CONCLUSION AND SUGGESTIONS

Auditing is a watchdog function which monitors and ensures that the business activities of the enterprise are being conducted compatible to the pre-determined policies, enacted laws and rules, and with accuracy, integrity and sincerity on the part of the personnel engaged to achieve the objectives and accomplish the goals of the organization. The need of audit is all the more pronounced in the case of financial institutions which deal with transactions involving inflows and outflows of finance. Bank are among the institutions which primarily deal in deposit and credit lending of money and conduct several other financial transactions. The audit function is, thus, of paramount importance for the banking institution which organize audit activity both internally as well as externally. While internal audit is usually in-house and precautionary, the external is periodic audit which is mandatory and outsourced. This study examines and evaluates the internal audit practices in the commercial bank of Jordan. Being an everyday in house activity, the internal audit function checks and detects on time the errors, frauds and misappropriations of funds and, thus, minimizes the chances of causing intentional loss and damage to the banking institutions.

Banking in Jordan has developed significantly as the banking institutions have expanded both vertically and horizontally in a short space of time. The study finds that the Arab Bank was the first institution introducing banking as a domestic commercial activity in Jordan in 1934. This led the banking system start developing its roots in the country. After independence in 1946 from British rule, the national
government initiated measures to establish the domestic banking system. The Central Bank of Jordan (CBJ) was, however, established in 1964. Over the course of more than four decades since the inception of CBJ, the banking network has grown considerably and widely in Jordan. At present, Jordan’s banking sector comprises 13 different banking sector with their 478 branches spread across Jordan’s, 41 foreign banks offices with a dozen of their branches; Islamic banks having 10 branches; and several other specialized development banks.

Statutory and regulatory control on the banks is exercised by the Central Bank of Jordan (CBJ). Pursuant to the stipulation of Article (45/a) of the Central Bank’s Law and Article (99/b) of the Banking Law of Jordan, the Central Bank has promulgated regulatory framework for the internal audit and control systems in the banking sector of Jordan. The regulation lays down instructions with regard to the observance, establishment, and conduct of internal audit and controls in the banks.

Independent Audit Administration is required to be created pursuant to Article (32) of the Banking Law. The Administrator sets up internal audit charter and gets it approved by the Board of Directors. The Administrator also devices the internal audit procedures consistent with the best practices and international standards; formulates audit plan, and prepares annual reports about the extent of adequacy of internal controls and supervision regulations to limit the risks the bank is subjected to.

The study finds that internal audit function, pursuant to legal provision, is an integral part of the activities of banking sector in Jordan. The internal audit function aims at making independent appraisal of activity within the banks for the review of accounting, financial and other banking practices, compliance with rules and regulations and serves as a protective and constructive arm of the management. It is in
fact a type of control which measures and evaluates all other types of controls. As a continuous process, the internal audit function is performed by the qualified and skilled staff in Jordan banks. But the function works independently, fearlessly and impartially as an important wing of the banks.

The study finds that besides the internal audit function, the banks have a ‘Compliance Function’ which is a support function to exercise an independent oversight on behalf of management on the observance of audit policies and procedures and to ensure that these are complied with in letter and spirit, thereby maintaining the banks reputation. Compliance is the individual and collective obligation of each staff member in the bank within the given area of one’s responsibility. The function has authority of free access to information and personnel and has the right to advise internal auditor to conduct investigation of possible breaches of internal audit standards and, if required, to appoint outside experts to perform the task.

The study finds that the standards set for internal audit and the procedures and practices as prevalent in the banking sector of Jordan are compatible to International Audit Standards (IAS). The Basel Committee set out twenty separate principles for internal audit function to make it independent, impartial, effective, continuous, unfettered access to information, conducted by competent professionals, and conducive to be of assistance to external auditor. Guidelines for internal audit as made by Basel Committee have been duly taken into account by Jordan banks in designing, structuring and empowering the Internal Audit Function. In addition, the banks also observe standards laid down by the International Auditing and Assurance Standards Board (IAASB).
The study highlights the important areas of internal audit activity in banks of Jordan. These are (a) Treasury Operations audit practices; (b) Risk Management Audit Practices; (c) Investment and Securitization Audit Practices, and (d) Transactions Audit Practices.

