IMPACT OF ERP SYSTEM ON AUDITING AND INTERNAL CONTROL

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Information technology is changing almost every phase of global business environment. Auditors are facing the vast challenge of working and keeping up-to-date with such sophisticated technologies. In ERP systems, operational and financial data are tied together through a complex information flow. Transactions can be automatically entered without review or pre-checking with the ERP system. Therefore with the implementation of integrated ERP systems, internal controls are developing itself to support automated operational management.

The ERP systems are one of such technologies used by various organizations to achieve a strategic advantage in the competitive market. The ERP systems are computer-based systems designed to process an organization’s transactions. It facilitates integrated and real-time planning, production, and customer response. From an auditing perspective, ERP systems created new opportunities as well as new challenges.

Based on a questionnaire survey, the paper attempts to examine the extent of impact of this modern computerised ERP system on Auditing in an organization. It also tries to understand how ERP system affects the internal control system of the organization. This paper also suggests that Auditors must also understand the ERP system extremely well to perform a proper audit of a client that uses this system.

Overall result has revealed that auditors can do effective, efficient & fast auditing by using new auditing tools & procedures instead of the traditional procedures. The overall objective and scope of an audit doesn’t change in ERP environment. Overall findings of the research have suggested that the nature and the complexity of the ERP system increase the system risks. Auditors should give more attention to the risks involved with an ERP system.

Thus, result of the research suggests that the use of the new technologies will raise the quality of auditing and internal control system in the organizations. There is vast scope in research conducted about the ERP impact in auditing process and internal control in future.
1. INTRODUCTION

Information technology is changing almost every phase of global business environment. Auditors are facing the vast challenge of working and keeping up-to-date with such sophisticated technologies. The ERP systems are one of such technologies used by various organizations to achieve a strategic advantage in the competitive market. The ERP systems are computer-based systems designed to process an organization’s transactions. It facilitates integrated and real-time planning, production, and customer response.  

A definition by Arens et al, describes “Auditing as the accumulation and evaluation of evidence about information to determine and report on the degree of correspondence between the information and established criteria. An audit process refers to a well defined methodology for organizing an audit to ensure that the evidence gathered is both sufficient and competent and that all appropriate audit objectives are both specified and met”. 2

From an auditing perspective, ERP systems created new opportunities as well as new challenges. On one hand, the use of the system increases transparency in business processes and, it eliminates the need for controls assuring data consistency and accuracy when data move from one system to the next. On the other hand, the complexity of an ERP system creates additional risks during both the implementation and the operational stages. 3

The objective of this paper aims is to study about how ERP systems have affected the audit process in an organization. The emphasis is to investigate whether there are changes in audit process in an ERP implementing company. It also tries to understand how ERP system affects the internal control system of the organization. This paper also suggests that Auditors must also understand the ERP system extremely well to perform a proper audit of a client that uses this system.

2. GENERAL IMPACT OF THE ERP ON THE AUDITING

Now a days, Financial and operational transactions are increasing in volume and it increases complexity every day. In today’s business environment, auditors should have knowledge of both accounting and technology. The technical complexity of ERP system has forced auditors to increase their knowledge of information technology. When a company uses an ERP system the audit focus shifts from substantive testing of the books of account to understanding the business processes, testing the systems and applications controls etc. At the same time, auditors must ensure that the system is automating the process correctly. 4

In ERP systems, operational and financial data are tied together through a complex information flow. Transactions can be automatically entered without review or pre-checking with the ERP system. For this such controls should be designed to prevent inaccurate or false information entering in the system. So auditing must be done through the computer in ERP environment. Accountants and company management need to be aware of the risks involved with an ERP system. Today, with the implementation of integrated ERP systems, internal controls are developing itself to support automated operational management. As a result, finance officers have changing their approach and implementing automated internal controls that allow managers to effectively manage through ERP systems. 5
An ERP system automatically updates the data throughout the system once a transaction has been entered. Because the information is updated, maintained and stored electronically, auditors need to understand how the modules interact with each other and with the database. Auditors must spend more time with lower-level employees in ERP system to determine what they are doing while entering the data, and especially what to do if a mistake is made.  

In the ERP system environment employee require extensive training. The training should be designed in such a way to stress employees how the data they control affect the entire business operation. Auditors should also examine how the client’s management deals with the changes that ERP systems bring to the business. However, ERP systems decrease the use of paper documents and hence cause transaction trails to be incomplete. It makes the detection of error sources difficult and increases the risk of information leakage and losses. Therefore, management must consider their companies’ characteristics in ERP system environments and design internal control procedures accordingly.

3. REVIEW OF LITERATURE

Following research works show that number of studies have been done to identify the impact of ERP on audit process & internal control:

Haider H. Madani (2009) develops a theoretical framework in his study to examine the role of internal auditors in enterprise resource planning (ERP) based organizations. He concluded that the ERP present new challenges to the internal audit function.

Saharia, Koch, and Tucker (2008) find in their study that the ERP system has created new opportunities and challenges for internal auditors for managing internal & external risks. They concluded that internal auditors did not play a more important role in implementation, particularly in defining internal control.

