An Assessment of the Multilocation Audit Engagements for the Improvements of the Audit Efficiency and Effectiveness: An Empirical Study within the Egyptian Settings

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Abstract

Purpose- This study aims to explore and explain the risk factors affecting Multi-location Audit Risk.

Methodology- An empirical study was conducted for the assessment of multi-locations audit risk factors applied in the Egyptian audit firms. The researchers joined an audit team in one of the largest Egyptian audit firms for a period of about six months observing how multilocation audits are performed. The researchers used questionnaire and interviews with professional senior auditors. A number of hypotheses were tested using descriptive data analysis and Spearman correlations.

Findings- The results showed that the study hypotheses could be accepted. It further indicated the absence of direct guidelines for professional auditors in performing multi location audits in Egypt.

Research limitations- The empirical study was conducted in Egypt. This could limit the generalization of the research results because of the different economic and cultural conditions.

Value- The main contribution of this study is a proposed multi-location audit framework. This framework was divided into sections that reflected the preplanning and the substantive tests in multi-location audit firms in Egypt. This framework included proposed audit procedures to help audit practitioners perform a quality audit.

Keywords*:* Multilocation audits, multilocation audit risk, Audit risk, Audit risk model.

Introduction

In the light of the increase and growing number of the Egyptian multi-location companies due to privatization programs and the opening of the local market toward globalization, more analysis and assessment of the activities of this type of business companies by both the standard setters as well as practitioners is needed. The initiation of the idea of this research study was due to the limited number of previous research studies worldwide addressing multi-location audits risk as well as the absence of a specific guidance for multilocation audit engagements that would enhance the audit quality. Interviews with senior auditors in Egypt showed that many of them consider the use of the audit risk model with its associated components in the planning stage as a theoretical, impractical tool only discussed in books and literature with no benefit in real practices. The present research will highlight the importance of multilocation audit risk assessment in affecting the quality of the audit as well as the practitioners' performance. This research is conducted as an attempt to design an overall practical guidance consisting of specific stages of the audit process that reflects and suits the nature of the business environment for Egyptian multilocation companies. This practical guidance is to be generalized for the use among the Egyptian auditing firms of similar sizes to ensure high quality for multilocation audits (audit effectiveness) and at the same time control the extra audit costs as compared with a single-location client (audit efficiency).

The Concept of Multilocation Audit Risk

The International Standards on Auditing (IFAC 2006) defined audit risk as the risk that the auditor expresses an inappropriate audit opinion when the financial statements are materially misstated. Another definition provided about such risk that a field examiner could meet all the standards of his/her audit program, meet all the standards of proper planning, and meet all the standards of professional conduct, and still not detect material misrepresentations (Dusenbury et al. 2000; Beumer, 2006; Earley and Phillips 2008).

Little attention by both standard setters and research studies was given to the analysis of the component of the audit risk that encounters most of the large and medium size auditing firms, defined as "Multilocation Audit Risk" (Aldersley and Leslie 1984; Kim et al. 1987; Aldersley 1989; Allen et al. 1998; Allen et al 1999; Paul 2005).

Multilocation audit risk as a concept in the professional literature reflects a type of engagement in which the client conducts his business over certain separated branches and/or warehouses and therefore, increases the risk of material misstatements to exist in any of these locations without being detected by the auditor (Allen et al. 1998). Thus, it is possible for the auditor to issue an incorrect audit opinion and thereby increase the overall audit risk. The multilocation audit environment brings to attention two important issues. First, the extent of work required in terms of the number of locations to be visited and the coverage of the audit work as well as the sample size at each location visited. Second, the evaluation of the audit results at each location visited and their effects on the overall audit conclusion.

Prior Research Studies

Multilocation audit as a terminology was first emphasized in the research field by Aldersley and Leslie (1984); the study concentrated on sample statistical selection for separated locations rather than a single location. The term multilocation audit risk and multilocation audit continued to receive the attention of further research studies (Kim et al. 1987; Schubert 1990; Gauntt and Glezen 1996; Allen et al. 1998; Paul 2005). However, neither of these studies provided clear guidelines to assist auditors in performing high quality multilocation audits. The majority of these research studies concentrated on the sample selection for the client's locations.

In relation to the auditing standards that addressed the term multilocation audit risk, Statement on Auditing Standards (SAS) No.107 which superseded SAS No. 47 stated that in an audit of an entity with operations in multiple locations or with multiple components, the auditor should consider the extent to which audit procedures should be performed at selected locations or components. The factors an auditor should consider regarding the selection of a particular location or component include (*a*) the nature and amount of assets and transactions executed at the location or component; (*b*) the degree of centralization of records or information processing; (*c*) the effectiveness of the control environment, particularly with respect to management's direct control over the exercise of authority delegated to others and its ability to effectively supervise activities at the location or component; (*d*) the frequency, timing, and scope of monitoring activities by the entity or others at the location or component; (*e*) judgments about materiality of the location or component; and (*f*) risks associated with the location, such as political or economic instability (AICPA 2006d; Gogin and Johnson 2008). The auditor's identification of the specific locations or components is an important outcome of the risk assessment process.

Based upon the researchers' analysis of the Egyptian Auditing Standards which are translations of the International Standards on Auditing (ISA), it appears that there is a wide gap in these current auditing standards regarding how to perform the audit in a multi-location audit engagement. According to the Handbook for the ISA issued by the International Federation of Accountants (IFAC) on January 1, 2006 there are limited numbers of standards that specifically discussed the term multi-location audits. These standards are (IFAC 2006):

- Understanding the Entity and its Environment and Assessing the Risk of Material Misstatements (ISA-315).
- Planning an Audit in Financial Statements (ISA-300).
- Audit evidence- Additional Considerations for Specific Items (ISA-501).

On the other hand, on August 31, 2002 the Panel on Audit Effectiveness of the PCAOB noted that there is little specific guidance in the professional literature on the appropriate audit coverage in a multilocation audit (Moore and Swartz 2003). The Panel believes there should be additional guidance in view of the increasing growth and the globalization of many entities and this guidance should be more specific in terms of definitive standards for multilocation audits. The Panel also noted that some firms have extensive guidance in this area that the Auditing Standards Board (ASB) might find helpful in developing specific guidelines. The Panel recommends that the ASB should develop standards to cover matters such as (Pany and Whittington 2001; Hill et al. 2005):

- How the auditor's consideration of the control environment (taken alone or in combination with other factors) should influence the selection of locations to be covered or the way procedures are to be carried out.
- The extent of knowledge and involvement needed by the auditor with final responsibility for decisions about the locations and the key personnel assigned to perform the work at them.
- Criteria (including materiality considerations) for periodically rotating the coverage of smaller locations.
- Reliance on internal auditors for coverage of various locations.
- Methods of establishing materiality at different locations.
- The scope of work to be performed at different sizes and types of locations.
- Emphasize in its guidance that accounting systems, controls, personnel and other circumstances can vary widely from location to location within an entity, and that these variations should be considered explicitly in decisions about how many and which locations to visit and the nature, timing, and extent of work to be performed at each of them.
- The guidance also should recognize that analytical procedures may be useful in helping to select the locations to be visited, especially when there are many homogeneous locations.

