$1,000 and \$10,000 worth of goods per month via Internet. Another survey was

conducted jointly by Wierson Media Research, O'Reilly and Associates, and Georgia Tech. to determine demographics of Internet user. They found that typical user of Internet had a median age in mid 30's, with a median income between \$ 50,000 and \$60,000. Electronic business-to-business market was 100 times higher than online consumer market.

According to Forrester Research Inc., world B2B and B2C e-commerce will have totalled US\$657 billion in 2000, surging to US\$ 6.8trillion in 2004. According to International Technology Firm, Gartner, number of internet users in Asia will reach 188 million by 2004. Internet commerce in US is expected to be US\$ 488.7 billion and US\$ 3.2 trillion in 2000 and 2004 respectively, followed by Japan and Germany. This trend will probably drive rest of the world into increasing their e-commerce activities. Online retail sales will be \$329 billion in 2010.

In India, a study by Mittal found that during 1998-99, e-commerce transactions in India were estimated to be Rs. 131 crore. During 1999-2000, it was estimated to be Rs. 450 crore. NASSCOM, (National Association of Software and Service Companies) expected an increase of 500 per cent in e-commerce transactions in the country with enactment of Information Technology Act, 2000.

A survey conducted by Ghosh(2000) found that majority of the companies using e-commerce in India considered e-commerce a substantial part of corporate strategy. However, lack of electronic payment facilities and limited technologies used by trading partners hampered the adoption of e-commerce across the entire supply chain.

Indian Market Research Bureau (2000) conducted a survey on the status of e-commerce in India covering 360 decision makers in business and 2000 households. It found that organizations expected that 12 per cent of their turnover would be contributed through e-commerce in next two years. The market size of B2B e-commerce would touch Rs. 50,000 crore by 2001. According to NASSCOM, e-commerce was expected to touch Rs. 10,000 crore by 2002.

Confederation of Indian Industries and International Trade Centre conducted a survey of 269 small and medium organizations to find out level of e-commerce activity in India in 2005. The study revealed that e-commerce in India is expected to increase to Rs. 25,200 crore in 2005 from Rs. 450 crore in 2000. Internet and Online Association of India (2005) conducted research in association with Cross Tab Marketing Services to track internet user's activity for shopping online. More than half (55 per cent) of 3099 respondents had shopped online and 85 per cent of them were male.

Thus, a number of studies have been conducted in India and elsewhere on various aspects of e-commerce. Most of the studies have suggested an increasing use of e-commerce over the years. The study conducted by Carr highlights the role of information technology in the job profiles of accountants. It identifies expected benefits and extent of usage of information technology in different types of organizations in U.K. However, there have been a lot of developments in information technology since mid-eighties affecting organizations beyond expectations. But there has been no consistent effort to understand its implications. The primary focus has been on estimating size of e-commerce. The present study attempts to identify some of the critical issues related to e-accounting and e-auditing that the professional community is presently confronted with.

3 METHODOLOGY

In order to comprehend the diverse accounting and auditing issues arising out of e-commerce, the views of CAs have been elicited with the help of two separate structured

questionnaires containing both open- and close-ended questions. The first questionnaire on e-accounting was pilot studied with five experienced CAs and then mailed to 100 CAs selected randomly from the directory of CAs prepared by the ICAI. The response received was far from satisfactory. Consequently, CAs in Delhi and its adjoining areas were personally visited. Their response was overwhelming. In all, 80 questionnaires were filled, of which 5 were rejected because of their incompleteness. 75 questionnaires have been used for analysis, giving a response rate of 75 per cent. The time spent in obtaining the response from a CA through personal discussion ranged from 2 to 3 hours.

A draft questionnaire on e-audit was prepared and discussed with five auditors working in e-environment. Their suggestions were incorporated and a final questionnaire was prepared. The questionnaire was, then, mailed to 100 CAs randomly selected from the directory of CAs prepared by ICAI. Some responses were received from Delhi and its adjoining areas. A few responses were received from Mumbai and Chennai as well. However, the response rate was not satisfactory. Then, CAs in Delhi and its adjoining areas were personally contacted. In all, 85 questionnaires were filled, out of which 10 were rejected because of incomplete information. Seventy-five responses have, thus, been used giving a response rate of 75 per cent.

The CAs of this study come from diverse backgrounds. Diversification of sample ensures that the findings are broad-based, and, it also enables an understanding of the diversity of e-commerce accounting issues across different situations of which the backgrounds of the CAs are an important aspect. Table 1 provides a holistic picture of the backgrounds of the responding CAs.

Table 1 - Frequency Distribution of Responding Auditors and Accounting Professionals

Characteristics of CAs	Auditors Number/Per cent	Accounting Professionals Number/Per cent
Age (year)		
Below 30	24(32.0)	22(29.3)
30 - 40	29(38.7)	28(37.3)
Above 40	22(29.3)	25(33.3)
Total Experience (year)		
Below 10	35(46.7)	31(41.3)
10 - 20	28(37.3)	31(41.3)
Above 20	12(16.0)	13(17.3)
Experience in the Present Post/Organization (year)		
Below 10	44(58.7)	42(56.0)
10 - 20	26(34.7)	27(36.0)
Above 20	5(6.7)	6(8.0)
Qualifications		
CA	57(76.0)	54(72.0)
CA +CS/CWA	8(10.7)	10(13.3)
CA + Any Other	10(13.3)	11(14.7)
Specialization		
Accounting	24(32.0)	23(30.7)
Accounting + Auditing	12(16.0)	12(16.0)
Accounting + Tax	9(12.0)	10(13.3)
Accounting + Auditing + Tax	30(40.0)	30(40.0)

4 FINDINGS AND DISCUSSION

This section presents findings of the study on the basis of discussion held with various professionals. The analysis has been divided into two sub-sections. Section 4.1 presents the findings related to accounting issues and Section 4.2 presents the analysis related to auditing issues.

4.1 Accounting issues

4.1.1 Accounting Entries in E-Environment

New business models have developed with the use of e-commerce raising some accounting issues that did not exist earlier. The opinions of CAs have been collected about the accounting treatment of certain transactions/situations peculiar to companies doing business electronically. The issues analyzed are:

a) Website Development Costs

Development of a website is the first step in the direction of e-commerce. It would engage organizational resources for planning, infrastructure built-up, hardware acquisition, software tools, domain registration, as well as graphics and content development. The issue is: Should the costs of website development be expensed within the year like revenue expenditure, or be deferred for a certain number of years on the lines of advertising expenditure or be taken as capital expenditure?

On this issue, the ICAI Guidance Note on Accounting by Dot.com Companies states as under: "The website development costs include costs incurred in performing the activities relating to planning the website, obtaining and registering an internet domain name, testing the website applications, creating initial graphics about website, etc. Such costs should be amortized on a systematic and rational basis, over a period not exceeding 2 years after the website is thrown open to the users thereof".

The views of ICAI on the accounting treatment of website development costs are not in correspondence with the views of the International Accounting Standards Board (IASB) in this regard. The Standards Interpretation Committee (SIC 32) rules that "... a website developed by an enterprise using internal expenditure, whether for internal or external access, is an internally generated intangible asset that is subject to the requirements of IAS 38, Intangible Assets." The IAS 38 requirements that intangible assets initially be measured at cost and the amortization method for an intangible asset should reflect the pattern of its future economic benefits, and, if the pattern cannot be determined reliably, the straight line method be chosen, makes it clear that such expenditure is to be regarded as capital expenditure. In fact, IAS 38 is categorical when it states that, when acquired externally, the expenditure on the intangible assets must be capitalized.

The pattern of response too is quite scattered. About one-third of the CAs feel that it should be considered as 'capital expenditure'. About one-fourth are of the opinion that it should be taken as 'deferred revenue expenditure' over a period of 5 years. Only 20 per cent CAs are in agreement with the 'Guidance Note'.

b) Cost of Operating a Website

Once the website development is complete, the operating stage begins where one has to address to issues such as personnel training, data back up, creating linkages, monitoring "hits,"

continuous updating, etc. It would also include the amortization charges in respect of the website. On the issue of accounting treatment of cost of operating the website, the views of the Guidance Note and SIC 32 of IAS 38 converge. Almost all (88 per cent) of the CAs also feel that it should be considered as revenue expenditure.

c) Advertisement Barter Transactions

Advertising Barter Transactions involve exchange among the companies of advertising time and space for products or services on each other's websites or web pages. According to Guidance Note, "the revenue from such transactions should be recognized in case the fair value of similar transactions are readily determinable. However, where reliable estimates of fair value are not determinable, it may not be appropriate to recognize revenue and the associated costs involved in barter transactions". The views of IASB on the matter also suggest the same. In the opinion of approximately three-fourths of the CAs, the organization should record equal amount of revenue (for sold space) and expenses (for purchased space) despite being no difference in cash flow. The opinion is in accordance with the criteria of recording all transactions, irrespective of mode of payment. As in such cases, mode of payment is advertising time to the other company, the fair value of such transactions can be considered on the basis of fair value of similar transactions involving sale of advertising time to unrelated buyers. In the best interests of the disclosure of associated cost and revenue, both the aspects of barter transactions should be recorded.

d) Depreciation of Hardware and Software for Long Term Use

A company would require generic as well as customized hardware and software for its foray into e-commerce. The infrastructure thus put in place would serve the company for a reasonably long period. Investments in computer networks and software systems, which are tailor-made for the company, can be used over a long period of time. Almost half (45 per cent) of the accounting professionals feel that depreciation on such investments should be based on their estimated useful life. In the opinion of some others, the estimated useful life of such investments cannot be more than 3-5 years even if they are tailor-made for the company and, therefore, must be written off within 3-5 years. This is because of fast pace of technological developments in computer networks and software systems.