Brody and Kearns (2008) found that the dependence on IT in business is increased, so it shifted auditor’s dependence on substantive evidence to a stress on controls over accounting information systems.

Nwankpa Joseph Kelechi (04.05.2007) found out in his article that ERP systems have affected the audit process in an organization. The result indicated that auditors spent more time on control testing after ERP implementation. In his opinion, auditors need to be more knowledgeable to achieve more utilization of ERP functions in auditing.

Pumphrey and Trimmer (2006) find in their study that the use of enterprise systems should affects risks and enhance internal control. They also found that none of the firms has formal policies for auditing such company environments.

Brazel & Agoglia (2006) investigates that information technology (IT) applications, such as the enterprise resource planning (ERP) systems are significantly changing the ways in which companies operate their businesses and auditors perform their duties.

Bae & Ashcroft (2004) primarily analyzed major technological and accounting issues involved in the implementation of SAP and ERP systems including information
integrity and audit issues. They also concluded that implementation of the ERP systems brought changes in audit approach.\textsuperscript{14}

Hunton, Wright and Wright (2004) investigated that the result of their study revealed that financial auditors might not be fully aware of the greater risk associated with the ERP systems, as compared to the non-ERP system environment.\textsuperscript{15}

Yang and Guan (2004) investigated in their paper the evolution of United States IT auditing and internal control standards in financial statement audits and discussed their significance for the auditing profession. They also find that the methods and procedures used by the auditor for conducting the audit are different in ERP.\textsuperscript{16}

Ramamoorti and Weidenmier (2004) examined the impact of the Information Technology on Internal Auditing in their study. In the study researchers recognize and understand the differences between internal auditors and external auditors.\textsuperscript{17}

Yusufali F. Musaji (2002) describes in his book entitled “Integrated Auditing of ERP Systems” how to conduct an integrated ERP audit. This book covers the ERP systems, their life cycles, and their major components but particular attention is paid to the audit role, which is the primary focus in succeeding chapters.\textsuperscript{18}

Bierstaker, Burnaby and Thibodeau (2001) investigated the current impact of technology on the audit process, and the future implications of technological trends for the auditing profession in his article.\textsuperscript{19}

In this part of review of literature, researchers observed notable changes in audit functions and identified that the ERP implementation showed a resultant increase in audit function usage. As a result, there is need to further study ERP system impact on audit process for proper understanding.

4. RESEARCH METHODOLOGY

Based on a questionnaire survey, the paper attempts to examine the extent of impact of this modern computer system on Auditing and internal control. The sample consists of 22 companies in India. The empirical research is conducted with a survey questionnaire created through the previous literature. The technique used in this study is a combined e-mail questionnaire and structured interviews. The questionnaire consists of 11 questions which deal with the impact of ERP system on auditing and internal control. The sign test has been used in this survey for testing of significance.

5. RESULTS FROM THE EMPIRICAL STUDY

Table 1 is showing the result related to impact of ERP system on internal auditing and control. The study describes the following questions which are significant under the result of sign test are:
Table-1

ERP impact on Auditing

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Question</th>
<th>N*</th>
<th>Affirmative Responses (%)</th>
<th>Sign Test (Calculated Value)</th>
<th>Result of Sign Test (Z=±1.96)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Can the auditors do fast auditing in the ERP system?</td>
<td>22</td>
<td>20 (90.9)</td>
<td>3.84</td>
<td>Significant</td>
</tr>
<tr>
<td>2.</td>
<td>Can the auditor do all checking’s very fast in case of wrong entry?</td>
<td>21</td>
<td>17 (80.9)</td>
<td>2.84</td>
<td>Significant</td>
</tr>
<tr>
<td>3.</td>
<td>Have the Auditors timely access to data in ERP implementing company?</td>
<td>22</td>
<td>22 (100)</td>
<td>4.69</td>
<td>Significant</td>
</tr>
<tr>
<td>4.</td>
<td>Does the ERP system reduce time of auditors, spent in data retrieving?</td>
<td>22</td>
<td>22 (100)</td>
<td>4.69</td>
<td>Significant</td>
</tr>
<tr>
<td>5.</td>
<td>Do the ERP systems help auditors to eliminate redundant data files?</td>
<td>19</td>
<td>17 (89.5)</td>
<td>3.44</td>
<td>Significant</td>
</tr>
<tr>
<td>6.</td>
<td>Do the auditors provide a larger range of services to their clients after the ERP?</td>
<td>19</td>
<td>15 (78.9)</td>
<td>2.52</td>
<td>Significant</td>
</tr>
<tr>
<td>7.</td>
<td>Can the auditors do effective &amp; efficient audit with little start-up costs after the ERP?</td>
<td>22</td>
<td>10 (45.5)</td>
<td>-0.43</td>
<td>Not Significant</td>
</tr>
<tr>
<td>8.</td>
<td>Do the auditors spend more time understanding the system &amp; business process in an ERP implementing company compared to a non-ERP implementing company?</td>
<td>22</td>
<td>11 (50.0)</td>
<td>0.00</td>
<td>Not Significant</td>
</tr>
<tr>
<td>9.</td>
<td>Are auditing tools, methods &amp; procedures used to audit an ERP implementing company different?</td>
<td>17</td>
<td>14 (82.3)</td>
<td>2.67</td>
<td>Significant</td>
</tr>
<tr>
<td>10.</td>
<td>Do the Auditors feel increase control risk, so they spend more time in assessing control risk?</td>
<td>13</td>
<td>8 (61.5)</td>
<td>0.83</td>
<td>Not Significant</td>
</tr>
<tr>
<td>11.</td>
<td>Do the Auditors need appropriate internal control &amp; security authorization in the ERP environment?</td>
<td>22</td>
<td>19 (86.4)</td>
<td>3.41</td>
<td>Significant</td>
</tr>
</tbody>
</table>