Treasury operations relate to financial market activities of the banks which make up the investment portfolio. Foreign and domestic treasury operations are fully integrated in the banks. The internal audit interacts with every process of treasury operations, viz. its overall management structure; treasury structure, deal execution process, deal settlement process, deal monitoring process, accounting and valuation procedures, and flow of information and data to and from the treasury.

Risk Management internal audit procedures and practices focus on the identification of risk, capital adequacy to offset risk (Basel Committee requirement), effective management of risks, anticipating areas of potential risk, and protecting the bank from various other risks.

Investment and Securitization internal audit involves the prime responsibility of ensuring that the Special Purpose Vehicle (SPV) created for securitization transactions remains independent. For ensuring true sale of the pool by originator to SPV, internal auditor satisfies that transaction price is based on market trend, originator has no interest in the repurchase of asset, sale transfers all risks and rewards with the asset; and the originator/creditors have no access to the asset in case of bankruptcy of originator. Right valuation of securitization instruments with adherence to the internationally accepted practices and instructions issued by the CBJ is also the responsibility of internal audit function. Review and reporting to the board of half
yearly investment portfolios is also mandatory for the internal auditors in Jordan banks.

Transaction audit practices and procedures deal with the verification of accounts based on accounting transaction flows. The internal audit ensures error free and fraud free conduct of these transactions. It exercises a check on banks usual business of deposits, payments, loans and advances as well as other allied financial services rendered by the banks to clients. The practice makes much use of internal checks, like no access to cashier to customers ledgers, cross-checking of work, rotation of duties, surprise checks by internal auditor, checking balances of accounts, physically verifying the securities of customers lodged against loans, etc.

**Information Technology Application and Audit**

As information technology has advanced, organizations have become increasingly dependent on computerized information system to carry out their operations and to process maintain and report essential information.

The study finds that information technology has revolutionized the banking business in Jordan. Computers are used extensively now in Jordan’s banking sector to carry out multifarious banking business activities. Software application covers a wide range of accounting and financial operations. Banks are dispensing deposits and payment services at the counter using IT hardware and software. Customers signatures, relevant data and accounts are totally computerized and stored in software ledgers in Jordan banks. Access to cash from banks round the clock is facilitated through ATMs installed in the banks as well as at important market places of convenience to customers. On-line banking services allow the customers to avail some specific banking services without physically visiting the bank. Electronic Fund
Transfer (EFT) services are transacted through electronic media. Electronic Payments
by means of Credit, Debit and Smart Cards can be made. Even electronic cheque
payments are processed by the banks in Jordan. Several other e-banking services are
also offered by banks to their clients, like, view account balance, trade stock and
mutual funds, track real-time stock quotes, etc.

As a consequence of extensive application of information technology, the
reliability of computerized data and of the systems that process, maintain and report
these data have become a major concern of internal audit. Software based facilities are
prone abuse. The cost of errors and irregularities that arise in these systems can be
high. Banks ability to survive can be severely undermined through corruption or
destruction of its database, decision-errors caused by poor quality information system,
losses incurred through computer abuse, loss of valuable computer hardware and
software personnel, the high cost of some types of computer errors, failure to maintain
privacy of customers, and failure to control how computers are used in the bank. This
calls for effective IT audit and control systems in the banks.

The study finds that IT audit function has been established by the banks of
Jordan. The function ensures that the computerized system maintains data accuracy,
integrity, completeness, safeguards assets, allows organizational goals to be achieved
effectively and uses resources efficiently.

The study finds that the IT audit function in banking sector of Jordan applies
two types of controls on computerized systems: (a) General Controls, and (b)
Application Controls.

General Controls are applied to all types of computer applications and set the
control environment in the bank. General controls consists of operating system
containers; system development controls; system maintenance controls; data management controls, organization structure controls, computer centre controls; network controls and P.C. controls.

Application Controls pertain to specific computer applications. These controls ensure the proper authorization, completeness, accuracy and validity of transactions, maintenance and other types of data input. These controls fall into three categories, viz. (a) Input Controls, (b) Processing Controls; and (c) Output Controls. Input control prescribe procedures to check data for validity, accuracy and completeness when they enter the system and include source document controls, data coding controls, batch controls, validation controls and input error correction controls. These controls significantly reduce errors that may creep into the system. Processing controls ensure that data are processed correctly and data updating is accurate. This control is applied in two forms, viz. Run Controls and Operation Intervention Controls. Output controls ensure that the results of processing are accurate complete and properly distributed. This control includes batch system output controls, storage output controls, printed output controls and real-time system output controls.

The study concludes that the internal audit procedures and practices as obtaining in the banking sector of Jordan are sound and effective. They are in keeping with the International Audit Standards (IAS) and the guidelines of the Basel Committee on Banking Supervision. The audit procedures and practices are applied by banks in every sphere of banking activity. The application of Information Technology has, of late, revolutionized the banking system. Computerization of banking operation has fast permeated in the banking sector of Jordan and multifarious banking operation are now performed through e-banking. But use of information
technology is fraught with serious risks and hazards with their impact on the very survival of the banks. Internal controls as required to combat these risks have, therefore, been established by the banks. These controls monitor the performance of computerized systems, detect errors, prevent computer abuses, maintain data integrity, accuracy, and completeness, keep secrecy of information, ensure security of assets, effective and efficient use of resources and report information to management for decision making.

The hypotheses of this study have, moreover, been further tested to strengthen their veracity through a survey. The survey ascertains the perceptions and levels of satisfaction of the respondents with the internal audit practices and the Information Technology (IT) audit and controls established by the banking sector of Jordan. The questionnaire sought perceptions of the respondents with regard to effectiveness of internal audit including IT audit and controls; uniformity in audit pattern and practices, contribution of internal audit and IT controls to foster trustful relationship between auditor, bank employees and customers; and finally about realization by auditors of their responsibility to check errors and frauds data accuracy, integrity and completeness, safety of assets, effective achievement of organizational goals and efficient use of resources.

Statistical tools have been applied to the analysis of hypotheses specific information collected from the respondents of survey. The findings and inferences drawn from the data analysis lead this study to come to the following conclusions:

**Part-I: RESPONDENTS**

The analysis of data obtained reveals that:

- 49.8% of the respondents are males and the rest are females 50.2%.
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- 14.2% of the respondents have experience of 1-5 years in the field of banking business; 39.1% have 6-10 years experience, 34.8% possess 11-15 years experience and the rest have above 15 years of experience related to banks and their business operations including internal audit and IS function and controls.

- The highest percentage of respondents constituting 33.5% represented the age group between 26-31 years and formed the majority of the informants; followed by the group aged between 32-37 years forming 27.9% while only 9.0% of the respondents were aged between 20-25 years and another 9.0% between 38-43 years; 15.9% were between 44-49 years of age; and 4.7% were in the age group of 50 years and older.

- It has been found that 10.3% of the respondents have studied upto Intermediate/Diploma level or lower; 53.2% hold Bachelor’s degree; 33.0% possess Master’s degree and 3.4% have Doctorate degree.

Part-B: BANKS

- Most of the banks were established between 1990-1999.

- 66.5% of banks have branches outside Jordan.

- 2.1% of banks have more than 2000 employees each, while each of the remaining banks have staff strength of less than 2000 employees.

- Banks with capital above 21 million Jordan Dinars (JD) are in majority constituting 70.8%; followed by banks in the capital group between 71-20 million JD forming 28.3 percent; and banks in the capital group of 1-10 million JD representing only 0.9% of the total number of banks in Jordan.
8.6% of banks have assets 5-10 billion JD, while 91.4% of banks have assets above 11 billion JD, as at the end of 2008.

Part-III: TESTS OF HYPOTHESES

To determine whether each of the hypotheses of this study is null or valid, the means of responses to questions in the field of particular hypothesis have been worked out. The mean of the scale 3 has been taken as a standard for judgement. If the result is lower than 3, this will indicate that the element of the field responded by the informants is not good (null). But if the result is higher than 3, this will indicate that the element is good (valid). The means for various elements in the field of each hypotheses have been shown in Table 6.18.