e) Depreciation of Hardware and Software for Short Term Use

The investments in computer networks which become obsolete after some time have to be treated differently from those which are for long-term use. A large number of accountants are of the opinion that these should also be written off over their estimated useful life, whatever be it. However, one-fourth of the accountants feel that cost of such software and hardware should be expensed in the year when incurred.

f) Depreciation of Hardware and Software with an Indeterminate Useful Life

High-tech businesses are exposed to the risk of untimely impairment of certain assets, which makes an estimation of their useful life difficult. Such a situation would require considerable amount of ingenuity in developing appropriate accounting treatment. A large number of respondents chose not to comment on the issue. However, a few suggested that terminal depreciation may be provided in those cases where assets become obsolete due to unexpected technological development and where they cannot be updated. Else they may be

severely impaired due to rigorous use atypical of 24X7X365 model of e-business. If they can be updated and restored, depreciation may be charged accordingly, that is, the original cost plus the cost of updating/restoration can be deferred for estimated useful life.

The term depreciation has been used to convey writing-off of both tangible (hardware) as well as intangible assets (software).

4.1.2 Human Resource Accounting for E-Companies

The financial statements, particularly in the e-business context, miss out on the most crucial aspect of the organization that is its people. In companies doing business electronically, there is a strong need for Human Resource Accounting (HRA) as investment in human resource is very high. Three-fourths of the respondents feel the need for HRA in such companies.

4.1.3 Disclosures by Organizations Operating in E-Environment

In the absence of brick and mortar office address, anonymity provided by Internet and the uncertainties of operations in e-environment, there is need for additional disclosures on certain aspects related to such organizations. There is a higher incidence of barter, payments in kind and special arrangements in e-commerce. Such transactions pose the challenge of arriving at appropriate and acceptable basis of measurement and valuation, besides resulting in the issues of recording and reporting. In this regard, the Guidance Note recommends additional disclosures about the basis of arriving at fair values in respect of (i) different elements comprising a multiple arrangement, (ii) advertising barter transactions, and, (iii) equity based considerations.

However, there is also a need for disclosure on the company's involvement in e-commerce activities besides reporting on the range of the services covered and the revenue earned therefrom. Almost all the experts agree that company's business and variety of services provided by them to their customers must be clearly mentioned in the appropriate statements. More than three-fourths are also of the view that companies should also mention revenues earned on each of these services separately. They also suggest that there should be a statement from Chairman/Directors that the company has adequate source of funds to carry on operations for at least one year going forward. Nearly a sixth have also indicated the desirability of disclosure on how and wherefrom the company proposes to raise the funds for meeting its future requirements.

4.1.4 Changing Role of CAs in E-Environment

The information technology has increased the efficiency of CAs. The use of accounting softwares has reduced the burden and time taken for their routine activities. It is now possible for them to expand their horizon of activities. The present study tries to identify certain issues related to e-commerce activities where a qualified accountant can help its client. A list of some of these activities was prepared and their opinion was sought on these activities.

In the opinion of almost all (88 per cent) the respondents, cost-benefit analysis and assisting in developing new procedures to account for varying tax revenue are two main activities related to e-commerce where their knowledge can be of immense help to their client. A large majority (85.3 per cent) also considers financial analysis of implementing e-commerce processes and services. Table 2 sheds light on the aspects of e-commerce where the CAs can contribute.

In terms of the findings of the Table 2, it may be said that the information technology has benefited the fraternity of accountants as routine functions get automated and they are able to devote more time towards strategizing growth, investment and business decisions that are more scientific and logical.

Table 2 - Aspects of the Changing Role of CAs in E-Commerce Scenario - N=75

S. No.	Activities	Yes (per cent)
1	Accounting policies	58 (77.3)
2	Cost benefit analysis	66 (88)
3	Risk assessment	60 (80)
4	Best practice controls	56 (74.7)
5	Integration with business processes	53 (70.7)
6	Organizational restructuring	43 (57.3)
7	Financial feasibility of e-commerce	64 (85.3)
8	New procedures to account for varying tax revenues	66 (88)
9	Liaison with legal department	48 (64)

4.2 AUDITING ISSUES

Access to all relevant information and records is critical to forming an audit opinion. About 90 per cent of the auditors have indicated that access is an absolute must.

4.2.1 Security Issues in E-Environment

In business activities, sensitive data and information must be protected. Some of the security challenges in e-environment are manipulating information, disclosing information to unauthorized people, stealing of information and network resources, disrupting network services, wrongful claiming of services administered/ not administered. Some of these were discussed with the auditors.

a) Detection of Manipulations of E-information

Approximately three-fourths of the respondents agree that it is possible to detect manipulation of information kept in electronic form. These techniques are password, proper authorization, audit trails, and computerized audit tools (CATs). Majority (60 per cent) are of the view that CATs are quite helpful in detecting manipulations of e-information. Audit Trails may also be used for the purpose. Password and Proper Authorization, though necessary for e-transactions to fix the responsibility, are helpful only to some extent. Good internal controls, periodic checks over records maintained, ratio analysis, exception report, and analysis of major types of expenses are some of the existing techniques which can be equally useful in e-environment as well. Thus, with development in e-commerce, corresponding developments in audit techniques have taken place to help them in conducting proper audit.

b) Monitoring of Access Control

The auditors can monitor the control on access to computer networks of the organization to improve the effectiveness of the audit process. A majority (65.8 percent) of the auditors feel that they should do such monitoring.

Internal control review seems to be the best option as suggested by more than two-thirds of the respondents. The auditor can make surprise checking and see whether access to networks is made by authorized persons or not. The other important technique, according to one-third respondents, is password review.

4.2.2 Verification: Role of Vouchers in E-environment

Traditionally, the auditors verified financial information given in the books of accounts with the help of vouchers. With the advent of information technology, the transactions are done

electronically and the books of accounts are also maintained in e-form. In such a scenario in the absence of vouchers, the auditor may find it difficult to audit the books of accounts.

There are certain techniques, which auditors believe can help them in such an environment. Some of these techniques, as mentioned earlier as well, are CAATs, Audit Trails and Verification of Authority for conducting the transaction and use of data. Most (40 percent) of the respondents have suggested use of 'Computer Assisted Audit Techniques'. Thus, in the absence of vouchers, auditors use specialized softwares and audit trails to verify the transactions.

4.2.3 Changing Role of Auditor in E-environment

In e-environment, the nature of activities done by an auditor has also seen a sea change. A number of such activities related to e-commerce environment have been identified in the study where an auditor can play an important role. Each of these roles were discussed and the opinion of auditors was obtained.

a) Providing assurance regarding value added networks, software packages, etc., as part of the authenticity and reliability of the trading partners

Auditor should check the reliability of the vendor providing network and software packages to ensure that they are trusted and have reputation in the market. A large majority (71.4 percent) is of the opinion that such assurance can be provided by the auditor, provided it is a coordinated effort by team involving finance personnel, top management and IT staff.

b) Verification for integrity of data

Integrity involves protection of data for modification either while in transit or in storage. Almost all (95 per cent) respondents, are of the view that auditor should verify for integrity from initial data feeding to final stage according to the program.

c) Verification for source of data

Data should originate from appropriate and authorized source only. The auditor should ensure that data is procured from reliable source and is not outdated. The auditor should identify all sources, verify and confirm their authenticity. Almost all (92.7 percent) auditors agree to this.

d) Verification for completeness of electronic data

Any data transferred can be verified for its completeness through transmission of bytes from source data and final data to check whether complete data has been received or not. The auditor may verify that all transactions are processed according to specifications of system and all policies for recording transaction are followed. Almost all (91.2 per cent) the auditors agree that verification for completeness of electronic data should be done by the auditor.

e) Assessment of electronic transfer of payment between and through international banking system

It is also crucial for the auditor to verify whether payment done through e-transfer is received by the authorized person or not. Auditors can express opinion on these payments by checking related transactions. He can ensure that proper authority is assigned to access the system, payments are duly authorized at each stage of transfer. The non-electronic correspondence can be checked to justify e-transaction. Verification of payment can also be done with the certificate of bank. Other modes of confirmation like e-mail, fax, telephonic

confirmations can also be done. Almost all (94.4 per cent) the respondents, are of the view that auditor should assess electronic transfer of payment between and through international banking system.

f) Audit of Accounting for virtual assets

Almost all (91.7 per cent) the auditors are of the opinion that assets in virtual state should also be audited. For this, an auditor may go through relevant documents indicating purchase of assets and verify authenticity of existence of such asset. He should ensure that proper accounting techniques are applied for such assets, especially regarding useful life of the asset, amortization, etc.

5 SUMMARY

The study has highlighted the need for changes in measurement and recording of e-transactions. The research has also underlined the need for additional disclosures by the dot.com companies. Certain new roles have been identified for accounting professionals in e-environment .It is possible for auditors to detect manipulation of information kept in electronic form. The absence of vouchers in e-environment does not cause much difficulty in e-audit. There are many techniques available to help auditors in verifying e-transactions and finding out any manipulations done in them. Auditor should have control on access rights given to users of data. They should also monitor control on access to network by reviewing internal control systems and passwords. E-commerce environment has also opened up new vistas of opportunities for auditors.

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