*Out of total Respondents 22, those who did not respond were deleted

As we can see in table that 90.9 percent of the respondents are agreed with the first question that auditors can do auditing at fast speed. The overall result indicates that most of respondents feel that the ERP system automizes the whole process correctly. If the auditors
have proper understanding about the ERP system and audit trail, they can do fast auditing. Further ERP system automatically performs all updating, reporting and checking of transactions in an organization, which increases the speed of auditing also.

The second question examines that if any wrong entry occurs in an organization, auditors can do all checking very fast. The result of the research has shown that more than 80 percent of the respondents accept that they can do all checking very fast in case of wrong entry. As the ERP system automatically updates the data throughout the system and transactions can be checked by proper control, cross field checking and transaction balancing. They can also retrieve all type of data at different place on a one single screen in ERP system, which makes checking fast.

The result of the study finds that all respondents have felt that they have timely access to data because the data are updated, maintained and stored electronically. Further the ERP system provides on-line and real-time processing data, which makes auditors accessing all type of data at different place on a one single screen.

The result of the study has revealed that almost all respondents are totally agreed that auditors spend less time in data retrieving in ERP system. In ERP system, every transaction of every function is stored in one common database and it used by various modules automatically. Thus it is concluded that auditing an ERP implementing company need less time in spent to access and retrieve information because all data and transactions are recorded in an electronic form in the ERP system.

Findings of the study have indicated that about 90 percent of respondents are agreed that ERP systems help auditors by eliminating redundant data files. In ERP system, all the data are store together into one common internal source electronically, which eliminates redundant data entry and integrates the whole process. Thus auditors should understand how modules interact with each other and with database, must spend more time with employees in the system to eliminate redundant data files.

The result of the research has found that little less than 80 percent of the respondents have accepted that they can provide large range of services to their clients. Because of the ERP system, auditors provide transparent and effective auditing at fast speed to their clients. And in ERP system, most of the client’s information is maintained in electronic form, so correction can be made easily in information system.

The findings of the research have revealed that the most of the respondents (about 80 percent) agree with ninth question. In today competitive market, auditors must continuously develop new methods and procedures for auditing ERP. The ERP system also enhances auditors to learn new audit tools for taking advantage of features of the system. Thus it can be concluded that there is significant difference between the auditing tools used in an ERP and non-ERP implementing company.

The result of the study has found that the most of the respondents (about 86.4 percent) accept that the ERP system requires strong internal control system and security authorization for doing effective and efficient auditing in new environment. In ERP system, transactions automatically enter without preview or pre-checking. Thus the lack of audit trails increases the control risk and errors. For those purposes, auditors use new technology and
controls to prevent inaccurate and false entering in the system, which significantly strengthen the control environment. In the ERP environment, auditors must also be aware of the logical security (i.e. user id’s and password) of data used by the ERP system.

From the result derived by sign test concluded that opinion expressed by respondents in seventh, eighth and ninth question is not significant as the calculated sign test value is less than the prefixed value. Thus the questions regarding effective & efficient audit with minimum costs and auditors spending more time in understanding the system & business process and assessing control risk, could not result in significant information.

Overall result has revealed that auditors can do effective, efficient and fast auditing by using new auditing tools and procedures instead of the traditional procedures. The overall objective and scope of an audit does not change in ERP environment. Overall findings reveal that behalf of sign testing it is concluded that majority of questions are significant at testing of significance. Therefore it is proved that the ERP systems have changed the audit process and internal control system in organizations subsequently.

6. CONCLUSION

Overall findings of the research have suggested that the nature and the complexity of the ERP system increase the system risks as it eliminates audit trail steps. So Auditors need to be more aware of the risks involved with an ERP system and it requires and increases the need of strong internal control system. Accordingly Auditors should also be properly trained about the ERP system as well as the accounting both. For effective and efficient auditing in the ERP environment, auditors should obtain an understanding of the systems, business processes, control environment, risk-response activities and internal control systems. It is also suggested that the internal auditor should also obtain an understanding of the availability of the data for use in the audit. But because of the high price of training, many companies do not properly train employees on how to use the ERP system.

Thus, result of the research suggests that the use of the new technologies will raise the quality of auditing and internal control system in the organizations. There is vast scope in research conducted about the ERP impact in auditing process and internal control in future.

REFERENCES:


