THE IMPACT OF INFORMATION TECHNOLOGY ON THE ACCOUNTING EFFICIENCY OF COMMERCIAL BANKS IN JORDAN - A CASE STUDY OF SELECTED JORDANIAN COMMERCIAL BANKS

ABSTRACT
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Abstract
ABSTRACT

Modern age is rightly considered as the age of Information and Communication Technology. Information technology refers to acquisition, processing, storage and dissemination of all types of information using computer technology and telecommunication systems. Information technology includes ancillary equipment, software, firmware and similar procedures, services etc. With the globalization trends world over it is difficult for any nation big or small, developed or developing to remain isolated from what is happening around. Financial sector in general and banking industry in particular is the large spender and beneficiary from information technology. The requirements of the banks are different individually depending upon their nature and volume of business, focus on a particular segment, spread of branches and a like. Many a times banks do have the required information but it is scattered. Addressing to rising customers expectations use of IT becoming more is significant particularly in the background of increased competition.

The computerized accounting consists of the necessary equipment and devices (Hardware) as property, and information contained in the system (Software), and the terminology that help the user to access this information (instructions). In this sense, the information System acts as an intermediary between business Management and computer science. In the age of advanced technology in which we live now, we find that most of the business organizations have become dependent on information technology and communication technology in the accounting of its business. And many of the stakeholders in these organizations, tend to prefer to deal with these organizations through technological means, because of the savings in time, efforts and money. All this led to the growing role of information technology in all administrative processes in various types, activities and sizes of business organizations. The banks, are among those business organizations that use information technology for the launch of its electronic banking services.
The commercial banks are fast catching up with the rest of the world in terms of the use of the most advanced technologies. Starting from online banking, we have also seen the arrival of innovative technologies like the mobile ATM and many more.

The banking business activities in today's world are, however, dependent on the computerized information technology. Application of software for information technology has accordingly been introduced in the banking sector and the banks are rapidly and increasingly switching over to a computerized banking environment for their operations.

Technology is increasingly finding its use in banking by way of convenience in product access and delivery, performance and managing productivity, products design, adapting to market and customer needs and access to customer market. Product development in tune with customer expectation will be the key area for Jordanian banks to become the market leaders. While Internet is acting as a catalyst for E-commerce growth, it equally poses major challenges for financial transactions.

The numerous and ongoing developments that occur in the business world in general, in the field of technology and information systems in particular, and the resulting huge quantities of data shall be processed and formatted as information can achieve the standards of quality and interest to its users. Globalization, the changes in business environment and great development lead to reconsider the accounting treatments because of the presence of the computers with widespread online computing, and through e-commerce, which made financial information more complex. It is obligatory to the accountants to adapt and keep up with new things to increase their knowledge in the field of computers and the Internet in order to cope with the changing business environment, and taking into account the impact of the information technology environment on the accounting profession.

The benefits of automation of banking tasks and services are—reduce operational expenses, increase staff productivity, speed services delivery, and improve service quality.

It must be remembered that accounting is the oldest information system known to organizations, and that's because of the great importance of accounting information to identify the financial and economic reality of the organization and the organization of financial relations with the surrounding environment.
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Accounting system provides a very important role in organizations management in general and in business organizations in particular, and one of the most important reasons for the existence of accounting and its ongoing development is to provide the appropriate information to make decisions, whether for organization management or for the external parties concerned with information accounting. Accounting system is one of the most productive systems of accounting information that contribute to rationalize and support the economic decisions that affect community resources and wealth and thus on the welfare of its members.

This study focuses on role and significance of information technology in the performance of the banking sector and other developments in this sector in recent decades. So the role of information technology on the accounting system in banks and its impact on the efficiency and effectiveness.

The study has been conducted in a structured manner and the whole work has been divided into five chapters. Each chapter has been designed with a direct bearing on the subject matter of study.

The first chapter is devoted to ‘Introduction’. It explains the topic of research, its significance and implications.

The studies that do exist are narrow in scope. For example, banks, the largest business user of IT in Jordan, have conducted various surveys of the most commonly used hardware platforms and database software in banking. Regardless, it is clear that governments in the Middle East recognize the important role IT plays in a modern economy and a number of government initiatives have been undertaken throughout the region to integrate IT into the public sector. As is the case in other Middle Eastern countries, Jordan’s present public sector initiatives range from automation of record-keeping to cellular communications and the construction of networking infrastructure. Many of the projects are being carried out in conjunction with the private sector in the form of foreign joint venture.

Jordan – A Brief Profile of the Country

Jordan is an Arab country which is officially called the Hashemite Kingdom of Jordan. Monarchy is the form of government and King Abdullah is the Head of State.
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The country is bordered by Syria, Iraq, Saudi Arabia and the West Bank. Amman is the Jordan’s capital and the largest city.

The state of Jordan is a small country spread over 89,342 Sq. km of area. It has a rapidly growing population which numbers 5.4 millions. About 55 percent of the people are native Jordanian. Most of the others are of Palestinian nationality. About 94 % of the people are Muslims. Christians make up a small minority in Jordan. About 5 % of the population is Nomadic Bedouin.

The national language is Arabic. However, most Jordanians speak English, especially in urban areas. The education is imparted both in Arabic and English medium; though at higher level of education the medium is English. Jordan is endowed with limited natural resources, but has improved its economy a great deal since its inception as an independent sovereign country. Jordan’s economic resource base centers on phosphates, potash and their fertilizers derivatives, foreign aid, overseas remittance and tourism. These are its principal sources of hard currency.

Banking Sector in Jordan

The preceding Section-I presented a brief profile of the Jordan’s economy which is growing and developing in all its economic sectors. The Gross Domestic Product of the nation is expanding in volume each year. The striking feature that comes to fore is that the banking sector plays a significant role in development and growth of Jordan’s economy. The present Section elaborates the current structure, organization, function, penetration and all other aspects of the network of banking sector of Jordan.

The most significant decision in the economic history of Jordan was taken by the Government on 1st October 1962 when it decided to initiate steps for the establishment of the Central Bank of Jordan. The government also issued directive to the Monetary Board to transfer the remaining work vested in London office finally to Amman in Jordan. And the auspicious day came on 1st of October 1964, when Jordan had its own central bank called the Central Bank of Jordan (CBJ).

Banking System

The remarkable development of the phase is that with the establishment of Jordan Central Bank, all the assets and obligation of the Jordanian Monetary Board were transferred to the Bank. The Central Bank triggered the process of development; expansion and consolidation of the monetary and banking system in Jordan. The
government enacted various laws required to define the authority and function of the CBJ as well as framed rules and regulation for the working and monitoring of the banking institutions placed under the control of the CBJ. The Bank as a central authority initiated steps to promote the process of setting up of banking institutions and their spread in Jordan. Over the course of years, several banks and their branches spread all over the country. People have developed banking habits and utilized the banking facilities for growth and development of commerce and trade both internal and external.

The government on its part is also getting the benefit of capital formation which the banking institution helps to build through mobilization of scattered savings.

The banking system has become an essential and important integral part of the economic system of Jordan. It is headed by the CBJ in its capacity as central bank of the country. The organizational growth of the banking system in Jordan is discussed in the presentation made ahead.

The banking and finance sector under the stewardship of CBJ has been contributing effectively in enhancing the process of economic development through its effective role of mobilizing financial surplus in the economy and channelizing it into different fields of investment. Besides, maintaining the monetary stability has also become the main strategic objective of the policy of the Central Bank of Jordan (CBJ, 1979). The monetary stability stands for maintaining the stability of Jordanian Dinar exchange rate, controlling inflation rate and ensuring that the interest rate structure conforms to the domestic economic development. Towards this goal, the CBJ pursued monetary policy characterized by flexibility and interaction with domestic and external economic developments. The Central Bank of Jordan also looks after the development of procedures and banking legislations aiming at enhancing the soundness of the banking system and improving the quality of its practices in line with best international applications and standards.

The banking business activities in today's world are dependent on the computerized information technology. Application of software for information technology has accordingly been introduced in the banking sector and the banks are rapidly and increasingly switching over to a computerized banking environment for their operations. The banking sector in Jordan has been further adapting itself to
countenance various developments such as internet banking, e-money, e-commerce etc, e-cheque, as the most modern methods of delivery of services to customer.

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 to their clients through the use of computerized software. Maintenance of customers’ individual personal accounts are totally computerized almost in every bank of Jordan. Customer’s signatures and other relevant data is stored in the software ledgers. As a result customers enjoy the facility of one-window payments called the ‘Teller Technology’. This facility is available within the premises of the bank.

**Accounting and Accounting in Banks**

In the present time the accounting system is considered as the responsible agency for the provision of financial information and quantity of all departments, sections and other parties. There are several definitions of the accounting system, including: the accounting system: is a component of the administrative organization which is specialized in collecting, analyzing and addressing the tab and connect the physical and quantitative information to make decisions to internal and external parties. Others define it as a system works in collecting, recording and storing data, then processing the data to produce information for decision-makers. The accounting system consists of six elements:

**Employees:** people who occupy the system and do various functions in the system.

**Procedures:** manual, computerized and centered procedures that focuses in collecting data about the activities of the organization, then processing and storage procedures.

**Data:** data related to the works of the organization.

**Software:** are used to complete the data operations of processing, storage and retrieval.

**Infrastructure base for information technology:** includes computers, software and other equipment associated with the interconnection networks, communication and others.
Internal control and data protecting means in the system.

**Role of IT in Accounting**

Every company applies accounting because it is generally accepted that companies have to reveal certain financial and management information to users and of course because accounting is an indispensable tool in business decision-making process. Accounting is an important part of every company thus; businesses are required to keep proper Accounting system. "Accounting can be divided into two basic categories: those which apply manual accounting and those which prefer computerized accounting system".

**Computerized Accounting Systems**

It is pertinent to note that with the improvement in technology, information system have been computerized. Improvements in this technology have replaced bookkeeping system with Accounting as such, Accounting information system that were previously performed manually are now performed by computers in most companies.

While accounting systems have been around for centuries, the introduction of business technology and Computerized Accounting Systems radically changed the playing field, that paper ledgers, manual spreadsheets and hand-written financial statements have all been translated into computer systems that can quickly present individual transactions into financial reports. Computerized Accounting Systems follow the same logic of journal, ledgers, reports and statements in a manual system. Computerized systems easily consolidate posting some functions and other basic tasks into a "behind the scenes" system. Organizations can also generate financial statements and reports easier, allowing for better efficiency and performance management reviews.

Computerized Accounting Systems is therefore a computer based system which combines accounting principles and concepts as well as the concept of information system to record, process, analyze and produce financial information to its users for making economic decisions.
The second chapter presents review of the literature. It goes through the pertinent published work so far done by scholars, academicians and professionals in the area of commercial banks in Jordan. The review of literature brings to fore the gap emerging from these works for further research. The gap justifies the problem of research which this study has set for itself as no work has been done so far specifically on the topic of research under current study. Also spelled out in this chapter are the objectives of the study, the hypotheses to be tested, the scope of study, the methodology and limitations of study and the full view of the plan of work envisaged for conducting this study up to the completion.

**Statement of the Problem**

The main objective to undertake a systematic investigation on the impact of information technology on accounting is due to difficulties faced by banking industry in Jordan to achieve their service rendering goal, increase market share and target profits as part of the purpose of their existence. This is because the quality of service rendered by some of the banks has created a negative multiplier impact on the banking industry as their chances of optimizing profit are hampered affected.

There are many issues like:

1. There are lot of complaints from the beneficiaries of banking services or bank customers that poor information technology results to inefficient application of computer to the accounting of the banks. Some of the areas having complaints of use of the poor information and communication technology products used in the banking industry include Automated Teller Machine (ATM), smart cards, electronic funds transfer, telephone banking, alert, electronic data interchange, office banking and electronic home.

2. In the light of the development of technology across all economic sectors worldwide, and increasing demand from citizens on banking services which leads to increasing costs in order to provide the service at the desired quality. All countries around the world, also Jordan, are suffering from this difficulty.

3. On the other hand, computerized accounting information systems are part of the overall information system. They play important, and effective role in providing at all levels of decision-makers with suitable time, accurate
information which aids to take the suitable decisions. These information are provided through reports and statements aggregated from actual daily data.

4. The efficiency of an accurate accounting system is demonstrated by its ability to help all banks, improve the efficient and quality of services, reducing costs and eliminating all resource-squandering activities; it also contributes to knowledge and experience which eventually leads to increase its competitive advantage through the system's ability to provide the right services and information at the suitable time.

In this study the researcher seeks to find out the impact of information technology on accounting of the banking industries by using Jordanian commercial banks as a case study.

Research Gap

From the foregoing literature review, it is obvious that there are many research studies on the different aspects of information technology with special reference to information technology in Jordanian banks. It is nevertheless found that there is a still dearth of research mainly focusing on the use of information technology in Accounting system. The present study was conducted against this backdrop and no work has been performed with this scope as yet.

The research gaps pointed out in the literature show that the researcher has looked thoroughly in the area of study and makes interpretation and suggestions on how the research may proceed or what could be done to fill those gaps.

Significance of the Study

The importance of this study lies in the importance of information technology used in the Jordanian commercial banks, and the need to identify the impact of information technology used in those banks in accounting system.

Simultaneously the importance of the study lies in the growing contribution of the Jordan's banking sector in development, economic progress, investments in recent years in Jordan, and the importance of the Jordanian commercial banks to keep pace with technological developments that have affected many sectors in the world to serve the beneficiaries efficiently, in addition to the role of the accounting system in recording data and economic events then processing and analyzing them to show the
results in a financial template, and summarize the results of the various activities and information in all its forms to facilitate the decision-making process. Also helps other sectors which did not adopt information technology so far in accounting regulations to clarify the outlines of the importance of information technology to the accounting system, and identify some of the potential challenges associated with the use of information technology in accounting systems.

**Objectives of the Study**

The main objective of this study is to identify the impact of information technology on the efficiency of accounting in commercial banks of Jordan. The detailed objectives of the study are as follows:

To identify the impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks, which represent the data collection, recording and the storing process.

To identify the impact of information technology used in the Jordanian commercial banks on the efficiency of accounting processes, which represent the processing of the data that have been recorded.

To identify the impact of information technology used in the Jordanian commercial banks on the efficiency of the accounting outputs, which represent accounting information, as measured by the efficiency of accounting information through qualitative characteristics of accounting information namely relevance, reliability, comparability and consistency.

To identify the difficulties those limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks, if available.

**Hypotheses of the Study**

The review of literature and the pilot study facilitates the following hypotheses.

**The first main hypothesis:**

\[ H_0: \text{There is no statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks}. \]
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The second main hypothesis:

H02: There is no statistically significant impact of the use of information technology on the efficiency of accounting process in the Jordanian commercial banks.

The third main hypothesis:

H03: There is no statistically significant impact of information technology on the efficiency of accounting outputs in the Jordanian commercial banks.

Sub-Hypotheses of this are:

The first sub-hypothesis:

H0: There is no statistically significant impact of the use of information technology on relevance.

The second sub-hypothesis:

H0: There is no statistically significant impact of the use of information technology on reliability.

The third sub-hypothesis:

H0: There is no statistically significant impact of the use of information technology on comparability.

The fourth sub-hypothesis:

H0: There is no statistically significant impact of the use of information technology on consistency.

The fourth main hypothesis:

H04: There are no difficulties to limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks.

Research Methodology

The study uses both primary and secondary sources for collecting facts and figures relating to the topic under research.

Primary information and data are based on empirical field study. They are obtained through a well designed questionnaire to elicit information necessary to the requirements for testing the hypotheses of the study. The questionnaire was served on each member of the universe based on the sample of banks chosen through statistical
sampling technique. Administration of the questionnaire was done to the member of universe. Bank officials were personally interviewed for discussion on various aspects of bank. The information thus collected have been classified, analyzed and interpreted through application of statistical tools and logical inferences drawn for the purpose of the study.

Secondary data includes previously published pertinent literature, books, articles, periodicals, bulletins, magazines and specialized journals. Such information provides the basis for building up the theoretical and conceptual framework of the study.

Besides the above primary and secondary sources of information, the study makes use of informal channels of extensive discussion and critical comments of academics and professionals in the field of banking industry. Their view and comments have also been incorporated which have greatly enriched this study in its contents and outcome.

Data Analysis and Hypothesis Testing Methods

Statistical tools used for analyzing the data and testing study hypotheses are as under:

Working out frequency rates and percentages relevant to the questionnaire paragraphs.

Calculating standard deviations and mean in all questionnaire paragraphs.

Using the sample test for testing the general hypotheses.

Limitations of the Study

The study has the following limitations:

1. Primary data has been collected through a questionnaire served by the researcher. Some persons reluctantly divulged their mind to answer the questions while others lacked confidence in answering the questions. Hence, the possibility of some biased and irresponsible information may have crept into interpretation relied on for analysis and interpretation in this study cannot be ruled out.

2. It was difficult to collect data from all over the country. Yet, best efforts have been made to collect latest data and information from as many sources as possible, like the Central Bank of Jordan.
3. In some cases, the data and information related to the study have not been available in the form and at the time required for this study.

The third chapter comprises of three sections. The first section enlightens on the evolution, development and growth of the banking sector in Jordan with special emphasis on the commercial banking segment in Jordanian banking industry. This also presents an overview of the Jordan’s economy and dwells upon the development and growth of the various economic sectors in Jordan as well as presents the economic indicators that highlight the current status of Jordan’s economy. The evolution of banking in Jordan starting from foreign-owned banking sector and progressing up to the formation of Jordanian owned national banks and also the current growth of their assets, expansion of deposits as well as loans and advances, the rate of capital formation, and study of the auditing and internal control practices of banking sector in Jordan are highlighted. It also peeps into the internal audit control system, internal audit programs and procedures, the organization for internal audit control, the functioning and effectiveness of such control.

The second section discusses the applications of Information Technology in commercial banks of Jordan. It assesses the depth and extent of the application of Information Technology and the nature in Jordanian banking sector. The effectiveness of the use of this Technology is gauged. The age and stage of the Information Technology is also taken into account so as to determine its compatibility with the requirements of modern day.

The third section discusses the accounting applications in commercial banks of Jordan. It assesses the depth and extent of the application of computerized accounting in Jordanian commercial banks.

The fourth chapter makes a critical analysis of the work done, as a whole, in this study. Through application of statistical tools, as described in the methodology, the data collected and used in the study are analysed and interpreted.

The fifth and the final chapter is devoted to a critical examination of the interpretation in order to draw logical conclusions. The outcome has its bearing on the hypothesis which is tested positive or negative. Based on the conclusions, the recommendations have been made. A pragmatic practical and long-range view has
been taken for fixation of the negative aspects emerging through this study and the corrective suggestions have been made to overcome them accordingly.

**Main Findings**

**The Result of Hypotheses Testing**

The study tested hypotheses in order to make point of view about the general result of the study and according to study sample, what is the final result of the hypothesis that is written in null way to hypothesis of no statistically significant impact of information technology on the efficiency of accounting inputs, accounting process, accounting outputs, difficulties. The following shows the result of main hypotheses and sub hypotheses:

Study results reject the first main hypothesis (H0), which states: There is no statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks. This result indicated that information technology in banks is very important to achieve efficiency of accounting inputs in the four banks in particular and in bank industry in Jordan in general.

Study results reject the second main hypothesis (H0), which states: There is no statistically significant impact of the use of Information technology on the efficiency of accounting process in the Jordanian commercial banks. This result indicated that information technology is very important to achieve efficiency of accounting process in the four banks in particular and in bank industry in Jordan in general.

Study results reject the third main hypothesis (H0), which states: There is no statistically significant impact of information technology on the efficiency of output accounting in commercial banks of Jordan. This result indicated that information technology in banks is very important to achieve efficiency of output accounting in the four banks in particular and in banking industry in Jordan in general.

Study results reject the fourth main hypothesis (H0), which states: There is no difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks. This result indicated that information technology in banks is very important to achieve of accounting in the four banks in particular and in bank industry in Jordan in general.
Study results reject the first sub hypothesis (H0), which states: There is no statistically significant impact of the use of information technology to the relevance. This result indicated that information technology is very important for relevance in the four banks in particular and in bank industry in Jordan in general.

Study results reject the second sub hypothesis (H0), which states: There is no statistically significant impact of the use of information technology on the property reliability. This result indicated that information technology in banks is very important for property reliability in the four banks in particular and in bank industry in Jordan in general.

Study results reject the third sub hypothesis (H0), which states: There is no statistically significant impact of the use of information technology on the property comparability. This result indicated that information technology in banks is very important for property comparability in the four banks in particular and in bank industry in Jordan in general.

Study results reject the fourth sub hypothesis (H0), which states: There is no statistically significant impact of the use of information technology to property consistency. This result indicated that information technology in banks is very important for property consistency in the four banks in particular and in bank industry in Jordan in general.

In general, all study hypotheses are rejected according to the study results, which mean that there is a statistically significant impact of information technology on accounting inputs, accounting process, accounting outputs, difficulties. also all sub hypotheses are rejected according to the results of the study, which mean that there is a statistically significant impact of information technology on relevance, reliability, comparability and consistency as it shown in the next point, the alternative hypothesis.

**Conclusion**

The present research is mainly intended to examine the impact of information technology on the efficiency of accounting in commercial banks of Jordan. In general the study argues that there is a statistically significant impact of information technology on the efficiency of accounting inputs, accounting process, accounting outputs in the Jordanian commercial banks; the study also argues that there are
difficulties in the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks, which is the alternative hypothesis. Also the study argues that there is a statistically significant impact of the use of information technology to the relevance, reliability, comparability and consistency.

The study reported that employees in Jordanian commercial banks have positive attitudes toward information technology, the employees agree that bank is using information technology in accountancy, and using a developed and appropriate accounting software for accounting operations. The employees in Jordanian banks also agree that bank is using a developed and appropriate data basis for accounting operations and for customers’ size, and using developed and adequate technological tools that can efficiently perform the accounting operations.

The study indicated that employees in Jordanian commercial banks have positive attitudes toward efficiency of accounting variables, therefore, employee in Jordanian commercial banks have positive attitudes toward accounting inputs, the employee agree that accounting events are recorded by using information technology in accordance with the generally accepted accounting principles (GAAP), and accounting events can be recorded accurately by using the information technology, also the employee agree that specifying authorities elements are available for accounting data entry in light of using information technology, and ongoing developments in the field of information technology is considered to enter financial data efficiently.

It is noted that with the increasing use of information technology in the world, many banks have worked to take advantage of electronic data processing, so that the information technology has become a part of the bank's environment and especially the computers, and because they continue with impact of information technology on the various operations of the bank and address data, this encourage bank's management to keep up with this developments.

The employees in Jordanian commercial banks believe that information technology used in accounting can cope with the diverse activities of the accounting events, and information technology helps in reducing the number of bank clients through allowing the client to insert some operations on his account electronically. The employees also believe that inserting information technology in the field of accounting to achieve a
competitive advantage for banks, also the use of Information technology leads to improve the accounting services provided to customers and beneficiaries.

The study shows that employees in Jordanian commercial banks believe that they have positive attitudes toward accounting processes, the employee believes that client can make transfer between accounts electronically, and bank can complete the accounting operations quickly and accurately by using information technology in the field of accounting.

The employees agree that database used in the bank have a high capacity (storage, retrieval, deletion, display and printing), and the used computerized accounting software can easily, accurately and speedily accomplish operations. Also the use of Information technology in the field of accounting leads to the integration and interdependence between the accounting processes of data entry and even access to information, the employees agreed that computerized accounting system can deal with any changes in the internal policies of the bank.

According to the results of the study, employees in Jordanian commercial banks have positive attitudes toward relevance, they are agree that information technology used in the field of accounting, contributes to provide quick feedback to help in making decisions optimally, and the employee believes that customers and beneficiaries can get the of accounting information through the Internet in a short time, also information technology used in the field of accounting, contributes to provide quick feedback to help in making decisions optimally, and information technology provides the possibility to get accounting information quickly and timely.

The study reported that employee in Jordanian commercial banks have positive attitudes toward reliability, the employee agree that using information technology, accounting information is complying with the requirements of decision makers, and use of information technology leads to the lack of fake or false information. The employees in Jordanian banks believe that beneficiaries can rely on accounting information and trust it in light of the use of information technology. Also by using information technology the necessary protection for accounting information will be available.

Employees in Jordanian commercial banks have positive attitudes toward comparability, the study believes that measurement and disclosure mechanisms of
accounting adopted by the bank on the internet, and measurement and disclosure policies related to currency exchange, also measurement and disclosure policies related to facilities granting.

The study also reported that employee in Jordanian commercial banks have positive attitudes toward consistency. The employees agreed that information technology helps on the stability measurement and disclosure policies relating to currencies exchange, and information technology helps in the stability measurement and disclosure policies relating to interest, also we can say that employees agreed that information technology helps on the stability measurement and disclosure policies relating to facilities granting, and information technology helps in the stability measurement and disclosure policies relating to warranties. In general, information technology helps in the stability of accounting policies in presenting accounting information.

Employees in Jordanian commercial banks have positive attitudes toward difficulties, the employees believe that there are many difficulties faced by banks, the employees believe that cost of investment in the information technology field of accounting is very high, and correlation of the evolution of information technology used in the development of human capabilities banks. The employees agree that one of difficulties is workers in the field of accounting do not have the necessary competence to use information technology and keep up with evolution, also unavailability of private financing using information technology in the field of accounting.

Employees in Jordanian commercial banks believe that from the difficulties faced by banks, is the high cost of the use of information technology in the field of accounting compared with usefulness, and not conviction the administration using sophisticated information technology in the field of accounting.

We conclude that information constitutes a strategic resource for modern banks, and must be provided with the required specifications in terms of accuracy, confidence, concentration, time, and banks have to use it in appropriate way, and this shows how the importance of information technology in the banking system, which is the task of providing this information to all administrative levels of the organization. The use of the system indicates the extent to which the beneficiaries are dependent on the output of information for the information systems in the performance of their duties, and measured the level of use through a number of times of use, and time spent in.
Information technology in banks is designed to generate the outputs of the beneficiaries, the lack of use means no use of them in the making decisions and this means failure.

Using information technology in the four banks in particular and in Jordanian commercial banks in general reflect the extent of development in the banks, and various equipment owned by the information technology and other means, which aims to increase the quality of services offered to customers, in addition to achieving growth rates, in the works of the various bank, at the local and international level.

It has been shown that development and construction of a good information system in banks, is directly related to the development and growth of the work of these banks, it has become a need for information and analysis process using information technology software, in order to have basic requirements for survival and competition in the market, because banks are very active part of economy and affect many sectors that have great financial dealing with banks to finance production, trade, constructions, tourism, and many other investments.

Information technology have important role in all areas, where information systems are developed rapidly, and numerous applications in all administrative, accounting and financial levels in the banks, these systems have been used in the operational levels and technically and strategy, information technology provides many advantages, through the availability of important information for all users in the bank. The information produced by the systems, which are a major source of the bank's resources on its various forms, it is the main reference for the financial decisions, whether the decisions of operation or investment or financing, as these decisions contribute to raising the bank's performance and achieve competitive advantage positively reflected in the market value of the bank.

Specific Suggestions

Banks that have been studied need to be more interested in information technology used by bank's, so it will be suitable for the purposes of the bank, through its compatibility with the operational and day to day operations, in order to make banking services easier for the bank's customers, thereby increasing efficiency.

Accounting inputs for banks are important. Therefore, it should create a comprehensive system to deal with how bank can achieve balanced in banking
industry accounts in efficiency way, which led to operation on competitiveness economy.

Accounting output should include many aspects like relevance property, reliability property, comparability property and consistency property, which are expected to improve the efficiency of annual financial results of these banks.

Banks should consider many points in the annual plans such as using software for accounting operations, taking in consideration that all accounting software are appropriate for banking industry accounting, and use of appropriate data basis for accounting operations, which suit to bank customers.

Banks should match between accounting processes of data entry and even access to information, and for that banks should design an information system harmonized with new technology, by making revision for this system specifically.

Increase attention to information technology indicators of success, by improve the degree of use of these systems in banks to raise the level of success of these systems, which support the banks in evolution.

Banks should focus on user satisfaction index related to information technology in banks. This will help to indicate employees impact on the development of work from the point of view of users, which will improve the level of the existence of users satisfaction of these systems by identifying and periodically to the extent of their conviction and satisfaction with the accounting information system in general, and measure the level of this dissatisfaction, in order to meet the desires and needs of the system reflected in a positive way.

Information technology in banking industry should carefully be planned and designed, installed, managed and improved in order to meet changing demands. Banks should develop information technology by emphasizing five basic phases including: planning, analysis, design, implementation, and support, in order to match between information system and accountant performance.

Banks need to create and design of an information technology in the banking system, the provision of public service staff needs information in a timely fashion, and assists in the establishment of administrative processes, and through the provision of computer hardware which help meet the information needs of the system.
Banks should pay attention to the training for employees, especially for whom responsible of information technology system, which help in development and keeping up with all that is new.

Banks need to know the problems and constraints that adversely affect the application of information technology in the banking system.

Banks should work on using information technology at the same level of technology and update it annually, those banks can have in the case of merger for example, integration and full of knowledge between employees and system applied in each bank.

**General Suggestions**

Jordanian banks should ensure more information system development and use in core of any plan they establish, bank's internal policies and should focus on efficient use of information technology.

Attention should be paid by Jordanian commercial banks for top management to use information technology to perform multiple planning functions and control, which will help in decision-making process. Thus banks would be able to perform more effectively as the decision-making and planning processes need information, and this information can be provided by an effective information system.

Jordanian banks should take into consideration what information technology contributes in reducing costs by reducing the cost of the use of books and documents and also reducing the number of staff in the field of accounting. Bank can thus be more dependence on information technology.

The main goal of use of information system software is to rectify mistakes quickly and easily, this can help save time and more efficiency.

Jordanian universities that teach financial and accounting management should apply a training program for the students in information technology practically, and this training should be in the banks, so that students can get sufficient experience in the use of information technology programs.

Jordanian banks need more orientation towards the fields and use all tools of comprehensive banking, e-banking within the scope of non-price competition as this has a positive advantages for either banks or clients.
Banking industry need to develop performance measures and the development of rules of information technology systems in enterprises, this need to segregation of duties between people working in the use of information technology tools environment.

When applying, supervise and corresponding process on information technology system use in banks, we need to pay attention to conduct a timely correction of errors, if any, tools, and modify and make sure of the validity of the amendment.

Government should encourage use of information technology application in banking sector, because it has many accounting effects, both on the economic unit level or at the national level, for the economic unit will be for information technology impact on the applicable banking systems are considered as models for the development and implementation of comprehensive quality leads applied to the operating speed and precision and quality in addition to its minimization cost TQM, and for the national level, it has many of the accounting effects, both on the value-added or national income and national spending.

**Future Research Directions**

The study focuses on the impact of information technology on the Accounting efficiency in the Jordanian commercial banks. The researcher has selected four banks which include, the Housing Bank for Trade & Finance, Arab Bank PIC, Bank of Jordan PLCB, and Cairo Amman Bank. Thus, a wide scope is available for further research in respect of banking sector of Jordan. Further research can be conducted on multinational bank such as Arab Bank which large has a number of branches over all Middle East region and some countries of the world.

The study covers only commercial banks in Jordan. In Jordan and Islamic countries there are two kinds of bank related to financial operation i.e. Islamic Banks and commercial banks. Further, research can be conducted on Islamic Banks, especially at this time when Jordan have about four Islamic banks, which provide there financial services to customers according to Islamic principles, and its worth to examine if there is any statistically significant impact of the use of information technology on the efficiency thereat.

Further, research can be conducted on the impact of the use of information technology on the efficiency from bank's customers' point view, or we can examine customer
satisfaction about using information technology on banks, because this help to design information technology that met the need of customers and employees who use this system at the same time.
THE IMPACT OF INFORMATION TECHNOLOGY ON THE ACCOUNTING EFFICIENCY OF COMMERCIAL BANKS IN JORDAN - A CASE STUDY OF SELECTED JORDANIAN COMMERCIAL BANKS

THESIS
SUBMITTED FOR THE AWARD OF THE DEGREE OF

Doctor of Philosophy
IN
COMMERCE

BY
FERAS IZZAT OQLAH KASASBEH

UNDER THE SUPERVISION OF
PROF. NAFEES A. KHAN

DEPARTMENT OF COMMERCE
ALIGARH MUSLIM UNIVERSITY
ALIGARH (INDIA)
2015
Dedicated
to my
parents
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I, FERAS IZZAT OQLAH KASASBEH, Department of Commerce certify that the work embodied in this Ph.D. thesis is my own bonafide work carried out by me under the supervision of Prof. Nafees A. Khan, Department of Commerce at Aligarh Muslim University, Aligarh. The matter embodied in this Ph.D. thesis has not been submitted for the award of any other degree.

I declare that I have faithfully acknowledged, given credit to and referred to the research workers wherever their works have been cited in the text and the body of the thesis. I further certify that I have not willfully lifted up some others' work, para, text, data, result, etc. reported in the journals, books, magazines, reports, dissertations, theses, etc., or available at web-sites and included them in this Ph.D. and cited as my work.

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Aligarh Muslim University,
Aligarh, (India)

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ALIGARH
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This is to certify that Mr. Feras Izzat Oqlah Kasasbeh, Research Scholar, Department of Commerce has satisfactorily completed the course work/comprehensive examination and pre-submission requirement which is part of his Ph.D. programme.

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CANDIDATE'S NAME: FERAS IZZAT OQLAH KASASBEH

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I start with the name of Almighty, the most Gracious and ever Merciful. Praise to "Allah", Lord of the Universe, who gave me the strength to complete this work.

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(FERAS IZZAT KASASBEH)
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<td>Nigerian Stock Exchange</td>
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CHAPTER – 1

Background of the Study
CHAPTER 1

BACKGROUND OF THE STUDY

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1.1 Introduction

Information technology refers to acquisition, processing, storage and dissemination of all types of information using computer technology and telecommunication systems. Information technology includes ancillary equipment, software, firmware and similar procedures, services etc. With the globalization trends world over it is difficult for any nation big or small, developed or developing to remain isolated from what is happening around. Financial sector in general and banking industry in particular is the large spender and beneficiary from information technology. The requirements of the banks are different individually depending upon their nature and volume of business, focus on a particular segment, spread of branches and a like. Many a times banks do have the required information but it is scattered. Addressing to rising customers expectations is significant particularly in the background of increased competition.

The computerized accounting consists of the necessary equipment and devices (Hardware) as property, and information contained in the system (Software), and the terminology that help the user to access this information (instructions). In this sense, the information System acts as an intermediary between business Management and computer science. In the age of advanced technology which we live now, we find that most of the business organizations have become dependent on information technology and communication technology in the accounting of its business. And many of the stakeholders in these organizations, tend to prefer to deal with these organizations through technological means, because of the savings in time, effort and money. All this led to the growing role of information technology in all administrative processes in various types, activities and sizes of business organizations. The banks, are among those business organizations that use information technology for the launch of its electronic banking services.

The commercial banks are fast catching up with the rest of the world in terms of the use of the most advanced technologies. Starting from online banking, we have also seen the arrival of innovative technologies like the mobile ATM and many more.

The banking business activities in today's world are, however, dependent on the computerized information technology. Application of software for information technology has accordingly been introduced in the banking sector and the banks are
rapidly and increasingly switching over to a computerized banking environment for their operations.

The banking sector in Jordan has been further adapting itself to countenance various developments such as internet banking, e-money, e-cheque, e-commerce etc. as the most modern methods of delivery of services to customers.

Technology is increasingly finding its use in banking by way of convenience in product access and delivery, performance and managing productivity, products design, adapting to market and customer needs and access to customer market. Product development in tune with customer expectation will be the key area for Jordanian banks to become the market leaders. While Internet is acting as a catalyst for E-commerce growth, it equally poses major challenges for financial transactions.

The numerous and ongoing developments that occur in the business world in general, in the field of technology and information systems in particular, and the resulting huge quantities of data shall be processed and formatted as information can achieve the standards of quality and interest to its users. Globalization, the changes in business environment and great development lead to reconsider the accounting treatments because of the presence of the computers with widespread online computing, and through e-commerce, which made financial information more complex. It is obligatory to the accountants to adapt and keep up with new things to increase their knowledge in the field of computers and the Internet in order to cope with the changing business environment, and taking into account the impact of the information technology environment on the accounting profession.

(http://www.minshawi.com/other/drzyadh.htm)

The benefits of automation of banking tasks and services are—reduce operational expenses, increase staff productivity, speed services delivery, and improve service quality.

It must be remembered that accounting is the oldest information system known to organizations, and that’s because of the great importance of accounting information to identify the financial and economic reality of the organization and the organization of financial relations with the surrounding environment. (Qasim, 2004,p8)
Accounting system provides a very important role in organizations management in general and in business organizations in particular, and one of the most important reasons for the existence of accounting and its ongoing development is to provide the appropriate information to make decisions, whether for organization management or for the external parties concerned with information accounting. Accounting system is one of the most productive systems of accounting information that contribute to rationalize and support the economic decisions that affect community resources and wealth and thus on the welfare of its members. (Romeny: 2006)

Accounting system is well connected with different administrative processes, which helps rationalize decisions and make the administrative process more efficient and effective in meeting the needs of the management of the organization. Economic units may be asked to have information systems specialized in all areas in order to achieve its general objectives, as well as the presence of intense competition, growing in business environment and the situation of the banking sector.

This study focuses on role and significance of information technology in the performance of the banking sector and other developments in this sector in recent decades. So the role of information technology on the accounting system in banks and its impact on the efficiency and effectiveness.

Furthermore, everyone know the fundamental role of information technology in achieving a variety package, integrated capabilities and features that directly support the establishment of competitive strategies. Through this technology, the establishment can apply the competition strategies as in Porters model, such as reducing costs, driving excellence and focus strategies. Also the strategies of information technology which can provide a strong impetus towards the formulation and application strategies of innovation, improve the quality and efficiency. All of these benefits can not be achieved without employing information technology to ensure efficiency and quality in the financial statements that can be made to the facility. (Kaddoura et al, 2003).

It is necessary to provide the requirements and data transparency in order to develop a comprehensive plan can achieve economic and social development. Requirements and data transparency are considered the basis for the process of economic and financial reform, and the next stage of the development process does not require reliance on the
simple financial and accounting information for controlling and planning, but must provide information accounting with more accuracy, speed and credibility and fin are more able to control the development process to assess the performance and bringing it to the required level in dependent on the electronic systems. (Zayoud, et al, 2005, p 149).

The investment and optimal utilization of modern technology have a clear impact in the field of business, which provide more speed and accuracy and the work is completed efficiently and effectively.

1.2 Background of the Study

The post–World War II era has witnessed dramatic expansion in governments’ social and economic responsibilities. Citizens in developed as well as developing countries have increased their demands for government-sponsored social and economic programs. The need for expeditious responses to those demands has led to the rapid expansion in the size and number of government agencies and to an almost continual series of agency reforms and reorganizations.

Many of the reform initiatives have involved governments’ information systems as countries have tried to maintain reliable, high-quality, and up-to-date information. To meet these challenges, the public sector in many countries has frequently been the early adopter of a wide variety of information technologies (IT).

Some of the most visible phenomena of the information age are a direct result of government-developed innovations and applications of information technology. Increased responsiveness to the public has often been the avowed goal of public organizations in the adoption of the computer. The reality is that without the use of computer technology, the mere administration of today’s large and complex social and economic programs would simply not be possible. Moreover, the application of IT to government activities has been uneven.

A considerable gap has developed between IT adoption in developed and developing countries. The time lag between adoption in developing countries compared with developed countries cannot be solely attributed to economics, and in the particular case of the Middle East, a recent Rand Corporation report minimizes the significance of any purported general Middle Eastern cultural impediments to a slower adoption of IT in the region.
A supportive environment appears to be the critical requirement. Such an environment demands an appropriately skilled workforce in a stable economic and political climate that fosters widespread use of computing and IT. Over the past two decades a voluminous amount of literature has been published regarding IT adoption in developed countries. In contrast, few studies have concentrated on developing countries in general and in Arab countries in particular. According to some writers, this is due to the relatively recent and somewhat narrow utilization of IT in these countries. To help fill this gap in the literature of international public sector adoption of IT, a survey was conducted in 1995, regarding computer use in randomly selected Jordanian public sector organizations.

Under its 1951 constitution, Jordan is a constitutional monarchy with a population approaching 7 million. Unlike many of its oil-rich Arab neighbors, Jordan is relatively poor in natural resources, and much of its land is too arid for extensive agriculture. Consequently, two of Jordan’s primary imports are food and crude oil from its Arab neighbors.

The 1991 Arab Gulf War was devastating to Jordan’s economy. Iraq was Jordan’s largest pre-Arab Gulf War trading partner. In the years after the war, Jordan has undertaken economic restructuring. The country has moved closer to a free-market economy and has announced its intention to privatize at least a portion of such state-run enterprises as the Jordan Electricity Authority, the Telecommunications Corporation, and Royal Jordanian Airlines. Related to these initiatives is a drive to trim the size of government. Presently, 47 percent of all employment in the country is in government and services, and the government is responsible for approximately 62 percent of the country’s total economy. (ANND : 2013)

A 20-year lag between developed and developing countries in computer usage trends is not uncommon. As a developing country, the Jordanian public sector adopted its first computer system at the end of the 1960s. In the early 1970s, the Arabian Bank adopted a computer system for the purpose of developing and modernizing the country’s banking system and to conform to the increasingly technologically sophisticated international financial markets. By the end of 1977, only five public organizations operated computers. The year 1977 must be considered a benchmark in Jordanian computer adoption in both the private and public sectors. During the next decade, public organizations began more use of IT in Jordan 119 widespread adoption
of mainframe, minicomputer, and microcomputer-based systems. By 1987, one study found nearly 3,200 computers in Jordan. Of that number, approximately 17 percent were identified as being located in the public sector. The microcomputer was the predominant platform in use compared to the minicomputer and mainframe. The fundamental reasons behind the rapid growth in the use of the microcomputer were its relatively low cost, ease of installation, and its more distributed nature. Current statistical information regarding the penetration of computing in Jordan is very difficult to find. As one exasperated researcher noted, "There simply isn't any researched information on the subject".

The studies that do exist are narrow in scope. For example, banks, the largest business user of IT in Jordan, have conducted various surveys of the most commonly used hardware platforms and database software in banking. Regardless, it is clear that governments in the Middle East recognize the important role IT plays in a modern economy and a number of government initiatives have been undertaken throughout the region to integrate IT into the public sector. As is the case in other Middle Eastern countries, Jordan's present public sector initiatives range from automation of record-keeping to cellular communications and the construction of networking infrastructure. Many of the projects are being carried out in conjunction with the private sector in the form of foreign joint venture.

Outside of the strictly governmental and infrastructure focus, the banking and financial services industry is the most willing adopter of new IT. Clearly, Jordan is counting heavily on IT to help reinvigorate its Gulf economy, and there are signs that IT is experiencing significant growth in the country. More than 100 companies sell PC hardware in Jordan, and a number of software and IT firms have been established by U.S. and Western-trained engineers in cooperation with internationally recognized IT firms. (Kulchitsky, Roman 2011).

The Royal Scientific Society appears to be the most active proponent of adoption of IT in Jordanian government. The Society has conducted technical studies to identify IT needs of the Ministries of Justice, Foreign Affairs, Agriculture, the National Aid Fund, the National Library, the Department of Press and Publication, and the Department of Income Tax. In addition, the Society provides technical consultation services; develops software for various governmental applications; supervises
information systems implementations; participates in IT standards setting, information research and retrieval services; and offers training in computing and IT applications.

Jordan – A Brief Profile of the Country

Jordan is an Arab country which is officially called the Hashemite Kingdom of Jordan. Monarchy is the form of government and King Abdullah is the Head of State. The country is bordered by Syria, Iraq, Saudi Arabia and the West Bank. Amman is the Jordan’s capital and the largest city.

The state of Jordan is a small country spread over 89,342 Sq. km of area. It has a rapidly growing population which numbers 5.4 millions. About 55 percent of the people are native Jordanian. Most of the others are of Palestinian nationality. About 94 % of the people are Muslims. Christians make up a small minority in Jordan. About 5 % of the population is Nomadic Bedouin.

The national language is Arabic. However, most Jordanians speak English, especially in urban areas. The education is imparted both in Arabic and English medium; though at higher level of education the medium is English. Jordan is endowed with limited natural resources, but has improved its economy a great deal since its inception as an independent sovereign country. Jordan’s economic resource base centers on phosphates, potash and their fertilizers derivatives, foreign aid, overseas remittance and tourism. These are its principal sources of hard currency. (Aljabery & Zumberg, 2008).

Education System

Under the principle of ‘Everyone has a right to a free and public education’ the educational services in Jordan are available to everyone without any kind of discrimination. The educational system consists of three tiers. The first tier covers basic education from 1-10 class and this basic schooling is free for all Jordanian students in about 5526 schools spread all over the country; the second tier comprises 11-12 standard split into two streams – one having academic stream leading to higher education at university level and the other being vocational, trains students for the skilled trades. Higher education in Jordan was initiated in 1951 and has been developing continuously since the establishment of first university of Jordan in 1962. Since then many Jordanian universities have been established. There are twenty three public and private universities, and more than twenty public and private community
colleges. With this network of education the literacy rate in Jordan has reached the level of 87%.

**Economy**

Jordan is endowed with limited natural resources but has improved its economy a great deal since its inception as an independent sovereign country. Jordan’s economic resources are based on phosphate, potash and their fertilizer derivatives, tourism, overseas remittances and foreign aid. These are Jordan’s principal sources of hard currency earnings. Lacking in forests, coal, hydro-electric power and commercially viable oil deposits, Jordan relies on natural gas for 10 percent of its domestic energy needs. The country depends on neighboring oil rich nations for its oil requirements. Jordan is classified as an emerging market for foreign investments.

**Economic Sectors**

The economy of Jordan comprises various sectors that contribute to the country’s national income. These sectors can be classified into two broad groups, viz (i) Production and Manufacturing sector and (ii) Services sector. The production and manufacturing sector consists of five sub-sectors which are (a) agriculture, hunting, forestry and fishing, (b) mining and quarrying, (c) manufacturing, (d) Electricity and water, (e) Construction. (Aldabagh Osama, 2003)

The services sector comprises seven sub-sectors, viz (a) Trade, Restaurants and Hotels (b) Transport, Storage and Communications (c) Finance, Real Estate and Business Services (d) Social and Personal Services (e) Producers of Government Services (f) Producers of Private Non-profit Services to Households, and (g) Domestic Services of Households.

**National Income**

The Jordanian economy has registered positive performance in the current decade despite the surge in the prices of oil and food items in international market followed by a world-wide recessionary trends as well as the conditions of political uncertainty in this region and decline in the size of foreign assistance. The Gross domestic product has maintained a rising trend in value terms
In the aforementioned overall growth and development of Jordan’s economy, the banking sector headed by the Central Bank of Jordan (CBJ) has played a pivotal role. The next section accordingly is devoted to a detailed description and discussion of the development of banking sector, its organization, network, penetration and reach in the Jordan’s economy.

1.3 Banking Sector in Jordan

The preceding Section-I presented a brief profile of the Jordan’s economy which is growing and developing in all its economic sectors. The Gross Domestic Product of the nation is expanding in volume each year. The striking feature that comes to fore is that the banking sector plays a significant role in development and growth of Jordan’s economy. The present Section elaborates the current structure, organization, function, penetration and all other aspects of the network of banking sector of Jordan.

1.3.1 Evolution of Banking in Jordan

The development of banking in Jordon can be split into three phases. These evolutionary phases are discussed below.

Phase I: Banking System 1921-1946

The genesis of banking system in Jordon can be traced back to the Ottoman era. Jordan had been under the domination of Ottoman Empire till the end of World War I. The Ottomans were running some sort of banking system within the region under their influence. Their bank was christened as the Ottoman Bank. The Bank was established in Turkey in 1863 and was considered as the oldest known banking institution in the region. (Almady and Mosa, 2005)

The opening of a branch of the Ottoman Bank in 1905 in Jordan marks the beginning of the banking activities in the country. The branch carried out the usual banking practices as prevalent at that time. It also represented as an agent for all financial and monetary matters related to Jordan as there was no other institution to play this role. As a result, the monetary and banking activities and policies of Jordan were linked to the monetary policies and banking system of Turkey. (Hamada B Said, 2003)

With the fall of the Ottoman State at the end of the First World War, began the era of British mandate in Jordan. The second Bank which opened branch in Jordan was the British Bank for the Middle East established in 1925. Its Head Office was in London.
The British replaced the Turkish Lira by Pound Sterling. They also introduced some sort of exchange rate mechanism in both Palestine and East Jordan. The circulation of Pound Sterling as a legal tender continued till 1927. The British then decided to create Palestine Pound and placed it into circulation on the 1st of November 1927. Palestine Monetary Board was also established. The Board was given the authority of issuing the currency. The Palestine pound was now issued by the Board as a legal tender. The pound remained in circulation in both Palestine and east Jordan 1927 through 1950. The Head Quarters of the Monetary Board, however, were located at London and the Board was headed by the British (Al Horany Ahmad, 2002).

In the absence of any banking system of its own, the Jordanian economy remained neglected for growth and development. Unluckily there was no Arab bank in the region which could render sincere assistance and contributed to the development of banking and monetary system and its expansion in Jordan which has been an Arab nation. In such a situation, the Jordan’s economy and banking system were totally dependent, governed and controlled by the Ottoman Empire. Instead of any growth, Jordan’s economy remained limited, small in size and static. The country even did not have the authority to issue currency of its own. The Ottomans Golden Lira was the legal currency for circulation in Jordan which continued till 1917. Instead of the trade being done through currency exchange rate, it was mostly on barter system.

The Ottoman Bank and the British Bank stayed as the only banking institution operating in East Jordan until 1930, when the Arab Bank replaced it. The Arab Bank which had been founded in Jerusalem in 1930 opened its first branch in Amman in 1934. The Arab Bank was the first banking institution introducing banking as a domestic commercial activity in Jordan. The Bank later expanded its branches in other parts of Jordan. It established its second branch in the city of Irbid in 1943. The Arab Bank thus became the nucleus of domestic commercial banking in Jordan and the banking system started developing its roots in the country (Shehata Abdul-Aziz Mussa, 1998).

**Phase-II: Banking System – 1946-1964**

This period is marked by the struggle for independence of Jordan from the British yoke. The people of Jordan ultimately succeeded and got independence and status of a sovereign nation in 1946.
With the advent of independence the national government of Jordan began to take measures to come out of the colonial economic cobwebs and launched plans to raise the requisite economic and financial infrastructure which could push up the economy towards growth and development. This required, on priority basis, the establishment of domestic national banking and monetary system to support the process of economic development. The national government of Jordan was also keen to issue Jordanian currency for circulation as a legal tender in the country with an international exchange rate for promotion of trade and commerce. With these ends in view, the state of Jordan enacted law no. 35 of 1949 amended and revised by law (53) of 1949. Under this law, the Jordanian Monetary Committee (JMC) was constituted. The JMC had been made the sole authority to issue Currency notes and coins. The national currency came into circulation on July 1, 1950.

However, under the law of 1949 as mentioned above, the headquarter of the Jordanian Monetary Board had to remain in London and the Britain had certain majority of votes. But the Jordanian Government continued taking steps aimed at achieving greater monetary autonomy both for strengthening its own system of banking and finance as well as for political independence of the country. The cabinet decision on September 22, 1975, had been the most important decision in this regard, under which the headquarters of the Monetary Board shifted to Amman in Jordan. Moreover the Board was also reconstituted and the Jordan's Finance Minister became the Chairman of the Board. Besides the Chairman, the Board had four other members. Three of them were Jordanian and the fourth was British representative of the Bank of England.

In spite of the transfer of its headquarters to Amman, the Monetary Board maintained an office in Jordan responsible for the implementation of the administrative duties related to printing of currency notes and minting coins and sending them to Amman.

The most significant decision in the economic history of Jordan was taken by the Government on 1st October 1962 when it decided to initiate steps for the establishment of the Central Bank of Jordan. The government also issued directive to the Monetary Board to transfer the remaining work vested in London office finally to Amman in Jordan. And the auspicious day came on 1st of October 1964, when Jordan had its own central bank called the Central Bank of Jordan (CBJ).
Phase-III: Banking System – 1964-2012

The remarkable development of the phase is that with the establishment of Jordan Central Bank, all the assets and obligation of the Jordanian Monetary Board were transferred to the Bank. The Central Bank triggered the process of development; expansion and consolidation of the monetary and banking system in Jordan. The government enacted various laws required to define the authority and function of the CBJ as well as framed rules and regulation for the working and monitoring of the banking institutions placed under the control of the CBJ. The Bank as a central authority initiated steps to promote the process of setting up of banking institutions and their spread in Jordan. Over the course of years, several banks and their branches spread all over the country. People have developed banking habits and utilized the banking facilities for growth and development of commerce and trade both internal and external.

The government on its part is also getting the benefit of capital formation which the banking institution helps to build through mobilization of scattered savings.

The banking system has become an essential and important integral part of the economic system of Jordan. It is headed by the CBJ in its capacity as central bank of the country. The organizational growth of the banking system in Jordan is discussed in the presentation made ahead (Hashish, Ahmed A, 1992).

1.3.2 Organizational Growth Central Bank of Jordan (CBJ)

The banking and finance sector under the stewardship of CBJ has been contributing effectively in enhancing the process of economic development through its effective role of mobilizing financial surplus in the economy and channelizing it into different fields of investment. Besides, maintaining the monetary stability has also become the main strategic objective of the policy of the Central Bank of Jordan (CBJ, 1979). The monetary stability stands for maintaining the stability of Jordanian Dinar exchange rate, controlling inflation rate and ensuring that the interest rate structure conforms to the domestic economic development. Towards this goal, the CBJ pursued monetary policy characterized by flexibility and interaction with domestic and external economic developments. The Central Bank of Jordan also looks after the development of procedures and banking legislations aiming at enhancing the soundness of the
banking system and improving the quality of its practices in line with best international applications and standards.

**Capital**

The capital base of the CBJ is Jordanian dinars 2,000,000 (two million). It is fully owned by the Government of Jordan. The capital of the bank can be increased by charging the amount of any such increase against its Reserves, by a decision of the Council of Ministers on the recommendation of the Board.

The CBJ has been established as an autonomous corporate body and a public entity. It has been authorized to work for achievement of objectives and carry out all functions as laid down under the Central Bank of Jordan law No. 23 of 1971 as amended from time to time, the latest amendment having been made in 1992 – 1993.

The CBJ in general does all functions that the central banks usually do in each country. The legislation, however, has specifically assigned the following objectives and authorized the CBJ to perform the functions necessary for the achievement of these aims.

1. Issuing and regulation of bank notes and coins in the kingdom.

2. Maintaining and managing the gold and the foreign exchange reserves of the kingdom.

3. Regulating the quality, quantity and cost of credit to meet the requirements of economic growth and monetary stability.

4. Adopting appropriate measures to deal with financial problems and local economy.

5. Acting as a banker to the licensed banks and the specialized credit institutions.

6. Supervising licensed banks to ensure the soundness of their financial position and the protection of the rights of depositors and shareholders.

7. Acting as a banker and fiscal agent to the government and public entities.

8. Advising the government on the formulation and the manner of implementation of its financial and economic policy.

9. Carrying out any other functions and transactions normally performed by central bank as well as any operations entrusted to it under this law or any
other laws, or under any international agreements to which the government is a party (Alrasas Mohamed, 1995).

Subsidiary Functions

The Central Bank of Jordan performs the following Subsidiary functions on behalf of the government or any public institution concerned (Jafer Nemah A, 2007).

I. Accepting deposits and maintaining accounts of banks.

II. Issuing and managing public loans which are offered for public subscriptions.

III. Paying, remitting and collecting funds in the kingdom or abroad and keeping funds in custody and opening letters of credit.

IV. Purchasing, selling, remitting or accepting in custody cheques, securities, bills of exchange, silver, gold, and foreign exchange.

V. Effecting any other banking services.

Organization

The Central Bank of Jordan has a well-knit and well co-ordinated organization. It is a blend of line and staff organization in which the authority flows from top to bottom and at various levels of authority there are staff of specialists and experts in banking, finance and monetary affairs forming various committees for rendering consultation and counseling service to the heads at various levels of authority in the CBJ.

(Mohamed S Alnabolsy, 2005)

Board of Directors

At the apex of the CBJ is the Board of Directors. It is decision-making body which acts collectively to make decisions. The Board consists of the Governor as the Chairman, the Dy Governors, one of whom the Governor names to be the Vice-Chairman in his absence, and four members appointed in accordance with the provisions of the Central Bank Act. They hold office for a period of five years.

However, the Council of Ministers may terminate the appointment of a member if he absents himself from all meetings of the Board held during two consecutive months without the consent of the Board.
Governor

Next to the Board of Directors in administrative hierarchy is the Governor. The governor is the chief executive responsible for the implementation of the policy of central bank and the management of its affairs. The appointment of Governor is made by a decision of the Council of Ministers for a term of five years, with the final approval of the appointment by His Majesty the King of Jordan. It is to be ensured by the Council of Ministers that the Governor selected holds experience in financial and economic affairs and is able to contribute to the realization of the objectives of the central bank. The governor is appointed for a term of five years and is eligible for reappointment. The governor exercises all the powers and authorities conferred on the central bank other than those reserved exclusively to the Board under the law. He is responsible to the Board for the implementation of Board decisions as well as to keep the Board informed of his decisions and measures which he takes on important matters. Also, the Governor signs, jointly with the minister of finance, bank notes in accordance with the rules and regulations in force (Mohamed Alserafe, 2007).

Representation of Central Bank in its relation with the government and all other institutions is also the responsibility as well as privilege of the Governor. In the capacity of representative of the Central Bank the Governor would deal with any legal proceedings to which the central bank is a party; sign contracts which involve financial commitments on the central bank verifying bank reports, accounts and statements and financial returns and other documents of the CBJ.

Appearance on behalf of Central Bank before the parliamentary committee set up to consider the affairs of central bank and publications of any press reports or statements explaining the policy and measures taken by the Central Bank are also the responsibility of the governor.

Deputy Governor

Two deputy governors are appointed to assist the Governor in the execution of his duties and functions in accordance with powers and responsibilities he assigns them. The Deputy Governor also appointed for a term of 5 years. In the absence of governor, one of the Deputy Governors nominated by the Governor takes over the powers and responsibilities of the governor.
The Deputy governor along with the Governor must devote whole time to the service of the central bank and discharge their responsibilities to the Central Bank of Jordan. None of them may engage directly in any business activity or accept any paid permanent employment unless the Council of Ministers decides to entrust any of them carry out participation, delegation or attendance in any international body.

The Council of Ministers may terminate the services of Governor or Dy Governor if he intentionally violates the provision of the law and thereby causes serious damage to the interests of the Central Bank. (CBJ. 2012).

Staff Committee

The Governor and Dy Governors are assisted in the discharge of their duties and responsibilities by the staff committees. These committees comprise experts on matters related to banking and finance and monetary affairs. The committee tender counsel and advice to the Governor and Dy Governors on various banking, finance and monetary issues confronted by the Central Bank.

The two committees of experts which render assistance to the Governor are the Consultative Committee and the Open Market Operations Committee. The Consultative Committee is activated as and when the Governor needs counsel for policy making and for decisions making on any vexatious issue confronting the Central Bank. The Open Market Operations body renders advice on market operations related to floating of securities as well as applying weapons for credit expansion and contraction in order to control the inflationary trends in the economy. The committees, thus, play a significant role in the organizational set up of the central bank.

The two Deputy Governors are assisted and guided by staff committees related to their distinct areas of activity. One of them looks after the human resource, investments & tendering for works and the administration. Accordingly four permanent committees have been formed to assist and aid the Dy governor in his area of operation. Human Resource Committee, Domestic Tender Committee and Departmental Tender Committee are the bodies available to the Dy Governor for counseling and consultation on matters related to the particular committee.
The other Dye Governor has been assigned banking operations like domestic payment, currency issue and money exchange, open market operations and public debt, banking supervision, computerization of banking operations and application of information technology in the system. Accordingly, two permanent committees have been constituted to help and assist the Dy Governor in the discharge of responsibility and functions falling under his purview. The ‘Credit’ facility committee provides help and support in all matters related to public debt & open market operations, credit extensions, currency issues and exchange. Matters related to computerization, information technology and the computer department of the Central Bank are taken care of by the other committee called the ‘I.T. Steering Committee’. (CBJ, 2012)

Departments

There is functional departments in the organizational set up of the Central Bank. A number of departments have been established, each department having been assigned an exclusive and specific banking and monitoring function to perform. These departments have been split into two broad groups. The division is just for the sake of placing them under the two deputy governors of the bank. The departments assigned to each of the two deputy governors as well as the area of activity and operation of each department has also been stipulated.

One Deputy Governor has under his administrative charge the following five different departments with functions specified.

1. Investment & Foreign Operations Department: The department consists of seven different divisions, viz. Investment Division, Settlement division, LCs and payment agreement division, foreign transfers division, external loans and grants division, correspondence division, foreign accounts division, middle office.

2. Research Department, consisting of five divisions, viz. monetary affairs division, national economy division, international economy division, balance of payments division, statistics division and department of library.

3. Internal Audit Department comprising two teams, viz. operational auditing team and information system auditing, and a division of studies and documentation.
4. Human Resources Department having five divisions of monetary affairs division, national economy division, international economy division, balances of payments division and statistics, beside library of department.

5. Administrative and Finance Department consists of six divisions, viz. procurement and warehouse division, buildings maintenance and press division, central accounting division, administrative services division, interior security unit.

Besides above five departments, two branches of the bank have also been assigned to the Deputy Governor. These are Irbid branch and Aqaba branch. Each branch has four identical divisions which perform common nature of functions in their respective regions of Irbid and Aqaba. The four divisions in each of these two branches of the bank are: Domestic Accounts and Payments Division, Treasury Division, Administrative and Financial Affairs Division, and Central Accounting Division. (CBI, 2012)

The other Deputy Governor has under his charge the following six different departments with functions specified for each of them.

1. Domestic Payments and Banking Operations Department. It consists of six separate divisions, viz. accounts management division, bank office and settlement division, RTGS-JO division, payment system technical support division, cheque clearing management division, and public and customers front office division.

2. Open Market Operations & Public Debt Department: This comprises five different divisions, viz. primary issue division, open market operation division, supporting operation division, analysis and development division, and credit facilities division.

3. Banking Supervision Department: It is split into two units namely, supervisory units and supporting units. The supervisory unit functions with the help of five supervisory teams called first team, second team, third team, fourth team and the fifth team. These teams supervise all sorts of banking operations performed by different departments in their division in the branch. The supporting units provide general and centralized services like implementation and compliance of banking legislation, checking and concentration, and
identifying suspicious transactions, etc. The supporting unit is aided and assisted by four divisions, viz. studies and legislations division, banking statistics division, credit concentration and risk division, and suspicious transactions and follow-up division.

4. The Computer Department develops and provides technical support to work the system for specialized and standardized banking functions. It consists of three divisions, viz. software development division, technical support division, operations division. It also maintains an information technology library.

5. Currency issue department comprises three divisions, viz. Currency management division, treasury division, currency settlement and safe custody division, and maintains a currency museum.

6. Money Exchange Supervision Department: There are three divisions in this department, viz. licensing division, inspection division, and analysis and supervision division.

The above mentioned elaborate organizational structure of the Central Bank of Jordan galvanizes the bank to effectively take care of all affairs related to banking, finance and monetary policy inside and outside the country. The organization setup also makes the bank a significant instrument as an institution to organize banking network in the country and assist the government in the much needed capital formation for economic development. The bank has, in fact, played its role in promoting and expanding banking as well as non-banking financial institutions in the State of Jordan. A detailed analysis is made of the growth of banking network and the activities as well as services rendered by these institutions in the following section. (CBJ, 2012)

1.3.3 New Banking Services Introduced by Banks in 2014

In their earnest strive to improve and upgrade their services and keep up with the state of the art in banking services, banks in Jordan introduced a number of new banking services into the categories of services they provide. The following table (1-1) demonstrates the most important new banking services introduced by banks in Jordan during 2014.
<table>
<thead>
<tr>
<th>Bank</th>
<th>Service</th>
<th>Short Description</th>
<th>Service Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arab Bank</td>
<td>Paying Omniah bills</td>
<td>Clients can pay bills to Omniah Co through e-banking services.</td>
<td>Internally</td>
</tr>
<tr>
<td></td>
<td>Ahli Mobile</td>
<td>Service provided by the bank to its clients through smart phones.</td>
<td>Ubanquity</td>
</tr>
<tr>
<td></td>
<td>Household Appliances</td>
<td>Personal loans to individuals at a zero interest rate as the dealer will pay the interest on behalf of the client.</td>
<td>Internally</td>
</tr>
<tr>
<td>Jordan Ahli Bank</td>
<td>Ahli Debit Card</td>
<td>New direct debit cards are issued, supplied with a smart SIM card to increase safety and improve the level of usage.</td>
<td>Master Card</td>
</tr>
<tr>
<td></td>
<td>Money Gram Campaign: erasure &amp; win</td>
<td>Money Gram campaign for quick transfers that allows sending and receiving transfers all over the world</td>
<td>Master Card</td>
</tr>
<tr>
<td>Cairo Amman Bank</td>
<td>Automatic settlement of electricity bills</td>
<td>Allows bank customers who have the visa electron to automatically settle electricity bills via Ahli Bank ATMs</td>
<td>Internally</td>
</tr>
<tr>
<td></td>
<td>Changing the visa electron password via ATMs</td>
<td>Allows visa electron holders to change their passwords automatically through Ahli Bank's ATMs.</td>
<td>Internally</td>
</tr>
<tr>
<td></td>
<td>Small loan</td>
<td>Aims at meeting clients targeted</td>
<td>Internally</td>
</tr>
<tr>
<td>Entity</td>
<td>Description</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bank of Jordan</strong></td>
<td><strong>Free hosting of Platinum card Jordan Bank holders in airport lounges around The world.</strong></td>
<td><strong>Unlimited free hosting in 61 airport lounges around the world for holders of Platinum card Jordan Bank, without any additional charges, whatever is the airline the customer is traveling with.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>The Housing Bank for Trade &amp; Finance</strong></td>
<td><strong>Installments programme of personal and home Purchases.</strong></td>
<td><strong>Provides adequate funding for clients with salaries transferred to the bank to purchase personal and home needs through a big number of companies member of the program at zero interest rate and without guarantor.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Car loans programme</strong></td>
<td><strong>Provides adequate funding for clients to buy cars for personal and family use at the following benefits:</strong></td>
<td><strong>Provides adequate funding for clients to buy cars for personal and family use at the following benefits:</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Funding purchase of new or 2nd-hand cars of whatever kind.</td>
<td>• Funding purchase of new or 2nd-hand cars of whatever kind.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Settlement term up to 10 years.</td>
<td>• Settlement term up to 10 years.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• 100% funding until JOD 100,000</td>
<td>• 100% funding until JOD 100,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Comprehensive insurance, license &amp; ownership transfer costs.</td>
<td>• Comprehensive insurance, license &amp; ownership transfer costs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Free life insurance.</td>
<td>• Free life insurance.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Credit card without issuance charges for the whole loan term.</td>
<td>• Credit card without issuance charges for the whole loan term.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Free assistance on the road.</td>
<td>• Free assistance on the road.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Electronic payment card to control fuel expenses.</td>
<td>• Electronic payment card to control fuel expenses.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Funding is granted via all branches; it is not centralized.</td>
<td>• Funding is granted via all branches; it is not centralized.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Loans at flat interest rate and competitive price.</td>
<td>• Loans at flat interest rate and competitive price.</td>
<td></td>
</tr>
<tr>
<td>AMEX</td>
<td>Bank sells, markets American Express AMEX to clients via branches so clients can get golden &amp; platinum cards in JD or USD, use them locally &amp; internationally freely and safely, &amp; benefit of privileges such as entering VIP airport lounges, benefiting of awards program, protection against travel risks, etc.</td>
<td>American Express Company</td>
<td></td>
</tr>
</tbody>
</table>
| Business loan | Diminishing interest loan that provides various & wide choices of funding purposes for businesses, companies, small enterprises, individual businessmen in different sectors to meet their needs & expectations. It is settled in up to 5 years at equal monthly installments, including interest, and a grace period of up to 1 year without guarantees or guarantor. Clients are given additional advantages as follows:  
  * Free life insurance  
  * Project insurance against fire, theft for free.  
  * Credit card without issuance charges for the loan’s term.  
  * Funding of up to JOD 70,000.  
  * Grace period of up to 12 months. | Internally |
<p>| Launching of the new website <a href="http://www.jkb.com">www.jkb.com</a> | The JKB launched its website <a href="http://www.jkb.com">www.jkb.com</a> with new face and content. JKB was keen that the website has the best international standards as to the easy browsing, coverage of all JKB information, developments, and additional information of interest to all website visitors of bank clients &amp; the public. Website also includes samples to submit loan, credit | |</p>
<table>
<thead>
<tr>
<th>Jordan Kuwait Bank</th>
<th>JKB page on Facebook</th>
<th>The bank launched its page on Facebook to keep contact with the bank’s clients and public, as it posts developments in new activities and products, as well as answering inquiries.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Transferring all visa electron cards into smart chips that are safer to clients.</td>
<td>All credit cards were thus transferred, so that the visa electron usage will be transferred to chips after the bank changed credit cards to chips.</td>
</tr>
<tr>
<td></td>
<td>Work started on Automated Clearing House (ACH)</td>
<td>This is a national project between Jordanian banks and the CBJ, by virtue of which retail payments between banks will be developed.</td>
</tr>
<tr>
<td>Arab Jordan Investment Bank</td>
<td>Work started with payments through cell phone</td>
<td>Upon completion, bank’s clients will have the chance to pay and transfer through their cell phones both within the same bank and to other banks.</td>
</tr>
<tr>
<td></td>
<td>Activating the SMS services for all bank services offered by AJIB to the banks.</td>
<td>This enables clients to know movements on his/her accounts anytime and anywhere.</td>
</tr>
<tr>
<td></td>
<td>Starting to develop new software for compliance department.</td>
<td>N implementation of CBJ’s requirements and in compliance with the new Basel standards, these applications will adopt high standards to run and develop the department’s work.</td>
</tr>
<tr>
<td></td>
<td>Electronic link with Customs Department to facilitate and speed up bank guarantees'</td>
<td>Through this link, all bank guarantees issued for Jordan Customs Department as beneficiary will be developed, settled and followed up.</td>
</tr>
<tr>
<td>Following up.</td>
<td>The cards enjoy wide international acceptance and they provide distinguished services to their holders.</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td><strong>Jordan Commercial Bank</strong></td>
<td><strong>Tijari Loan</strong></td>
<td>A new personal loans program with better benefits.</td>
</tr>
<tr>
<td>Mortgage 5</td>
<td>This residential loan was designed especially for those who want to benefit more of their savings, so the client can make use of the reduced interest rate on this loan by linking the client's bank accounts to the residential loan; this means a great savings in interest rate paid on the loan. Interest is calculated on the basis of the loan's balance less than other bank accounts' balances. Thus, the settlement term will be shorter because the interest is saved, in addition to the flexibility in accounts as there is no minimum limit is set for the balance or limits to cash withdrawals.</td>
<td></td>
</tr>
<tr>
<td><strong>Investbank</strong></td>
<td><strong>Non-resident Jordanian Deposits</strong></td>
<td>Savings accounts for expatriate Jordanians to motivate them to save in their country against distinguished services, having preferential interest rates on savings and deposits accounts. The bank settles the income tax on deposits instead of the client. There is an easy access to these accounts any time through safe bank transactions via internet around the clock.</td>
</tr>
<tr>
<td><strong>El Saver</strong></td>
<td>Electronic savings account; an original product that gives high interest rates on savings account via internet, which is run only through the internet. There is no minimum limit requirement for</td>
<td></td>
</tr>
</tbody>
</table>

24
| **Tip your kid** | Savings accounts for children introduced to encourage parents to save money for their children in a flexible way, in addition to an interest rate to be paid quarterly. When the client uses a visa card in purchases, the deducted purchase amount will be rounded to the nearest 5 or 10 JDs. The client authorizes the bank to transfer the difference from the current account to the children's chosen accounts along with providing education insurance in case of the client's death that amounts to 1000 JDs maximum for every academic year until the age of 18. |
| **I Bank** | Bank services through the internet that are safe and easy and enable client to browse his/her account and make many bank transactions through the internet without having to visit or call the bank. Services include:
  - Account statement
  - Inquiry about your loans
  - Money transfer
  - Check book application
  - Credit card application
  - And many others. |
| **Bank services through SMS** | This service enables the client to know of any financial movement on his/her account. Services activated on SMS are:
  - ATM withdrawals
  - ATM deposits
  - Check deposits |
| Arab Banking (Corporation) Jordan | • Check cashing  
• Cash deposits  
• Cash withdrawals  
• Incoming transfers  
• Outgoing transfers  
• Bills settlement  
• ATM transfer  
• Visa Electron purchases  
• Other services. | Call Center | Answers clients' inquiries on individual accounts, loans and credit cards. Supports and helps clients in respect of services offered by the bank, especially stopping cards because of being stolen, lost, and forfeited. Receives inquiries from 8 a.m. to midnight. | Call Center |
| Visa Platinum card product | Revolving credit card for the cream of society. It enjoys the following benefits:  
• Getting a wide range of offers by Visa Premium Privileges program.  
• Program of extending warrantees on purchases effected through visa platinum.  
• Free subscription for one year in road assistance service.  
• Free insurance on travel accidents when buying tickets through platinum.  
• Automatic subscription in deduction programs of big companies and corporations. | Internal and External |
<p>| Savings accounts Product | Saving account that enables the client to enter into quarterly lottery on Kia Rio cars, the minimum monthly balance required for eligibility is 200 JD. The chances increase with more savings. | Internally |</p>
<table>
<thead>
<tr>
<th>Bank</th>
<th>Service/Account Description</th>
<th>Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bank Etihad</strong></td>
<td>Through SMS service, the client can be in touch with his/her account, knowing its movements. It helps to notify the client when movement happens.</td>
<td>Access 2 Arabia (A2A)</td>
</tr>
<tr>
<td>Direct settlement with Batelco</td>
<td>Direct settlement of clients' bills from their bank accounts.</td>
<td>Ittihad Bank &amp; Batelco</td>
</tr>
<tr>
<td>Direct settlement with Omniah</td>
<td>Direct settlement of clients' bills from their bank accounts.</td>
<td>Ittihad Bank &amp; Omniah</td>
</tr>
<tr>
<td><strong>Societe Generale - Jordan</strong></td>
<td>Professionals' Loan Loans for professionals to expand their businesses, reduce their needs for working capital or to renovate their equipment.</td>
<td>Internally</td>
</tr>
<tr>
<td>Signing an agreement to marketing personal loans and car loans</td>
<td>Marketing for personal loans (Sogeloans) and car loans (Sogecar)</td>
<td>Delta Insurance Co in partnership with CST</td>
</tr>
<tr>
<td><strong>Capital Bank</strong></td>
<td>Ideal savings Account A kind of deposits account that enables clients to benefit of services such as a distinguished interest rate, interest periodic due date every month.</td>
<td>Internally</td>
</tr>
<tr>
<td>Flexible business Account</td>
<td>A current account that allows businessmen to get an excellent interest rate on their deposits, along with the liberty to withdraw and deposit on commercial transactions related to their business.</td>
<td>Internally</td>
</tr>
<tr>
<td>SMS Banking</td>
<td>A current account that allows businessmen to get an excellent interest rate on their deposits, along with the liberty to withdraw and deposit on commercial transactions related to their business.</td>
<td>A2A</td>
</tr>
</tbody>
</table>

*Source: Association Banks of Jordan (ABJ) 2014.*
1.4 Information Technology in Banks: An Overview

The banking business activities in today’s world are dependent on the computerized information technology. Application of software for information technology has accordingly been introduced in the banking sector and the banks are rapidly and increasingly switching over to a computerized banking environment for their operations. The banking sector in Jordan has been further adapting itself to countenance various developments such as internet banking, e-money, e-commerce etc, e-cheque, as the most modern methods of delivery of services to customer.

This section is, accordingly, devoted to the study of computerization of banking services and establishment of Information Technology (IT) function as well as Accounting applied in banking sector of Jordan. It discusses the various aspects of the use of information technology and Accounting procedures and practices within the information technology (IT) environment in the banking sector. The Information Technology (IT) internal controls for audit are of paramount importance to banking business in order to ensure the confidentiality, authenticity, integrity and timely availability of information.

Moreover, this section discusses the objectives, organization and the various other relevant aspects of Accounting, for an IT function which are essential for safeguarding of assets, data integrity, technology effectiveness and technology efficiency in an information technology function. (Tarq Taha, 2007)

1.4.1 Information Technology Application in Banking Operations

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 to their clients through the use of computerized software. Maintenance of customers’ individual personal accounts are totally computerized almost in every bank of Jordan. Customer’s signatures and other relevant data is stored in the software ledgers. As a result customers enjoy the facility of one-window payments called the ‘Teller Technology’. This facility is available within the premises of the bank. (Tarq Taha, 2007).
1.4.2 Automated Teller Machines

The electronic banking has enabled the customers to have access to the cash from the banks round the clock through ‘Automated Teller Machines’ (ATM).

**FIGURE 1-1. Automated Teller Machines**

Source: Internet

These machines are installed not only within the premises of the banks but also additionally at various market and common places of importance and convenience to customers. The ATM not only provides access to get ‘All Time Money’ but also facilitates universal withdrawal of money any time, any place. Regardless of customer’s affinity of accounts with any bank, the customers can withdraw money from ATM’s at any time and at any place in the country by the use of their ATM cards (Manoharan, B., 2008).

Numerous other banking services emerging from the application of information technology in the banks of Jordan and being provided to the customers are discussed below:

1.4.3 Online Banking Services

Online banking allows the customers to perform some specific banking facilities without requiring the customer’s physical presence at the bank. It enables the customer to perform all routine transactions through their traditional banks; such as:

1. View account balances
2. Access account history
3. Transfer of funds between accounts
4. Schedule future transfers
5. Pay bills

**FIGURE 1-2. On-line Banking Services**

Source: Internet

Very few banks through their on-line banking sites also offer the following capabilities.

1. Account aggregation: View balances and market values of on-line accounts held at other institutions, including investments, credit cards etc.
2. Send payments to individuals via e-mail.
3. Trade stocks and mutual funds
4. Track real time stock quotes
5. Receive trust and stock statements on-line
6. View images of bill statements, cheques and deposit slips.

Large banks of Jordan as well as foreign banks offer fully secure, fully functional on-line banking for free or for a small fee.
FIGURE 1-3. Online Banking

Source: Internet

Some smaller banks offer limited access, for example, one may be able to view only one’s account balance and history but not initiate transactions online. Sooner than later, as most banks in Jordan succeed online and most customers use their sites, fully functional online banking likely will become as commonplace as automated teller machines in the country.

When a client signs up for online banking and designates the account to access online, the customer is issued a user ID and a temporary password via regular mail or e-mail or both, with instructions on how to use them to access the secure online banking portion of one’s bank site where one’s account information is available 24/7.

Electronic Fund Transfer (EFT)

Computerized electronic fund transfer services are common in Jordanian banking sector. EFT uses computer and electronic technology as a substitute for cheques and other paper transactions.

The function can be used to:

1. Transfer money between accounts within one’s bank;
2. Make a payment on a loan within one’s bank;
3. Take an advance on one’s bank credit line;
4. Wire money to one’s account at another bank; and
5. Transfer money from one’s account at another bank to one’s account within the bank.
Customer who elects and sign-up to use the transfer function, has to designate the transfer amount, from and to accounts, and when one wants the transaction to occur, i.e. now or on a future date. Some banking sites also offer an array of transfer tools that allow one to set or change recurring transfers, check the status of a transfer, cancel a pending transfer, and receive a transfer alert via e-mail when the transfer clears.

**Trade Securities**

This function, provided by Jordanian banks, provides the authorized use of the site to purchase, redeem or exchange equity shares through the banks securities subsidiary:

This function can be used to:

1. Purchase trade securities from one’s bank’s funds by transferring money from an account.
2. Redeem fund shares via transfer into a deposit account.
3. Exchange shares between fund accounts.
4. Transfer from a brokerage account and a secondary bank account.

**Paying Bills Online**

Today, more and more banks in Jordan are offering this free as an online service on one’s banking site. One only needs to register the accounts one wishes to pay from and the Payee’s account one wishes to pay to. Enter the account information once only and one’s private banking site will keep those accounts available until one removes them. One can always change the accounts from which one wishes to pay one’s bills and add more payees as needed. One also is given the opportunity to receive one’s bills online.

**FIGURE 1-4. PAYING BILLS ONLINE**

![Banking](Source: Internet)
An increasing number of larger national banks as also foreign banks in Jordan now offer electronic billing, or e-bills, and accept e-payments.

**ELECTRONIC PAYMENTS**

The most common mode of payments, especially for low value purchases, is by cash. However, in modern age of information technology, customer feels convenient to pay for high value purchase through electronic payment technology.

Banking sector in Jordan, like their counterparts in other countries, offer e-payment services for their customer's open market purchases. The most popular form of electronic payments is by credit or debit cards (Vinayagamoorthy, A., 2008).

(i)  **Credit Cards**

Currently, online shoppers use credit cards for a majority of their internet purchases. Banks issue credit cards to their customers. A credit card has a preset spending limit based on the user's credit limit. A user can pay off the entire credit card balance or pay a minimum amount each billing period. Credit card issuers charge interest on any unpaid balance (Aldghaem A, Alamin M, Anjrou I, 2006).

(ii) **Debit Cards**

Debit cards are issued by the banks for use by customers for their commercial transaction in much the same way as a credit card. But fewer sites of banks in Jordan offer the facility to use debit cards.

Debit cards are not appropriate for small transactions and do not afford anonymity. The major problem with the debit cards is that they are very less secured than the most commonly used credit cards (Scott Bilker, 1996).

(iii) **Smart Cards**

The smart card is the latest addition in the application of information technology in the banking sector of Jordan.
FIGURE 1-5: Smart Cards

Source: Internet

The card promises secure transactions using existing infrastructure. Smart cards are credit/debit cards and other card products (health insurance cards, employee or student identification card, driving license card, etc.) enhanced with microprocessors capable of holding more information than the traditional magnetic strip cards. Smart cards can hold significantly greater amount of data almost hundred times more than the magnetic strip cards. Smart cards are also not exposed to external physical damages. But they are more expensive to issue (Wolfgang Raukl, 2003).

Electronic Cheque Payments

Electronic cheques are another popular form of payment. Most of the cheques based transactions are usually held between business and are practicable where the business organization is willing to invest in special hardware (normally an electronic circuit attached to a P.C.) to sign payment. Hardware encryption of the signature is secure as it will be difficult for hackers to steal keys stored by certification agencies. It is also assumed that banks have trusted relationship among them and the clearing house which settles the cheque payments (Deron Liang, Fengyi Lin, Soushan Wu, 2001).

The purchaser fills an order form, attaches payment advice (electronic cheques), signs it with his private key using his signature hardware, with his public key certificate, encrypt it using the vendor public key and sends it to the vendor. The vendor decrypts the information using his private key, check buyer’s certificate, signature and cheque, attaches his deposit slip and public key certificate, encrypt and send it to his bank. The vendor’s bank checks the signature and certificate and send to the clearing house. On clearance, the amount is credited to vendor’s account and credit advice sent. The purchaser gets a debit advice.
Electronic Wallet Payments

The electronic wallet serves function similar to a physical wallet, electronic cash, owner identification, holds credit cards and owner address information at an electronic commerce sites check-out counter. Electronic wallets make shopping and payments more convenient. The customer click on items to purchase, and then click on their electronic wallet to order the items quickly.

1.4.4 Risk Exposure

Electronic payment technology in use in banking sector of Jordan are exposed to problems as mentioned below:

Digital document can be copied perfectly and arbitrarily often,

Digital signature can be produced by anybody who knows the private key.

A payer’s identity can be associated with every payment transaction.

Obviously, without proper control and audit measures wide-spread use of software base services of the banks are not viable. Hence, a properly secured application of information technology can provide better safety and flexibility in the use of banks services (Kemerer, C.F, Sosa, G.L, 2003).

FIGURE 1-6: Risk Exposure

Source: Internet

The internal control and audit must, therefore, take care of the following to check errors, fraud and embezzlements.

1. Payment authentication
2. Payment integrity
3. Payment authorization
4. Payment confidentiality.

1.5 Accounting and Accounting in Banks

The Definition of the Accounting system

At the present time the accounting system is considered as the responsible agency for the provision of financial information and quantity of all departments, sections and other parties. There are several definitions of the accounting system, including: the accounting system: is a component of the administrative organization which is specialized in collecting, analyzing and addressing the tab and connect the physical and quantitative information to make decisions to internal and external parties. (Hilton, Ronald W, 2005). Others define it as a system works in collecting, recording and storing data, then processing the data to produce information for decision-makers. The accounting system consists of six elements:

Employees: people who occupy the system and do various functions in the system.

1. Procedures: manual, computerized and centered procedures that focuses in collecting data about the activities of the organization, then processing and storage procedures.

2. Data: data related to the works of the organization.

3. Software: are used to complete the data operations of processing, storage and retrieval.

4. Infrastructure base for information technology: includes computers, software and other equipment associated with the interconnection networks, communication and others.

5. Internal control and data protecting means in the system. ((Romeny: 2006).

Thus, we can define the accounting information systems as a set of parts and subsystems that are connected to each others with the surrounding environment, it operates as one group overlap relations between each other and between the system which combines them, so that every part depends on the other part to achieve the goals sought by the comprehensive system of accounting, thus it is a network of Procedures associated with each other and governed by the principles and rules, which was prepared in an integrated manner in order to provide data and information to the decision maker appropriately to their needs.
(Hall: 2007) opinion: this accounting system consists of a number of subsystems that lead to integrate work, they are:

1. **Transaction Processing System (TPS):**

   TPS is considered as the axis of and information system functions, as it converts economic events to financial transactions, record financial transactions and distribute various financial information to operational management in order to do its job well daily. Most often this system deals with frequent operations in the institutions business, and does the work efficiently for the daily operations. It consists of three courses, which are the revenue cycle, expenses cycle and conversion cycle, where each session deals with homogeneous financial transactions.


   Both of theses systems are connected with a large dependant relation, so they are merged together in one system which is GL/FRS. The first part is a summary of the financial operations resulted from the treatment system operations, and the general ledger system constantly updates this information according to the new things in the treatment system operations. Also, non-recurring events shall be treated and update its information constantly. The system of financial reporting issue reports, often for the benefit of foreign parties such as the financial lists prepared for publication, for IRS use and some reports specified under the law.

3. **Management Reporting System (MRS)**

   This system is for reports and internal information, consists of the information, financial reports needed to administrators in order to make decisions related to immediate or operational issues of the daily work, to solve the daily problems as using it in monitoring and planning for other operations, because managers need information of a different nature related to the quality of the decisions and the ability to rely upon, like budgets, performance analysis reports, deviations analysis and the reports of size cost and profit.

   These reports mainly depend on the current information and not on the historical information, so there is a large area to move on and there are many options to use, because the management specifies the needed information. The accounting information system is used for data collection, processing, and dissemination of
financial information to the parties of interest, and accounting information systems vary from one institution to another.

The factors that affect the formation of the accounting system are:

1. The nature of institution work.
2. Variation of different operations to complete the work of the institution.
3. The size of the organizations and the amount of data to be exchanged.
4. The size of the demand for information, whether by the administration or by other parties, (Kieso & Weygant 2003).

Accounting information systems must adopt the essence and the activity of the organization as these systems are considered as a cornerstone in the business property, (Vaassen 2002).

The development and use of the successful information systems with the management accounting system leads to enable business organizations to achieve the following benefits, (Erica 2004):

1. Raising the level of productivity and improve efficiency, through the following:

   Doing business in the right way.

   Increase the efficiency of performance of the tasks and perform more tasks with the same resources or with fewer resources.

   Use the resources in order to achieve the desired results with high quality.

2. Enhance the competitive situation, by the following:

   Selecting and applying strategies can change the method used in the competition.

   Improve the performance comparing with competitors.

The operations are made during the accounting system, whether it is financial or other operations, and that in the direction of the decisions of users of the service information. Her we must emphasize that this system with its expanded shape contains the general model on the most detailed sections for information flow through the system, (Hall, 2007).
Chapter - 1: Introduction

The accounting system provides data and information that affect the activities of the company as a whole, and all the appropriate information and objectivity in order to make correct decisions help the company to achieve the goals. The following sequence illustrates the branches of accounting information systems.

Accounting information system:

1. Materials and stores system.
2. Payroll system.
3. Cost accounting system.
5. Budgets System.

Hilton, Ronald W:(2005)

Accounting profession may be considered as a system consisting of three parts, input which the data is flowing through the system of accounting and information from three sources:

A. Economic activities with individuals or other systems to the project such as deposits and withdrawals from current accounts at the bank or the collection of premiums and payment of compensation in the insurance company.

B. The internal activities of the project, such as the payment of salaries or the use of existing resources in the project.

C. Feedback, which is the output of the previous administrative decisions and which are useful to improve the operations efficiency in the following courses for data operation in the process of transferring data into information. There are many processes that may the data running through, as clarified by (Hall: 2007).

1. Collection: This process is to bring and compiled the data from primary sources, both from outside the economic unit, within or in the form of feedback.

2. Classification: According to this operation, data of certain activity will be separated to different types; for example, data of stored activity may be divided into specific data of the goods receipt and other of issuing purchase orders, also classification may be done by collecting data with common trait in one group.
3. **Sorting:** Data will be arranged in files according to a certain basis. Data related to private client accounts are arranged according to the customer's account number. Or the order may be according to the invoice number and so on.

4. **Summarization:** In this process a set of data will be added and displayed in a single report. For example, the deposit processes may be summarized in current accounts per day in total a single report instead of viewing them in a detailed picture includes all deposits made during the day. The purpose of the summary is to give a total idea for the data users of certain activities.

5. **Calculation:** Includes calculations performed on the data, such as addition, subtraction, multiplication and division. For example, payments depreciation of fixed assets or calculating allowances for doubtful debts which may need different arithmetic operations. Operating data for administrative decisions may need to complex mathematical models such as linear programming, style inputs and outputs, and others.

6. **Comparison:** By showing the similarities or differences between different sets of data. For example, the data for the goods received in the detection and receiving data between the same things existing purchase order may be compared to insure the identification.

7. **Storing:** This process is to keep the data in the files in order to prepare the data for use at the appropriate time in the future or to perform some operations in this data in the future. The manual storage method is different than the automated system. In the manual system the storage will be in files or books while in the automated system the tool storage will be perforated cards, magnetic tapes or discs.

8. **Retrieval:** this process is associated with storage process. After storing the data for a period, it will be retrieved and brought from the private files for use or perform other operations on them, (Gelinas et al, 2005)

1.5.1 **The most important goals of the accounting system in commercial banks are as follows:**

1. Achieve accuracy and proper completion.

2. Speed of delivery.
3. Reduce costs by making it extremely flexible so that it can be applied easily to accommodate technological advances like the computer.

4. Realize the principle of internal control.

5. Complete the financial statements and required reports for the purposes of the bank as well as the Central Bank (Baren, 2010).

Accounting information systems in the commercial banks are one of the most fundamental pillars in the structural organization of the bank, if not the most important pillar at all, and it attributed the privacy of banking activities, sensitivity and uniqueness of a set of attributes, they are:

1. The basic theme of the banking activity is money. Money is targeted in itself in and out the bank, so it requires a high degree of reserve and caution when dealing with others, and a high degree of internal control of career performance within the bank.

2. The basic material which the bank dealing with is money, and this money mostly does not belong to the bank, so the bank deals primarily with funds of the depositors, which requires more than good planning and discipline process to make decisions about hiring and receive these funds.

3. The banking activity is characterized by a high degree of sensitivity to economic conditions, even it is the interface is economic conditions in any society, and the vulnerability of activities, interactions and even economic rumors requires more prudent to manage the level of this activity in order to absorb and contain and overcome of such effects.

4. Increase the space affecting the banking activity as a result of the breadth and the overlap of movement in all economic activities practiced by society through a combination of credit facilities and other banking services.

5. The inclusion of banking activity in the commercial banks on a variety of performed activities which implemented with a high degree of skill and craftsmanship.

6. Rational decision-making process must be characterized by high-speed element in the appropriate time and appropriate manner (Baren, 2010).
1.5.2 The Impact of Using the Computer on the Accounting System Elements.

Computers using in the field of accounting has made changes in the most of the elements of the accounting system as follows:

i. **Documents and Documentary Course:** documents were in the form of cards with certain sizes and forms so as to facilitate data inserting to the computer. Also there was a change in the path of courses documentary as these documents are used in the registry in daily books and in the ledger books at the same time or in the ledger books before the daily books which means pithiness in the courses documentary.

ii. **Books and Records:** In terms of designing books and records, books and records have been dispensed and become inside the computer in the form of files; also the means of keeping data and information was changed. The use of computers required to save pages of these books and records in the form of files inside the computer. Theses files contain columns or boxes in a row to prove values, payables and balance rather than take the form of a character [T] as the situation in the manual system.

iii. **Lists and Reports:** regarding the financial statements and reports, most of the administrative levels are considered outputs of the electronic computing process are as lists and reports can be used in management decisions, other parties like banks considering these outputs as a basis for accountability and discussion. On the other hand, using such means has affected the periodic reports, since there reports are prepared in frequent intervals. This helped the administration in solving administrative problems quickly and in a timely manner.

iv. **Chart of Accounts:** accounts directory has been affected from using the electronic means, as it contains codes for all accounts and the codes are used instead of descriptive names. (Gelinas et al, 2005).

1.5.3 Accounting Information System Characteristics

Accounting information system is characterized by a number of properties. if these properties were available it will make the system information and vital facility, so that it is leading to do job which has been developed for, (Hafnaoui, 2005) which are as follows:
The characteristics that qualify the accounting information system to be effective and efficient are:

1. The accounting information system must meet a high degree of accuracy and speed in dealing with the financial statements when they are converted to accounting information.

2. To provide the management with necessary accounting information at the appropriate time to make a decision of the available alternatives in the management.

3. To provide management with the necessary information to achieve the control and evaluation of the economic activities of the facility.

4. To provide the management with the necessary information to help in the main functions (short-term, meddle-term and long-term planning for the business future of the establishment).

5. To be fast and accurate in retrieving quantity and functional information stored in databases when you need it.

6. To be characterized by sufficient and flexibility when it needs updating and to be developed to suit the changes in the facility.

(Hafnaoui, 2005).

1.5.4 Concepts and Characteristics of Accounting Information:

Identifying the concepts and characteristics of accounting information or basic rules to be used to assess the quality of the information accounting leads to help officials in developing accounting standards, also helps officials in the preparation of financial statements, in evaluating the accounting information that results from the application of alternative accounting methods, and in the distinction between what is necessary and what not. The usefulness of the accounting information must be evaluated on the basis of the objectives the financial statements of which its interest based on helping key external beneficiaries in making decisions related to facilities. Accountants should direct their attention to these beneficiaries. Also they should be direct their attention to the preparation of financial statements that will help them in making their decisions. The extracted accounting information from the financial statements must be characterized by certain characteristics because there are scales and standards make
accounting information useful to the users and to achieve the desired objectives, (Al-Laithi, 2003: p 181-189).

Finally, the company's commitment to improve the degree of transparency through additional actions other than statutory rules, leads to a higher degree of quality that can the financial reports characterized with.

Through this chapter the researcher will clarify the importance of financial statements standards, as well as to clarify the criteria which should be provided in the financial statements, the problems and the limitations of using the qualitative characteristics.

The concepts of information quality means that the main characteristics of the information that must be characterized by the useful accounting information, as these properties have great benefit for all of those responsible for the development of appropriate standards, as well as those who responsible for the preparation of financial reports to assess the quality of information that results from applying the methods and alternative accounting methods. (Jerbou', 2001, p. 71).

It is well known that various departments of companies, without exception, act as an agent for managing the company's business on behalf of the owners. As such, the accounting theory appeared to govern the relationship with many accounting principles that require companies to register all operations within the rules to ensure the integrity of the work within the specified accounting system.

Depending on the accounting theory several specialist boards of accountancy took upon themselves to issuing different accounting standards that oblige the company's management to comply its issues in the process of measurement and recognition of business processes, to achieve a financial statements provides what was agreed to call the qualitative characteristics of accounting information. Thus the decision-maker can rely on those financial statements, which must be audited by an independent external agency certifying that the management of the company has complied with all accounting standards stipulated by the relevant councils. (Alqashi, Al- Khatib, 2004: p. 6)

From the above mentioned facts, accounting standards boards especially the (IASB), International Accounting Standards Board and (FASB) American Financial Accounting Standards Board issue several criteria contributes in providing qualitative characteristics of accounting information.
It is very important to remember that the accounting information arising from the accounting system should have several specific characteristics, in order to be useful for the decision-maker, at the end it was prepared for him.

1.6 Role of IT in Accounting

1.6.1 Accounting Systems

Every company applies accounting because it is generally accepted that companies have to reveal certain financial and management information to users and of course because accounting is an indispensable tool in business decision-making process. Accounting is an important part of every company thus; businesses are required to keep proper Accounting system. “Accounting can be divided into two basic categories: those which apply manual accounting and those which prefer computerized accounting system”. (Weber, 2010).

1.6.2 Manual Accounting System and its Shortcomings

Manual accounting system is an information system as an organized means of collecting, entering, and storing and processing data, controlling, managing, and reporting information so that an organization can achieve its objectives.

Information system has the following components: objectives, Inputs, Output, Data storage, Instructions and Procedure, Users, Control and Measures. Accounting systems as an “information system is a man-made system that generally consists of an integrated set of computer-based and manual components established to collect, manage data, and store and to provide outputs information to users” (Gelinas, et al., 2005).