According to the PCAOB Auditing Standard (AS) No.2 (Release No. 2004-001) on March 9, 2004 which was later replaced by AS No. 5 in June 12, 2007 **(An Audit of Internal Control Over Financial Reporting That Is Integrated with An Audit of Financial Statements)**, this standard contains certain guidelines that relatively could help in determining the control tests to be performed when a company has multiple locations or business units (PCAOB 2004a; PCAOB 2007; McCuaig 2007). Regarding the PCAOB (Release No. 2004-006) on June 9, 2004, the board focuses more on the accumulation of the audit evidence for multilocation clients and focuses on the need to remind the auditors that the office of the accounting firm issuing the auditor's report is responsible for ensuring that all audit documentation sufficient to meet the requirements of this standard is prepared and retained (PCAOB 2004b).

The Risk Factors Affecting the Multilocation Audit Risk

There are certain risk factors affecting multilocation audit engagement which will determine whether the client would have a high or low multilocation audit risk. In summary, there are nine risk factors identified including (Allen et al. 1998; Paul 2005):

1.Degree of centralization:

1/a. The Degree of Centralization of the Accounting Information System.

1/b. The Degree of Centralization of the Managerial Decision Making.

2.Diversity of locations.

3.Effectiveness of internal controls.

4.Proximity of location and transferability of assets.

5.Effectiveness of internal audit function.

6.Distribution of dollar values between locations.

7.Global operations.

8.Special reporting requirements.

9.Number of Locations.

The present research will discuss and analyze all the above risk factors except the last three factors since they are not applicable to the nature of the Egyptian business environment as well as the professional practices of the Egyptian auditing firms. In addition, it seems that there is a similarity between them and some of the other risk factors especially between the ninth risk factor, the number of locations, with the diversity of location, the second risk factor.

1- Degree of centralization

The degree of centralization influences audit risk from two important dimensions:

i-The Degree of Centralization of the Accounting Information System (AIS):

When considering the impact of this risk factor on the multilocation audit risk, it is possible for a client to rely on the use of separated AIS which could be connected together using business networks. Each location could be responsible for tracking its own operating performance in terms of billing and collection of receivables, making payments for their own obligations, and performing the related recordkeeping, perhaps even using software and hardware tools different from other locations (Allen et al. 1998). In addition to the corporate issues surrounding the AIS of a multilocation company, many companies are having difficulties in managing and consolidating the information from remote locations (McLaughlin 2004). In this case, the auditor needs to perform many tests and different audit procedures for these individual locations in order to identify and detect any possible material misstatements related to any part of the accounting systems and to accumulate sufficient competent evidence to provide the audit opinion.

In a multilocation audit engagement the auditor should make two important decisions; how many locations should be visited? and what is the extent of audit work including the sample size should be carried out at each location visited? (Aldersley and Leslie 1984). When the records are centralized but the physical location of the asset is decentralized the same questions are highlighted by the auditor in their audit engagement due to the risk that the auditor may unknowingly issue unqualified audit report for the client's consolidated financial position and operations while one or more of the accounting systems includes material misstatements.

ii-The Degree of Centralization of the Managerial Decision Making and Control over the Assets:

In a multilocation business environment, the divisional manager has the ultimate authority to define the rules, select, and approve the transactions. This includes any minor change to processes that affects only the local environment and does not significantly impact the organization as a whole including its position and internal control effectiveness. However, still the divisional manager is responsible for reporting events of predetermined magnitude to the corporate management (Langer and Popanz 2006).

When the whole managerial decisions for different branches are handled under the authority of a centralized top management, the auditor may easily obtain information and audit evidence about the company's current status, intentions and future direction. However, such centralized approach may increase the risk of fraud due to ineffective internal controls as a result of improper authorization of transactions by corporate management due to lack of information from branches or the need to obtain direct or indirect benefits (Allen et al. 1998). In case that the managerial decisions are separated among the divisional managers of different branches, which means decentralized

decision making, this may result in a more complicated procedures and evidence gathering in an audit program since the auditor needs to contact each manager and accumulate evidence to verify the information obtained in order to issue the proper audit report (Kizirian et al. 2005).

2. The Effectiveness of the Internal Control System:

Internal controls are essential to ensure the success of any business organization and they are an integral part of the client's corporate governance structure (Hoitash et al. 2008). Since internal controls should exist at different and multiple levels of the organization, the audit engagement could become more complicated when the clients operate the business through multiple locations. When testing the controls' effectiveness for a multilocation control structure, the auditor, according to AS No.5, must include all entities that the management has the ability to influence their internal controls. This includes all the entities acquired on or before the date of the management assessment as of the fiscal year including the consolidated entities or those proportionally consolidated (PCAOB 2007; McCuaig 2007).

When comparing between a multilocation and single location audits, the auditor would realize that with a single location audits, the audit risk is inversely related to the strength of internal controls. Stronger internal controls mean less risk of material misstatement, and may therefore allow the auditor to visit fewer locations than if the controls are weak (Paul 2005). However, for a multilocation audit the strength of internal controls may vary from one location to another since the internal control procedures may not be the same from one location or segment to another.

Different business segments may have different means of maintaining controls over assets and accounting records and local management has opportunities to manipulate the internal controls; either to make the performance at that location appears better than it actually is or for personal financial gain. Furthermore, at some locations, local management may display a lack of concern about controls. At these locations, employees may take advantage of this weakness to commit fraud or errors that cause a material misstatement of the consolidated financial statements (Allen et al. 1998).

3. The Effectiveness of the Internal Audit Function:

In a single location audit environment, auditors can more easily compensate for a lack of internal auditing than in a multilocation environment. Large multilocation companies generally employ internal audit departments as an important part of their internal control structure in addition to its monitoring role (Pushkin 1990; Gauntt and Glezen 1996).

Multilocation clients with large, competent, and objective internal audit departments could greatly reduce the audit risk as the external auditor may decide to rely on the audit work and the information provided by the internal auditor. Internal auditors are more knowledgeable about the nature of the client business, the accounting system and the work flow within the organization structure. The external auditor can reduce the number of locations to be visited by coordinating audit plans with the internal audit department. Internal auditors usually visit many of the locations during the year, and the external auditor can review their working papers to obtain important audit evidence for both control and substantive testing for the representative sample selected by the external auditor.

4. The Diversity of Locations:

Dealing with a client whose business is operated through several branches practically is not an easy engagement. This can result in significant increase in the audit work provided for such client as there is high probability of employees conducting material fraud that can be undetected due to pressures such as, the engagement time or the audit costs that may exceed the agreed upon audit fees.

In addition, the organizational structure and systems of a multi-location business enterprise may differ among the branches and even across the various lines of business. It would be difficult for the auditor to visit all these branches to perform, for example, physical examination especially if these branches or warehouses are located internationally. Therefore, the auditor needs to properly design the audit program to ensure appropriate selection of a sufficient sample size.