H$_{01}$: “AUDIT PRACTICES IN THE BANK OF JORDAN ARE EFFECTIVE”

- There exists a positive attitude in the respondents towards the elements (statements) in this field because their means are greater than the mean of the scale (3), but in different percentages.

- The statement (element) in this field which, on the basis of response from informants, got the highest mean value is number (1) which says “Internal audit activity ensures that the procedures followed in carrying out the tasks help to achieve sound and effective banking operations.” The mean value worked out for this element is 4.4764, which is the highest in the field of hypothesis.

- Whereas the lowest mean is 3.6996 in statement number (4) which says “the internal auditing activity shows the level of wariness of the work environment.”
Test of hypothesis

- In order to test this hypothesis one sample T-test is applied. Since its subscale has 13 items the mean score of this sub-scale compared to 13x3 (the score of neutral) = 39. Because of values of t=22.53 and P=0.005<0.001, then the score of this subscale is significantly higher than 39 which is allocated to neutral option. Hence, the researcher’s hypothesis “Auditing practices in the banks of Jordan are effective” is accepted.

\( H_{02} \): “UNIFORM PATTERNS OF INTERNAL AUDITING ARE USED IN THE BANKS OF JORDAN”

- There exists a positive attitude in the respondents towards the elements (statements) in this field because their means were greater than the mean of scale (3), but in different percentages.

- The statement which has the highest mean in this field is number (24) which says: “Uniform internal control system used helps to make auditors efficient”. Its mean is 4.2017.

- Whereas the lowest mean was 3.6210 in statement number (14) which said; “The internal audit technology ensures that the pre-determined standards of work are followed.”

Test of Hypothesis

To test the hypothesis, one sample t-test is applied. Since its subscale has 11 items, the mean score of this subscale compared to 11x3 (the score of neutral) = 33. Because of values of t=19.027 and P=0.0005< 0.001, the score of this subscale is significantly higher than 33 which is allocated to neutral option. Hence, the
researcher’s hypothesis “Uniform pattern of internal auditing are used in the banks of Jordan” is accepted.

**H₀₃: “THERE IS EFFECTIVE RELATIONSHIP BETWEEN AUDITORS, BANK EMPLOYEES AND CUSTOMERS”**

- There exists a positive attitude in the respondents towards all the elements (statements) of this field because their means are greater than the mean of scale (3), but in different percentages.

- The element of highest mean of 3.7082 in this field is number (28) which states”. The internal auditing technology matches the international standards and contributes to trustful relationship between auditors, employees and customers.”

- Whereas the lowest mean is 3.2017 in statement number (34) which says. “There is an overlapping between the department of internal auditing and management of the bank regarding the privileges assigned to them.”

**Test of Hypothesis**

Hypothesis is tested by applying one sample t-test. Because its subscale has 10 items, the mean score of this subscale compared to 10x3 (the score of neutral) = 30.

Since the values of t=10.494 and P = 0.0005<0.001, the score of this subscale is significantly higher than 30 which is allocated to neutral option. Hence, the researcher’s hypothesis that “There is effective relationship between auditors, bank employees and customers” is accepted.
H₀₄: “AUDITORS FEEL RESPONSIBILITY TO WORK IN THE BANK”

- There exists a positive attitude in the respondents towards the elements (statements) of this field because their means are greater than the means of the scale (3), but in different percentage.

- The element with the highest mean in this field is number (35) which says: “Auditors feel committed to the principles of impartiality, objectivity, independence, and confidentiality,” where its mean has reached 4.0386.

- Whereas the lowest mean is 3.4721 of statement number 38, which says “The internal auditing technology encourages employees to follow the ethical code of conduct.”

Test of Hypothesis

For test, one sample t-test is applied. As its subscale has 13 items, the mean score of this subscale compared to 13x3 (the score of neutral) =39. Since the values of t=9.830 and P=0.0005<0.001, the score of this subscale is significantly higher than 39, which is allocated to neutral option. Hence the researcher’s hypothesis that “Auditors feel responsibility to work in the bank” is accepted.

Suggestions

From the overall discussion and analysis of the internal audit procedures and practices and the IT audit function and controls prevalent in the banking sector of Jordan, there emerge certain areas where further improvement is called for. Corrective measures will infuse greater effectiveness, efficiency and security in the internal auditing function established in the banks of Jordan. The study, therefore,
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recommends the following broad approaches to enhance the process of internal auditing in the Jordan banks:

1. Well-trained auditing personnel, in particular for information technology related auditing, is in acute short-supply in Jordan. Measures need to be initiated in this direction so that personnel in adequate number are available for taking up the jobs of auditing and performing it skillfully. Information Technology auditing is fast overtaking the manual banking business activities. It is recommended that special courses be conducted which are IT audit specific and specialized in computerized banking services. This would develop human resource for competently taking up the information technology based jobs in the banking sector of Jordan.

2. There is absence of any insurance for hardware and software hazards and happenings. There is a need for providing insurance for hardware appliances, software, information networks and employees of the information technology department against damage, error, cheating, fraudulent acts, etc.

3. Cyber laws require to be elaborated, comprehensive and deter-effective. The information technology is fast developing and undergoes changes towards advancement every now and then. Technological change also brings about in its wake changed techniques of cyber crimes. The existing cyber laws of the country are unable to cope with the emerging nature of fraudulent activities in the absence of any provisions to deal with them. Updating and improving cyber laws and legislations is called for and recommended to be undertaken sooner than later.
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4. Monitoring the progress of work and quality of performance in order to determine that the existing auditing assistants possess the necessary skills and competence to carry out their assigned tasks is very much required. Also, there is need to ensure that the assistants appear to understand the audit directions and that their work performance is being carried out in accordance with audit programs and other documents. It is suggested that the management arranges most frequent checks for monitoring the progress of work and examine the competence of audit personnel who should manifest proper skill and knowledge in all areas in which the bank operates. In addition, the professional competence must be assessed taking into account the auditor’s capacity to collect, to examine, to evaluate and to communicate the conclusions.

5. Audit standards and software techniques are constantly undergoing upgradation and are becoming more and more complex. Adherence to them is essential and keeping abreast with knowledge of technological advancements is inevitable for audit staff. This stresses the need for provision of knowledge and skill upgradation facilities for audit personnel. Training programs, both internal and external, for updating knowledge and skill of audit staff are strongly recommended.

6. “There is overlapping between the department of internal auditing and management of the banks regarding the privileges assigned to them.” It is one of the perceptions responded in the field of third hypothesis of this study. Overlapping of privileges leads to conflicts and confusion in decision making and performance of responsibilities effectively. Such overlapping need to be
sorted out and segregation of privileges be affected. Suggestion is made that the management retain all the privileges of decision making while the internal audit department keeps the privilege of information reporting and rendering advice to the management for decision making.

7. Security of Information Technology needs to be further tightened and improved in the banks. Security measures require to conduct a security programme which is a series of ongoing regular, periodic reviews conducted to ensure that ‘assets associated with the IS functions are safeguarded adequately from physical and intentional malicious threats which cause enormous financial and functional loss. Suggestion is made that it could be achieved through an Information Security Administrator made responsible for ensuring that Information Technology assets are secure. Assets are secure when the expected losses that will occur over sometime are at an acceptable level.

8. Staff rotation within the audit department is also recommended. Although it can be argued that this may conflict with the need for specialization, but in case of financial institution like banks, staff rotation contributes to an automatic check on the intentional malicious errors and frauds committed by staff permanently placed to handle a function or system of information technology control.

9. Information Technology development, installation and maintenance costs should also be properly audited. It is purposeful to evaluate economy, efficiency and effectiveness of IS development, installation and maintenance.
10. Any issues related to the audit function and information technology should be resolved on priority basis and before they impact the important audit function. No significant audit measures should remain unresolved.

The above measures are expected to go a long way in strengthening the effectiveness, efficiency and security of the internal audit function and IT controls in the banking sector of Jordan.