5. The Proximity of Locations and Transferability of Assets (Fraud):

Fraud is an intentional act that results in a material misstatement in the financial statements while error reflects unintentional misstatement (Chemuturi 2008; Arens et al. 2008). The risk of fraud is considered a direct result of the management and the employees' override of existing controls (Jayalakshmy et al. 2005).

There is a high risk of material misstatements when a multilocation company's assets are separated over diverse locations. The close proximity of client locations can provide an opportunity to commit fraud due to the increased probability that assets may be easily transferred between locations as a way to cover thefts in one or more of these locations. Such control overrides may adversely affect other locations controls and may result in the collapse of the whole company (Allen et al. 1998; Arens et al. 2008).

Another form of the fraudulent act under this multilocation risk factor is that the close proximity between locations provides opportunities to misappropriate or to steal the assets being transferred among the locations then to fictitiously record the value of the asset stolen in the receiving location's records (Hillison et al. 2000; Weaver 2005). The risk of fraud resulting from misappropriation is significant if the asset being transferred is high in value and small in size.

Therefore, a multilocation client conducting a business through branches and warehouses, that are closely located, increases the risk of materially misstating the divisional financial reports of any of these branches. This can be done through certain fraudulent actions, such as the practice of; the transfer of the assets to benefit from some locations tax advantages. This may provide an incentive to transfer the assets to this location during the audit tests and the preparation of the tax declarations with the aim to directly or indirectly benefit from these incentives.

6. The Distribution of Dollar Values between Locations:

In a multilocation company, there is a distribution of dollar values for different accounts across locations. When there is a concentration of the dollar value of the account among few numbers of locations, the auditor is able to test a large percentage of the recorded value by visiting a smaller number of locations. It is more costly to audit when the dollar values are distributed among many locations because more locations must be visited to obtain the required level of assurance. However, it is less likely that a material error will occur because it would have to be the aggregate of errors across many locations that affects the audit opinion s(Allen et al. 1998).

Many multilocation companies with a large number of homogeneous locations believe that the number of visits to locations being "required" by the profession is unwarranted. They argue that very few financial reporting controls reside at the location level and that the monitoring controls at the corporate office would easily detect any financial reporting misstatements that could possibly be material to the consolidated financial statements. In many companies, the primary financial reporting areas are recognition of revenue, safeguarding of cash, proper recognition of payroll expense and control over procurements (Gauntt and Glezen 1996; Rogers 2005).

Based on the analysis of the overall risk factors affecting the audit of multi-location engagements and their effects on the scope of the audit engagement, it is possible to say that these risk factors usually vary among the companies and even could vary within the same company among its separated locations. Therefore, the audit examination of these factors should starts from the account level then to the financial statement level.

Research Method and Hypotheses

The research methodology is based mainly on an empirical study to identify and test the proposed guidelines that can be used and implemented by the Egyptian auditing firms to control and minimize Multilocation Audit Risk (MAR). The empirical testing starts by exploring the practical aspects of the audit profession in the Egyptian business environment. This was achieved by joining an auditing team in one of the large Egyptian auditing firms and observing how members of this audit team examine and test a number of multi-location companies in Egypt in order to identify the practical problems and risks associated with such audit. The research study surveyed the opinions of a selected sample of respondents, mainly professional senior auditors with years of experience not less than five years. These surveys were based on the use of interviews and questionnaire with senior auditors.

Based on the research's study objectives, the study's hypotheses can be developed as follows:

When a multi-location client is relying on the use of a computerized decentralized AIS, at the end of each accounting period such decentralized records can be processed as one batch and combined into a single set of financial statements upon which the auditor will render a professional audit opinion. In this case, the auditor needs to perform many tests and different audit procedures for these individual locations in order to identify and detect any possible material misstatements related to any part of the accounting systems and to accumulate sufficient competent evidence to provide the audit opinion.

Thus, the more the client's AISs are moving toward decentralization, the higher the MAR would be; while less decentralized systems, which means centralized ones, would possibly involve low MAR.

This expectation leads to the following hypothesis:

H1-(a): There is a positive relationship between the degree of centralization of the accounting information system (AIS) and the multilocation audit risk.

When the managerial decisions are separated among the divisional managers at different branches, which means decentralized decision making, this may result to a more complicated audit program. This is due to the needs of the auditor to contact each manager and accumulate evidence to verify the information obtained and to issue the proper audit report. Therefore, a centralized managerial decision making process would

reduce the audit efforts and tests for the varied divisional managers' responses who may be geographically dispersed. This expectation leads to the following hypothesis:

H1-(b): There is a positive relationship between the degree of centralization of the managerial decision making and the multilocation audit risk.

A multilocation engagement involves multiple internal control structures. Even when internal controls are relatively standard across locations and segments, the level of compliance with internal controls may vary from one location or segment to another. The task of evaluating compliance with established controls is complicated by the idea of multiple locations.

A client with an effective internal control system that is being consistently applied among the separated locations and branches tends to reduce the overall multilocation audit risk. In this case, an auditor can simply test a small sample of the locations' internal control elements and still provide a reliable audit opinion with low multilocation audit risk. This expectation leads to the following hypothesis:

H2: There is a negative relationship between the consistency of the application of the internal control system's elements and the multilocation audit risk.

The existence of an effective internal audit department would reduce the time of gathering information about the client in each branch and can also provide the auditor with any required evidence. This process may result in savings of audit costs. Therefore, the existence of an effective internal audit function would reduce the multilocation audit risk. This expectation leads to the following hypothesis:

H3: There is a negative relationship between the effectiveness of the internal audit and the multilocation audit risk.

For those clients who are operating their businesses through diversified locations, the audit process tends to be more complicated as the auditor needs first to have an adequate understanding of the nature of client's business as well as the activities carried out in each branch. Thus, there is a greater multilocation audit risk associated with clients operating multiple business branches.
This expectation leads to the following hypothesis:

H4: There is a positive relationship between the client's operation of multiple business locations and the multilocation audit risk.

A multilocation client conducting a business through branches and warehouses, that are closely located and/ or the assets has transferability nature (easy to transfer among locations), may face an increase in the risk of materially misstating the divisional financial reports of any of these branches. This could result in a high multilocation audit risk as the auditor may not be able to uncover this concealment especially, when there is collusion among the divisional managers and thereby issue an incorrect audit report. Therefore, the closer the client's locations geographically and/or the more the transferability of the assets are, the higher the multilocation audit risk. This expectation leads to the following hypothesis:

H5: There is a positive relationship between the close proximity of locations in addition to transferability of the client's assets and the multilocation audit risk.

Comprehensive substantive audit tests resulting from the auditor's desire to check the accuracy and the adequacy of the account balances as well as reducing his legal responsibility toward clients and third parties would minimize the risk of undetected material misstatements and thereby, reduces the MAR involved. This expectation leads to the following hypothesis:

H6: There is a negative relationship between the distribution of the dollar values in locations and the multilocation audit risk.

The researchers used the three available surveying techniques, "observation, interviews, questionnaire", to collect the data required for the empirical testing. Using observation, one of the researchers joined an audit team performing a number of audits assignments for a large industrial multilocation Egyptian company that is well known in the Egyptian market for the production of electronic devices. This auditing practice enabled her to explore the six risk factors affecting the multilocation audit for those audit clients by testing them in reality. The other researcher is a full time partner in a multinational audit firm. This opportunity enabled the researchers to practically observe and explore the reality in the audit practices to realize "what is going on" in real multilocation business environments.

During the observation of multi-location audit assignments, certain questions were developed to further test the six multilocation audit risk factors. The researchers conducted certain pilot study through limited number of interviews with senior auditors in order to test the responsiveness level to the questions identified and to obtain any additional points that need to be included and verified by other respondents in the sample. This pilot study contributed to some extent in refining the questions to be included in the questionnaire.

The researchers were then able to design a comprehensive questionnaire which included guidelines that can be introduced to assist the auditor in performing high quality audit for a multilocation client. The overall objective of this questionnaire is to identify, verify, and test the responses of the practitioners in designing working papers for this type of engagements.

To test the study hypotheses, the population of the study reflects professional auditors with more than five years of field work experience in large auditing firms and with technical experience in multilocation audit engagements. Due to the massive number of professional senior auditors in auditing firms, a sample of 120 distributed questionnaires is chosen judgmentally not randomly as the questionnaire includes definitive technical questions that require the respondents to have sufficient years of audit practice.

The researchers were able to communicate with senior auditors in the majority of the big four auditing firms operating in Egypt. 81 questionnaire responses were received by the researchers from 120 distributed questionnaires. However, 2 were rejected as they included erroneous responses due to misinterpreted questions while the remaining 79 were accepted for their validity.

Data Analysis

To test the study hypotheses, the data collected from the questionnaire has been analyzed. A set of numerical values as codes has been arbitrarily assigned to survey the responses. All the questions are scale questions based on a five-point, Likert rating-scale; the value (1) is assigned for an agree response, (2) for tend to agree, (3) for not sure, (4) for tend to disagree, and (5) for disagree. No other numerical codes are given to the sample since they are distributed to one group of respondents, senior auditors. The collected and coded data has been analyzed using two types of statistical analysis; descriptive analysis and non descriptive data analysis:

a. Descriptive Analysis:

This descriptive analysis is carried out for the whole multilocation audit risk factors surveyed for each specific inquired point. The descriptive analysis is done to describe the overall characteristics of the study's sample data, test the relationships between the variables of the study's hypotheses, and measure the Mean, Standard Deviation, and Coefficient of Variation for the sample data. This analysis describes the study's sample data through the use of frequencies and percentages in addition to the calculations of; the Mean, Standard Deviation, and Coefficient of Variation (C.V).

b. Non Descriptive Analysis:

The researchers then carried out a non descriptive data analysis to test the hypotheses' relationships. The aim of such analysis is to determine whether or not the sample data and the results of the study supports the hypotheses set for the population so that the sample results can be generalized over the population.

The researchers relied on the hypotheses-testing analysis through the use of **Spearman Correlations.**

Certain variables were identified to be used in measuring the relationships between the study's hypotheses. Spearman correlations are obtained for these variables to determine how strong is the relationship between the variables of the study's hypotheses, according to the identified significance level, so that the study's hypotheses are either to be accepted or rejected. The researchers conducted the hypotheses testing for each multilocation risk factor using correlation tables for the calculation of **r**.

1-Testing Hypothesis (1):

Testing the first supplementary hypothesis (1-a) is presented in the following table (1):

(H1-a) Table (1) Correlation between
Q1A.3: There is a high multilocation audit risk when the client is using decentralized AIS and variables:

ser	Question	r	Sig.
Q1A.1	The audit process is more comprehensive and complicated for computerized and decentralized AIS.	.45**	.001
Q1A.2A	The number of the locations to be examined by the auditor.	.36**	.001
Q1A.2B	The extent of the audit work including the sample size at each location.	.55**	.001
Q1.6	In many multilocation audit engagements, the auditor needs an outside specialist to assist in verifying the system's performance.	.25*	.02
Q1A.11	Under this risk factor the auditor should consider both the degree of computerization as well as the degree of centralization of the system.	.26**	.02
Q1A.4B	The auditor may lack the adequate experience to understand the system that can be totally computerized.	.32**	.004
Q1A.4C	The audit fees may not cover the costs of acquiring an outside expert	.47**	.001
Q1A.4D	The audit team may be challenged by the time of providing the audit report at the agreed upon date.	.22*	.04
TOT.4.1	The use of centralized AIS indirectly affects the multilocation audit risk because	.38**	.001

** Correlation is significant at the .01 level (2-tailed).

- Correlation is significant at the .05 level (2-tailed).

The results of the above correlation table (1) show that there is a positive correlation between the MAR involved in decentralized AISs as measured by Q.1A.3 and all the identified variables affecting this MAR. These relationships can be identified so that*; there is a high strong positive relationship at a significance level of .01 between the existence of high MAR in decentralized AISs and***:** how comprehensive and complex is the audit process for computerized and decentralized AISs, with a positive correlation (.45); the effect of decentralized AIS on the number of the locations to be examined by the auditor, with a positive correlation (.36); the effect of decentralized AIS on the extent of the audit work including the sample size at each location, with a positive correlation (.55); the need to consider both the degree of computerization as well as the degree of centralization of the system, with a positive correlation (.26); the risk that auditor may lack the adequate experience to understand the system that can be totally computerized, with a positive correlation (.32); an engagement in which audit fees may not cover the costs of acquiring an outside expert, with a positive correlation (.47); and finally the four main circumstances related to the use of centralized AISs that would indirectly affect the MAR, with a positive correlation (.38). *The results of testing hypothesis (1-a) statistically support the existence of a positive relationship between the degree of centralization of the AIS and the level of the MAR. Therefore, the sample data supports the acceptance of this hypothesis which follows the descriptive analysis results.*

Testing the second supplementary hypothesis (1-b) is presented as:

(H1-b) Table (2) Correlation between
Q1B.4: Q.4: The decentralization of the AIS and the managerial decision making results in a greater multilocation audit risk than centralized ones and variables:

ser	Question	r	Sig.
Q1B.1	For centralized managerial decision making, the audit risk can be reduced to an acceptable level by performing the audit tests at a representative sample of locations.	.32**	.004
Q1B.2	Decentralized managerial decision making means more complicated audit process to accumulate audit evidence from each divisional manager.	.31**	.006
Q1B.3	For decentralized managerial decision making, the multilocation audit risk indirectly increases.	.56**	.001

** Correlation is significant at the .01 level (2-tailed).

The results of the above correlation table (2) show that there is a positive correlation between the MAR involved in decentralized managerial decision making and all the identified variables affecting this MAR.

This can be explained by a high strong positive relationship at a significance level of .01 between the existence of high MAR in decentralized managerial decisions, as measured by questions Q1B.4, and; the reduction of the MAR involved in centralized managerial decision making through performing the audit tests at a representative sample of locations where the managerial decisions are centralized and this positive relationship is determined at a positive correlation (r) .32. Furthermore, a high positive correlation is achieved with the complication of the audit process to accumulate audit evidence from each divisional manager with positive (r) .31 as well as the indirect increase in the MAR with a high positive (r) .56.

The results of the hypothesis testing (1-b), support the existence of a positive relationship between the degree of centralization of the managerial decisions making and the overall MAR. Therefore, the sample data supports the acceptance of this hypothesis which follows the descriptive analysis results.

From the overall statistical verifications of the above two supplementary hypotheses, the researchers are of the opinion that both the degree of centralization either for the AISs as well as the managerial decisions taken, have strong effect on the level of MAR inherent in an audit engagement. Therefore, the sample data supports the main hypothesis stating that; the degree of centralization positively influence the MAR, which is basically supported by the descriptive analysis results.

2-Testing Hypotheses (2):

Testing the second hypothesis (2) is presented as in the following table (3):

(H2) Table (3) Correlation between
Q2.10: Audit risk is inversely related to the strength of internal controls either in single or multilocation audit engagement and variables:

ser	Question	r	Sig.
Q2.12A	Different business segments may have different means of maintaining controls over assets and accounting records.	.40**	.001
Q2.12B	Each location has a specifically designed internal control system that suites its practices	.44**	.001
T.2.A.B	For a multilocation client, the strength of the internal control systems may vary from one location to another.	.50**	.001

** Correlation is significant at the .01 level (2-tailed).

The results of the above correlation table (3) indicate that there is a strong correlation between the MAR level in a multilocationed internal control system (s) and all the identified variables affecting the MAR level.

This can be explained by the existence of a highly strong inverse relationship at a significance level of .01 between the existence of high MAR and; the differences in the strength of the internal control systems operated in each location as explained by a correlation (r) equal to .50; the difference in the effectiveness level of the internal control system from one location to another due to, different means of maintaining controls over assets and accounting records with a correlation (r) equal to .40; and the design of the internal control system in each location that suites its practices based on (r) equal to .44.

The results of hypothesis statistical testing support the existence of a highly correlated inverse relationship between the strength of the internal control system, as a result of the consistent applications of the internal control's elements, and the MAR involved in the engagement. Therefore, the sample data supports the acceptance of this hypothesis which is in line with the descriptive analysis results.

3-Testing Hypotheses (3):

The third hypothesis (3) testing is presented in table (4) as follows:

(H3) Table (4) Correlation between
Q3.10: A competent internal audit function reduces the multilocation audit risk and variables:

ser	Question	r	Sig.
Q3.4	The external auditor can rely on the internal audit's testing for routine accounts requiring low level of judgment.	.27*	.01
Q3.8	In a multilocation company the external auditor can reduce the number of locations being visited by coordinating the audit plans with the internal audit department.	.36**	.001
Q3.9	When testing the effectiveness of the controls over the AIS, the internal auditor can provide the necessary information and evidence to the external auditor.	.47**	.001
Q4.4	Coordination between the internal and external audit efforts can be done as a way to maximize the audit coverage	.34**	.002

** Correlation is significant at the .01 level (2-tailed).
* Correlation is significant at the .05 level (2-tailed).

The results of the above correlation table (4) indicate that there is a highly strong negative relationship at a significance level of .01 between the effectiveness of the internal audit function, as measured by question Q.3.10, and the MAR level. This can be justified, by the role that an effective internal audit function can provide in assisting the external audit team in their tests of controls' effectiveness of the client's AISs with a high correlation (r) .47; also the coordination between the internal and external audit efforts can be done as a way to maximize the audit coverage and thereby, reduces the MAR, with a high correlation (r) .34.

In addition, there is a high correlation at a confidence level 95% that in a multilocation company the external auditor can reduce the number of locations being visited by coordinating the audit plans with the internal audit department with a high correlation (r) .36. There is strong relationship at a significance level .05 and with a high correlation (r) .27 between the possible reliance of the external audit team in the internal audit work for testing of routine transactions which could contributes in reducing the MAR level.

The researchers noted that there is a direct negative relationship between the reduction of the MAR level and the effectiveness of the internal audit function in a multilocation company. This can result from the important role that an objective and independent internal auditor could have in assisting the external audit team in many testing areas. This relationship is supported at a 99% confidence level. Therefore, this hypothesis testing identifies how the sample data supports this hypothesis relationship toward its acceptance. This result follows the descriptive analysis results.

4-Testing Hypotheses (4):

The fourth hypotheses testing is shown in table (5) as follows:

(H4) Table (5) Correlation between

Q4.7: There is a high multilocation audit risk associated with clients operating multiple business branches and variables:

ser	Question	r	Sig.
Q4.1	A multilocation client has a perceived opportunity to conduct material fraud that can be undetected by the auditor due to pressures such as, the engagement's time or the audit costs.	.28*	.01
Q4.2	The scope of the audit is further complicated when the client's lines of business are diverse in nature, which requires more audit costs.	.29**	.008
Q4.6A	Obtain adequate understanding of the distribution forms that the client is using in conducting his business.	.35**	.002
Q4.6B	Specifically determine the nature of business and the level of performance of each branch.	.30**	.006
Q4.6C	The auditor must make proper decisions regarding the nature, timing, and extent of the audit procedures for each location.	.37**	.001
T4.6	The above overall audit procedures (Q4.6A + Q4.6B + Q4.6C)	.25*	.02

** Correlation is significant at the .01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

The results of the above correlation table (5) indicate that there is a high strong positive relationship at a significance level of .01 between the level of MAR and the client's operations of multiple locations and branches, as measured by question Q 4.7.

This can be explained so that, the reduction of the MAR level under this risk factor requires the auditor to make proper decisions regarding the nature, timing, and extent of the audit procedures for each location with a high correlation .37. Also the reduction of MAR under this risk factor requires the auditor to obtain adequate understanding of the distribution forms that the client is using in conducting his business. This is supported with a positive correlation .35. In addition, the reduction of MAR under this risk factor requires the auditor to specifically determine the nature of business and the level of performance of each branch. This variable is positively correlated at .30. The scope of the audit is further complicated when the client's lines of business are diverse in nature which requires more audit costs. This is explained with a positive correlation (r) .29.

In addition, there is a positive correlation at a significance level .05 between the MAR increased for a client operating multiple business branches and; a perceived opportunity available to a multilocation client to conduct material fraud that can be undetected by the auditor due to pressures such as, the engagement's time or the audit costs, with correlation (r) .28; the overall guidelines that the auditor can use to minimize this risk factor represented by; understanding of the distribution forms that the client is using in conducting his business, determining the nature of business and the level of performance of each branch, and making proper decisions regarding the nature, timing,

and extent of the audit procedures for each location. These overall audit procedures have a correlation (r) of .25.

Therefore, there is a positive direct relationship between the increase in the level of the MAR and the audit engagement for a client whose business relies on multiple locations and involves the operations of multiple business lines. This relationship was basically accepted under the descriptive analysis results.

5-Testing Hypotheses (5):

The results of testing the fifth hypothesis are shown in the following table (6):

(H5) Table (6) Correlation between
Q5.3: This risk factor could increase the multilocation audit risk as a result of the risk of misdirecting the auditor about the basic value of asset and its location and variables:

ser	Question	r	Sig.
Q5.1	A client's assets that are transferable in nature such as inventory, when the locations are geographically close increases the risk of material misstatements by transferring the inventory recorded in one location to another.	.47**	.001
Q5.2	This risk factor is mainly related to the effectiveness of the internal controls multilocation risk factor	.64**	.001
Q5.4A	For a client with no adequate documentations that support the total value of the assets	.43**	.001
Q5.4B	When the management continues to ignore ineffective internal controls over the assets.	.36**	.001
Q5.8	A multilocation audit engagement is more complex due to high risk of the transfer of the assets among close locations	.41**	.001

** Correlation is significant at the .01 level (2-tailed).

The results of the above correlation table (6) indicate that there is a high strong positive relationship at a significance level of .01 between the level of MAR as a result of the risk of misdirecting the auditor about the basic value of asset, as measured by question Q 5.3 and; the risk of material misstatements by transferring the inventory recorded in one location to another, this relationship is positively correlated at .47. In addition, a high positive correlation was found between the increased level of the MAR and a client's lack of adequate documentations that support the total value of the assets with .43 correlation, as well as when the management continues to ignore ineffective internal controls over the assets with .36 positive correlation.

These statistically verified results shows a positive relationship between the existence of high MAR and the proximity of the client's locations, which is supported by the sample data at a confidence level 99%. This relationship was basically accepted under the descriptive analysis results.

6-Testing Hypotheses (6):

The last study's hypothesis is tested and its results are shown in the following table (7):

(H6) Table (7) Correlation between
Q6.5: A distribution among many locations is associated with lower multilocation audit risk than if a higher percentage of the dollar value is concentrated at few locations and variables:

ser	Question	r	Sig.
Q6.2	When there is a concentration of the dollar value of the account balance among few numbers of locations the audit costs is reduced by visiting a small number of locations.	.40**	.001
Q6.4	When there is a distribution of dollar value among many locations, it is less likely that a material error will occur because it would have to be the aggregate of errors across many locations.	.57**	.001

** Correlation is significant at the .01 level (2-tailed).

The results of the above correlation table (7) indicate that there is a high strong relationship at a significance level of .01 between the associated lower MAR, measured by Q6.5, of distributing the account value among many locations than if a higher percentage of the dollar value is concentrated at few locations because; a distribution among many locations is less likely to result in a material error because it would have to be the aggregate of errors across many locations, this is correlated at positive (r) .57.

In addition, there is a lower MAR involved in distribution among many locations than if a distribution is concentrated at few locations with positive correlation .40, a concentration of the dollar value of the account balance among few numbers of locations would reduce the audit costs by visiting a small number of locations. However, if such visits of few locations are applied in the first year of audit this would increase the auditor's risk for high legal responsibility toward his client as provided by the sample data responses.

This hypothesis testing supports a high inverse correlation between the distribution of the dollar value of an account balance among many locations and the lower level of MAR involved in this engagement. Based on this, the sample data tend to support this study hypothesis toward the acceptance of this risk factor relationship with MAR.

To assess the relative significance level of each risk factor in increasing the MAR, either through a positive or a negative relationship, the researchers made a further descriptive analysis. This is done through the calculation of the total Coefficient Variance (C.V). The C.V provides an indication for the variations in the responses regarding the acceptance of each multilocation risk factor by the sample data. This analysis is provided as follows:

Table (8): Descriptive Analysis for the Most Significant Multi-location Audit Risk Factors

QUESTION	MEAN	STD.	C.V	RANK
The Degree of Centralization	4.03	.381	9.24	1
The Effectiveness of the Internal Control System	4.123	.409	9.3	2
The Effectiveness of the Internal Audit Function	4.03	.447	9.99	5
The Diversity of Locations	3.97	.460	11.5	6
The Proximity of Locations and Transferability of Assets	4.21	.420	9.97	4
The Distribution of Dollar Values between Locations	4.44	.419	9.4	3

The above analysis shows that the most agreeable multilocation audit risk factor with a high consistency level among the sample data responses for its effect on the MAR level is the degree of centralization. This reflects both the degree of centralization of AISs as well as the degree of centralization of managerial decision making, with a 9.24 calculated C.V. The least agreeable risk factor due to inconsistency in the responses of the sample data for its inquired element is the diversity of location risk factor with a highest C.V 11.5, as compared with the other risk factors.

Conclusion

The results of data analysis and hypotheses' testing, in general indicate that the six tested multilocation audit risk factors have a significant impact on the level of the MAR to be assessed by the auditor during the audit engagement. In addition, the results of the data analysis further provide evidence regarding the insufficiency of the Egyptian auditing standards to guide the practitioners' performance for highly effective and efficient multilocation audits. A matter which calls for the proposition of specific audit guidelines that take into considerations the effect of the Egyptian Auditing Standards (EAS) as based on the ISA issued by the IFAC.

The conclusions of this research are presented in a suggested professional guiding framework that would assist the practitioners in providing high quality and efficient multilocation audits. This suggested framework is divided into certain related sections that reflect the preplanning stage, planning stage, and the substantives multilocation audit tests stage; including tests of controls as well as tests of transactions and balances.

The structure of proposed working papers includes three columns {Yes, No, Comments}. The auditor should determine whether he obtained the inquiry required and/or performed the procedure designed (Yes), or (No). The auditor may also add any further comments identified during the performance of the audit.

The proposed framework also includes a separate section including the suggestion for a modification of the audit risk model's formula. This reflects the MAR in addition to the risk factors affecting it. The model's modification is based on both the professional literature as well as the research's results related to testing the multilocation risk factors affecting multilocation audit, as assessed in the Egyptian business environment.

Applying the proposed framework would relatively have a significant technical and professional value to the practitioners due to several advantages:

- Proposing a practical guidance that covers the actual audit stages; preplanning, planning, and substantive tests. It is provided for an important type of client's engagement that is not given high concern by either the literature review or the standard setters.
- This proposed guidance, overcome the wide gap identified by the empirical study resulting from the insufficiency of the EAS to provide direct professional guidelines.
- The identified modifications in the audit risk model create the initiatives for the practical application of this model. It moves from an academic tool discussed in books and literatures to an important mean. It can be used to effectively plan the accumulation of sufficient competent evidence for multilocation audits.

The paper appendix includes selected examples for the extracts included in the proposed framework.

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Appendix (A)

Proposed Framework to Improve the Efficiency and Effectiveness of Multilocation Audit Engagements

First Section: Inquiries by the Auditor with an Attempt to Identify the Multilocation Audit Risk Involved level.

1. The Degree of Centralization

1.a/The Degree of Centralization of the Accounting Information System (AIS) ♦ ***The auditor should understand that decentralized AISs involve higher MAR than centralized AISs.***	**Yes**	**No**	**Comments by the Practitioner**
a. Did the auditor identify whether the company operates its AIS through relying on a computerized and decentralized AIS or its accounting transactions are centrally managed and processed?			
b. In case that the company relies on decentralized AIS, did the auditor determine how many locations either in form of branches, subsidiaries or distribution entities, operates separate AIS?			
c. When the client's AIS is decentralized over a wide geographical area, did the auditor assess the possibility that there is a high MAR in this engagement due to the distribution of the audit efforts and tests among many locations as well as the need to use sampling techniques?			
d. In case that the client relies on centralized AIS, did the auditor consider that this might indirectly affect the MAR?			
e. Did the auditor determine whether the agreed upon audit fees would cover the costs of acquiring an outside specialist that would assist the audit team in understanding the AIS?			
f. During understanding the client's AIS nature and procedures, did the auditor identify whether the system is too complex, either centralized or decentralized, that would challenge the audit team to provide the audit report at the agreed upon date?			
g. Did the auditor identify whether there exists similarities in the design of the decentralized AIS among the branches that would save the audit costs and efforts through examining a small sample and then generalizing the results among the untested branches' AISs?			
h. Did the auditor understand that manual controls in some audit engagements suite a multilocation client's whose transactions are large, unusual, or nonrecurring and for possible misstatements in the AIS that are difficult to define and anticipate?			

2. The Effectiveness of the Internal Control System ♦ ***The auditor should understand that an effective internal control system would reduce the MAR.***	**Yes**	**No**	**Comments by Practitioner**
a. Did the auditor understand and assess the effectiveness of the client's internal control system to help him reduce the number of locations to be selected and visited? *(Understanding how effective the client's internal control system would help the auditor to determine the multilocationed operations where the auditor considers material misstatements are more likely to occur).*			

b. To understand the nature of operations for each of the client's locations, did the auditor use certain categorization for the multiple locations? ▪ Locations that are financially significant, in which the auditor should evaluate management's documentation and perform tests of controls over all relevant assertions related to significant accounts and disclosures.			
▪ Locations that involve specific risks that could create a material misstatement in the company's financial statements. Examples, the existence of certain relative relationship between those working in the distributed locations also, the account balances whose assessment of accuracy and reasonableness requires a high level of subjective judgment.			
▪ Locations which are significant only when aggregated with other locations. The auditor should determine whether the client's perform an operational audit for such location or not.			
▪ Locations that do not require testing individually, and when aggregated with others, could not result in a material misstatement to the financial statements.			
c. Did the auditor identify the level of compliance with the internal control activities among each of the sampled locations even for those with standardized control structures?			
d. Did the auditor highlight the reasons behind the differences in the strength of internal control systems among the locations, if any, that could result because: ▪ Different business segments may have different means of maintaining controls over assets and accounting records.			
▪ Each location has a specifically designed internal control system that suites its practices.			
e. Did the auditor evaluate certain factors when determining the locations to visit and the controls to test: ▪ The relative financial significance of each location or business unit.			
▪ The risk of material misstatement arising from each location or business unit through studying previous management letters and BOD responses.			
▪ The similarity of business operations and internal control over financial reporting at the various locations or business units.			
▪ The degree of centralization of controls and financial reporting applications.			
▪ The effectiveness of the control environment.			
▪ The nature and amount of transactions executed and related assets at the various locations.			
▪ Management's risk assessment process and analysis for excluding a location from its assessment of internal control over financial reporting.			
▪ Extent of accounting information, including computerized aspects.			
3. The Diversity of Locations ♦ ***The auditor should understand that a client, whose operating locations are geographically separated, would involve high MAR especially if the client has many business lines of a diverse nature.***	**Yes**	**No**	**Comments by Practitioner**
a. Did the auditor identify any perceived opportunity for a multilocation client to commit fraud that can be undetected by the auditor due to pressures such as, the audit costs?			

b. Did the auditor understand the diverse nature of the multilocation client's lines of business that affects the audit program's scope and plan?			
c. Did the auditor think about reducing MAR under this risk factor by: ▪ Obtaining adequate understanding for the distribution forms that the client is using in conducting his business.			
▪ Specifically determine the nature of business and the level of performance of each branch.			
▪ Make proper decisions regarding the nature, timing, and extent of the audit procedures for each location.			

4. The Proximity of Locations and Transferability of Assets ♦ ***Expecting that the more the client's locations are geographically close and the assets have a transferable in nature, the higher the MAR should be assessed.***	**Yes**	**No**	**Comments by Practitioner**
a. Did the auditor determine the nature of the client's assets whether they have a transferable nature that would increases the risk of material misstatements as a result of unauthorized and fraudulent assets' transfer from one location to another?			
b. Did the auditor assess the effectiveness of the internal control system and its impact on the risks involved in the proximity of locations and transferability of assets?			
c. Did the auditor professionally assess the basic value of the client's assets and their locations, if they are separated among the branches and warehouses, in order to minimize the MAR?			
d. Did the auditor understand that the risk factor for the proximity of locations generally increases for: ▪ A client with no adequate documentations that support the total value of the assets.			
▪ Management who continues to ignore ineffective internal controls over the assets.			
▪ A situation when the access and permissions for the transfer of the assets among the locations are based on an electronic system so that any asset such as cash fund or inventory can be manipulated.			

Second Section: Proposed Audit Guidelines designed for Substantive Multilocation Audit Tests			
1. The Degree of Centralization:			
1.a/ The Degree of Centralization of the Accounting Information System (AIS)	**Yes**	**No**	**Comments by Practitioner**
a. In case that the company relies on decentralized AIS, did the auditor identify the sample size to select including the number of the locations to visit in order to test each location's AIS?			
b. In case that the client relies on centralized AIS, did the auditor examine large batches of transactions that reflect the practices of the separated branches, especially if the system is totally computerized?			
c. Did the auditor select a large sample for AIS that depends on manual controls since they might be less effective and accurate as compared with those AIS that are based on automated controls?			

d. To reduce the control risk in complex multilocationed AIS, did the auditor collect sufficient competent evidence about the effectiveness of the system's design and the operations of its controls?			
e. Did the auditor test the effectiveness of the client's AIS through the following audit procedures: ■ Inquiries of the users of the system as well as the systems' designers.			
■ Documentation by reviewing the manuals related to the system's operations as well as a sample of the outputs produced by the system.			
■ Observations regarding the users of the system to identify whether there is a separation between those who design and those who use the system.			
■ Reperformance by obtaining a sample of the source documents produced by the system and trace the recording of the accounting transactions in these documents.			
■ Analytical procedures through comparing the system's accuracy and operation from one year to another or compare it to what is expected based on the effective design of the system in the IT markets.			

2. The Effectiveness of the Internal Control System	**Yes**	**No**	**Comments by Practitioner**
a. Did the auditor when testing controls concentrate on areas where he considers material misstatements are more likely to occur?			
b. Did the auditor identify the nature of the audit evidence as well as the type of the control activity to verify what would directly affect the nature, timing, and extent of the audit procedures to select for each location?			
c. For branches that have similar internal control systems in terms of structure and operations, did the auditor use standardized audit procedures to test the controls' effectiveness?			
d. Did the auditor use certain audit procedures to test the controls' effectivenesss in a multilocation audit engagement: ■ Documentation: to identify and verify those who are responsible for the performance of the control activities.			
■ Inquire of the client's management and employees about the design and operating effectiveness of a control in order to determine the level of compliance with the control activity policies and procedures by those who perform the activity.			
■ Observation of the performance of controls and the degree of compliance with the control's policy and procedures. This procedure has its significance in multilocation control's tests.			
■ Analytical procedures: by comparing the operating performance and a sample of the outputs of these controls with the previous year(s) in order to detect any unusual transactions and practices.			
e. After not less than two years of understanding and testing all or relatively large number of the locations' control structures, did the auditor design an audit approach for multilocation control testing that: ■ First, identify the business units or locations that are individually significant.			

▪ Second, identify locations that have specific risks.			
▪ When in the aggregate, the remaining locations are insignificant, no further testing is required by the auditor.			
▪ In case that the remaining locations are significant when aggregated, the auditor should examine the company-level controls by checking the documentation and testing these controls.			

3. The Diversity of Locations.	**Yes**	**No**	**Comments by Practitioner**
a. Did the auditor select a sample of the client's locations so that:			
▪ If the location has a determinable chance to be selected due to the standardization of its AIS and the internal control system, the results of the sample can be generalized to the associated branches to draw an overall conclusion.			
▪ In case that the auditor wants to minimize the audit costs and efforts, a standardized audit program can be used for continuing multilocation audit engagements.			
▪ If each location does not have a determinable chance of selection, did the auditor: • Use the rotational policy, for a client with an effective internal control system operated in each of the locations.			
• Use another technique by performing detailed audit tests for each location that is material to the consolidated financial statements with a particular emphasis on locations where problems have been detected in the past audits.			
• Randomized visitation to a sampled locations in order to reduce the risk of concealed fraud. These visits can be based on a rotating schedule.			
▪ For those clients with limited number of locations geographically separated over a wide area; if each location count for a large percentage of the company's assets, all the locations should be visited every year.			
▪ Analytical procedures can be used for locations with specific risks or those significant on the aggregate level.			

4. The Proximity of Locations and Transferability of Assets.	**Yes**	**No**	**Comments by Practitioner**
a. To minimize MAR under this risk factor, did the auditor ▪ Engaged with a client whose accounting records are centralized? When the records are centralized while the asset is located at several separated locations, this may facilitate a centralized audit for the existence and valuation assertion.			
▪ Make substantive tests at some smaller locations that are unpredictable by perpetrators who expect large location-visits.			
▪ Make on-site visits to assert the existence of assets that count for a large percentage of the consolidated financial statements			

b. Did the auditor use specific audit procedures to minimize this risk factor, following certain sequence: • First: inquiries of the divisional management and the branch's employees concerning: ▪ The risks of fraud and the procedures used to acquire and transfer the assets. ▪ The nature and extent of monitoring the operating locations or business segments. ▪ Whether there are particular operating locations or business segments for which the risk of fraud may be more likely to exist.			
• Second: physical examination by attending the physical counting of the client's assets and supervising the client's accounting staff responsible for this process.			
• Third: use analytical procedures to identify any unusual relationships and transactions by the client's management.			
c. Did the auditor verify the existence of inventory, as an example of an account balance in a multilocation company, as a standardized audit approach can be used through: 1. Attending the physical counting process in a selected sample of the warehouses.			
2. Receiving a signed document including the names and the job titles of the client's staff that performed the counting and inspection process.			
3. Receiving a final report including the results of the process.			
4. Make comparisons, using representative sample, between the number and the value of the item of the inventory included in the report and what actually exist in the warehouses.			
5. Prepare a final report including any notes concerning differences in the counting and valuation, if any. This report is to be attached to the management letter or could be a part of the audit report, if these differences are highly material and the management refuses to take a proper action.			
d. Reducing the risk of concealed fraud, through relying on audit practices unpredictable by the client's management that are permissible under the engagement letter's requirements.			

Third Section: Proposed Modification to the Audit Risk Model to Reflect the MAR

According to the above proposed inquiries and guidelines and as an end result of the research study, the audit risk model can be modified to reflect the identified six risk factors affecting the MAR. The justifications behind this is that in a multilocation audit environment, the auditor must not deal with the same inherent, control, and detection risks but there are further identified risk factors as discussed in the research and tested in the empirical study. The classification of the audit risk model's components into multilocation audit risk components, is based on the review of the literature of Allen et al. (1998). However, the literature review study did not empirically test the multilocation risk components but only suggested areas for future research studies to test these factors and consider their direct or indirect effect on the MAR. Accordingly, these six factors affecting the MAR, were further refined by the researchers to suit the nature of the business environment in Egypt, using certain analyses. Based on this, the audit risk model can be reclassified to constitute the multilocation audit risk factors as follows:

Audit Risk Component	Multilocation Audit Risk component
-Inherent Risk… (IR)…	-Diversity of Locations (DL). -Proximity of Locations (PL). -Dollar Value Distribution (DD).
-Control Risk…… (CR)…	-Degree of Centralization (CN). -Effectiveness of Controls (CE). -Effectiveness of Internal Audit (IA).
-Detection Risk… (DR)…	No identified multilocation audit risk factor.

According to this reclassification, the multilocation audit risk model can be calculated as follows:

AR (Audit Risk)= *f* (IR x CR x DR)

IR= *f* (DL, PL, DD)

CR= *f* (CN, CE, IA)

Therefore;

MAR= *f* (DL, PL, DD, CN, CE, IA)

In this modified multilocation audit risk model, the inherent risk would be a function of the single audit factors and the multilocation audit risk factors as specified. The important consideration here is that the effect of these factors on overall inherent risk is that they are additive. That is, the presence of each factor increases inherent risk and they do not offset each other. On the other hand, control risk would also be a function of the single audit factors and the multilocation audit risk factors. However the relationship of the factors is compensatory. That is, a weakness in one factor can be offset by strength in another. For example, weak location controls can be compensated by strong internal audit.

This model is to be used during the planning stage of the audit to set the appropriate level of the MAR so that the auditor can adequately plan the amount of competent audit evidence to accumulate. In identifying the level of each risk factor component, this is mainly based upon the auditor professional judgment used depending on the nature of the engagement. However, an auditor can use qualitative descriptive terms including; high, moderate, and low to assess the level of each risk factor involved in the engagement and included in the model. Once the auditor assess the MAR level, this preliminary assessed level should be compared with the actually achieved level of MAR at the end of the engagement, according to the auditor's overall analysis of the audit results and before the issuance of the adequate audit report in order to determine whether further field work tests are required or not.

This multilocation audit risk model can be used by practitioners in all multilocation audit engagements regardless the complexity of the engagement and the extent of the audit tests. It can also be used to make an overall evaluation for the MAR level so that the auditor can identify the amount of audit fees based on the extensiveness of the audit tests and the nature of the audit program to be designed to achieve the preliminary assessed MAR. Finally, it is possible to say this model could have the tendency of being practical to practitioners. However, the researchers consider that this model is still in the refinement stage that should be subjected to further tests and verifications for its relevance and accuracy.