Manual accounting implies that employees perform the whole accounting cycle manually on a periodic basis: they draft trial balances, journalize transactions, and prepare financial statements. Extensively, accounting system can be a simple manual one based on the general journal (where transactions are recorded chronologically as debits and credits), general ledger (where the activity from the general journal is summarized by account number), and other journals required to manage the business, such as purchase, payment, sales and salaries. (Because of the expense of maintaining multiple manual journals, institutions typically do not prepare all of these other
They further stated that, a manual accounting system typically includes at least the following: General journal, Chart of accounts, General ledger, Subsidiary ledgers (accounts receivable, inventory, and fixed assets), Transaction reports and financial statements. (Gelinas et al, 2005).

**FIGURE 1-7: A MANUAL ACCOUNTING SYSTEM MODEL**

In the manual Accounting, it is not very difficult and it is so indeed, but when there are many thousands of transactions the situation dramatically change. Many of transactions that must be processed in the accounting cycle make this process routine and even a little fault or inaccuracy can cost all the cycle from the very beginning in order to find and correct the mistakes. In manual accounting systems, processing of data is slow and subject to error. Despite the advantages of manual accounting system such as comparative cheap workforce and resources, independence, reliability from
machines, skilled workers availability; the manual system disadvantages include: increase workload, reduce speed of accountant, relatively slower control reporting, routine work such as the issue of backups. (Gelinas et al, 2005)

1.6.3 Computerized Accounting Systems

It is pertinent to note that with the improvement in technology, information system have been computerized. Improvements in this technology have replaced bookkeeping system with Accounting as such, Accounting information system that were previously performed manually are now performed by computers in most companies.

While accounting systems have been around for centuries, the introduction of business technology and Computerized Accounting Systems radically changed the playing field, that paper ledgers, manual spreadsheets and hand-written financial statements have all been translated into computer systems that can quickly present individual transactions into financial reports. Computerized Accounting Systems follow the same logic of journal, ledgers, reports and statements in a manual system. Computerized systems easily consolidate posting some functions and other basic tasks into a "behind the scenes" system. Organizations can also generate financial statements and reports easier, allowing for better efficiency and performance management reviews.

Computerized Accounting Systems is therefore a computer based system which combines accounting principles and concepts as well as the concept of information system to record, process, analyze and produce financial information to its users for making economic decisions. (Gelinas et al, 2005)

The definition of a Computerized Accounting System from above shows that a Computerized Accounting Systems has the following components:

**Input:** Data inputs are the facts that are collected and processed by the information system. Data input includes capturing data from a source document such as a sales order or purchase order.

**Processing:** In order to produce useful and meaningful information, the data captured must be processed and organized into a useful form.
Output: Output is the meaningful and useful information produced by the information system. It is usually presented in the form of a report.

Feedback: After the information has been presented in the form of a report, there is the need for a feedback. Feedback tends to serve as a source of input and also a control measure in the information system.

Storage: It serves as the repository of relatively permanent data maintained over an extended period of time.

FIGURE 1-8: A COMPUTERISED ACCOUNTING SYSTEM MODEL

Source: Gelines et al, 2005

Indeed, all organizations have an information system of some kind. Many might see a minimal system as sufficient say, a manual accounting system that produces reports three months late. Furthermore, having good information is essential for an institution to perform efficiently and effectively the better its information, the better it can manage its resources. This means that among other benefits organizations adopt Computerized Accounting Systems (CAS) in order to obtain competitive edge. The
advent of powerful, low cost microcomputers, together with user benefits associated and the accounting software with the use of CAS has allowed a greater number of SMEs to implement IT in recent years. Therefore, CAS adoption among corporate bodies in general is as a result of combination of different factors as well as the benefits associated with such. Also need to facilitate financial management is a motivating factor for adopting accounting software.

Also, understanding and using financial management systems to make decisions. considered some factors that managers should take into consideration before adopting Computerized Accounting Systems. These factors include the need to have consistent, accurate and timely data in a variety of reports. (Baren, 2010).

**Summary**

The first chapter is devoted to ‘Introduction’. It explains the topic of research, its significance and implications. This chapter discusses in detail the Banking Sector in Jordan, information technology in Jordanian commercial Banks, also Accounting and Accounting in Banks.

In the next chapter, we will present a comprehensive review of relevant literature with the statement of the problem. It also covers the significance, gap, scope, objectives and hypotheses of the study. Also it discusses the detailed methodology of research, limitations of the study and theoretical framework.
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**Websites:**

http://www.minshawi.com/other/drzyadh.htm


Association of Banks of Jordan (ABJ)

CHAPTER 2

Literature Review & Research Design
CHAPTER 2

LITERATURE REVIEW & RESEARCH DESIGN

2.1 Statement of the Problem
2.2 Review of the Literature
2.3 Research Gap
2.4 Significance of the Study
2.5 Objectives of the Study
2.6 Hypotheses of the Study
2.7 Research Methodology
2.8 Limitations of the Study
2.9 Research Plan

References
2.1 Statement of the Problem

The main objective to undertake a systematic investigation on the impact of information technology on accounting is due to difficulties faced by banking industry in Jordan to achieve their service rendering goal, increase market share and target profits as part of the purpose of their existence. This is because the quality of service rendered by some of the banks has created a negative multiplier impact on the banking industry as their chances of optimizing profit are hampered affected.

There are many issues like:

1. There are lot of complaints from the beneficiaries of banking services or bank customers that poor information technology results to inefficient application of computer to the accounting of the banks. Some of the areas having complaints of use of the poor information and communication technology products used in the banking industry include Automated Teller Machine (ATM), smart cards, electronic funds transfer, telephone banking, alert, electronic data interchange, office banking and electronic home.

2. In the light of the development of technology across all economic sectors worldwide, and increasing demand from citizens on banking services which leads to increasing costs in order to provide the service at the desired quality. All countries around the world, also Jordan, are suffering from this difficulty.

3. On the other hand, computerized accounting information systems are part of the overall information system. They play important, and effective role in providing at all levels of decision-makers with suitable time, accurate information which aids to take the suitable decisions. These information are provided through reports and statements aggregated from actual daily data.

4. The efficiency of an accurate accounting system is demonstrated by its ability to help all banks, improve the efficient and quality of services, reducing costs and eliminating all resource-squandering activities; it also contributes to knowledge and experience which eventually leads to increase its competitive advantage through the system's ability to provide the right services and information at the suitable time.
In this study the researcher seeks to find out the impact of information technology on accounting of the banking industries by using Jordanian commercial banks as a case study.

2.2 Review of Literature

Prior to embarking upon the study itself, a survey of available and pertinent published works on the subject of this study is made. This would enable to have an insight into the work as also the specific aspect of banks which have been covered in the work. The review of literature presented below recounts the work so far done in the field of present study, the nature of the work, the aspects dealt with as well as a brief outcome emerging from such write ups and studies.

Ryan, Sherry, D. and Harrison, David, A. (2000), in their paper viz. “Considering social subsystem costs and benefits in information technology investment decisions: a view from the field on anticipated payoffs,” interviewed more than fifty people with decision-making powers of different industries on the cost of information technology decisions. Ryan and Harrison’s study supports the observation that information technology decisions are traditionally focused on financial and technological elements. The results indicated that staffing costs are often not considered or are minimized and ignored until after implementation of information technology, resulting in less than optimal decisions and thereby reducing the potential benefits of information technology investments. The paper extends existing theory describing systematic patterns of inclusion and exclusion of costs and benefits involved. In addition, it provided a decision tool to help information technology management frameworks to begin to think about the social costs and benefits that should be considered in many decisions.

A study by Nicolaou (2000) tried to emphasize the information quality of the accounting information system and its relationship with the organization structure. The study was conducted on a sample of 600 companies, in the United States, where contingency variables measure the integrity of the accounting information system of: the system harmonization degree with the structure of the organization, and reliability in information exchange between different areas of the organization, and the electronic exchange of such information within the information network in the organization. The effectiveness of the system measured through the decision-makers
recognizing the importance of the information secreted by the system, in addition to
the information arising through various processes of the system, management
reporting, budgeting systems, and the need to control operations.

The study found that the relationship between the design of the information system
and the mentioned accounting variables offers a more powerful and successful
system. The effectiveness of the system is measured by the degree of satisfaction of
decision-makers, the accuracy of the control system outputs information, and insuring
the quality of this information.

This study focused on two variables: the flow of information through the
organization, which includes the flow of accounting information system. Also the
study mentioned that the effectiveness of the information system of accounting comes
through the quality of system information, in addition to the perception of decision
makers of the importance of information resulted from the accounting system, but this
study did not indicate how to measure the quality of accounting information, nor the
qualities by which they are judged on the efficiency and effectiveness of the
accounting system, as well as the it does not mention the impact of information
management requirements in accordance with the requirements of information
technology, which has become a mainstay in all information systems.

A study Lin, et al. (2001) showed that through introducing a new businesses
accounting system of the Chinese government in 1993, focused on important
characteristic results such as the probability to understand, compare and appropriate
decision-making. But it pointed to the need of reducing the alternatives in accounting
treatments to ensure the stability of applying the system. This study did not give a
comprehensive vision for the performance or efficiency of the system.

Xu (2001) studied the stakeholders’ point of view to benefit of accounting
information. This study conducted in Australia on a sample characterized of quality,
and aimed to clarify the stakeholders’ visions related to the data quality of the
accounting information systems through developing a conceptual framework; shows
the relationship between stakeholder groups and data quality of accounting
information systems. The study concluded that the stakeholder groups have different
concerns regarding the quality of data and information of the accounting information
systems, and this interest was increased by using of information technology as a basis
to obtain a high quality data and information. Information technology experts are a part of the accounting information system marked by quality.

Peter's, (2001) study, entitled “Evaluation of data quality in accounting information systems” is an analytical study to evaluate the quality of the accounting information system data. The study found that the data quality evaluators need specific information to help them to understand: Is the control model feasible? The key factor in this approach is allowing residents to rely on their personal judgment rather than relying on control procedures specified by the model. If role of standards that must be adhered through the model was neglected, and left the assessment for the personal rule, it will lead to weaken the evaluation content.

Rajiv, D. and Banker, Hsihui, C. (2002) under the title. “Impact of Information Technology on Public Accounting Firm Productivity", focus on five offices of an international public accounting firm that recently made large Information Technology investments, primarily in audit software and knowledge-sharing applications. Both qualitative and quantitative information from the research site are analyzed to estimate the change in productivity following the implementation of Information Technology. The results from both regression analysis and Data Envelopment Analysis (DEA) indicate significant productivity gains following Information Technology implementation, documenting the value impact of Information Technology in a public accounting firm.

The relationship between Information Technology and accounting practices was investigated qualitatively using six case studies and the impact of Information Technology on accountants’ tasks was measured. The findings suggest a tendency for change and the decentralization of accounting tasks.


The study focused on the impact of the administrative decisions models of efficiency and effectiveness of accounting information systems used in the Jordanian commercial banks. It also focused on the impact of computer hardware and software on the efficiency and effectiveness of accounting information systems used in the
Jordanian commercial banks. The study depended on a scientific and trusted questionnaire distributed to the entire study population (9) banks. (54) Questionnaires have been distributed and (50) questionnaires have been recovered. The study found that the higher effect of environmental factors on the efficiency and effectiveness of accounting information systems used in the Jordanian commercial banks was related to the regulations, standards and auditing rules used in the bank. Also the study showed that the factors of user's behavior affecting the efficiency and effectiveness of those systems.

The present researcher is benefited from the theoretical aspect of this study. Though this study differed from the current study; it looked in the analysis of the factors affecting the efficiency and effectiveness of accounting information systems, while the current study looked in the impact of information technology on the efficiency of accounting in commercial banks.

Alqauna's (2002) study "The impact of using accounting information on management performance in industrial corporations in Jordan," aimed to analyze the role of the accounting system in producing a quality accounting information appropriate to meet the needs of management in industrial corporations in Jordan, and the organic relationship between the level of accounting information quality and the impact of using on managerial performance in the areas of planning, control and decision-making. The researcher to choose a random sample consisted of 45 companies roughly equivalent 61% of the study population. The study results showed the following: a positive relationship with statistically significant correlation between the elements of the accounting system and the quality of the produced accounting information. Also, there is an effect and a statistically significant relationship to use accounting information on management performance in industrial corporations in Jordan in the fields of planning, control and decision-making. In light of these findings, the researcher recommended the following: the need to the various departments' attention in the public shareholding companies in Jordan in expanding the use of accounting information to achieve the optimal use of the multiple administrative areas (planning, control, and decision-making) in order to complete the tasks, functions and objectives efficiently and effectively.
The researcher benefited of this study in learning more about the role of the accounting system in the production of high-quality accounting information appropriate to meet the administrative needs of planning, control and decision-making.

Dahmash N. & Abu Zer S. (2002) in their study titled “The Knowledge Management between Information Technology and Accounting Qualification,” addressed the importance of knowledge management, development, principles, its relationship with information technology, the impact on accounting qualification by using computerized systems, standards of the development and system application used in business. It also addressed the e-commerce and the problems arising from applying the knowledge management system application and criticisms. This research adopted the global guidance and direction of the rehabilitation accountants, through supplying programs with teaching and accounting qualification in universities and commercial institutes by using and applying information technology and its security, artificial and human intelligence through establishing, constructing and provision of knowledge and knowledge management in order to provide the community with competencies and capabilities with high standards to meet the new accounting requirements of the world of creativity, knowledge and information.

The study pointed out that information technology is only the main driver in raising the overall quality of the work and knowledge management, which created a major shift in the new role of accountants in order to become more effective in serving the administration, and competently face the developments in the profession, which is reflected in the organizations success, knowledge sharing and management. Also, the study concluded that there are many challenges facing the profession of accounting and auditing since the early twenty-first century, like information technology, overall quality, and knowledge management. Information technology is the key driver in the formulation of both the overall quality and knowledge management.

Aladvani's (2002) study viz. “An integrated performance model of information system projects”. The study aimed to provide an integrated model to demonstrate the performance of information systems to assist in evaluating the performance of these systems and the factors affecting it, and provide evidence could be useful in the management effectiveness of these systems. The study relied on a questionnaire sent to executives of information systems in 486 industrial companies randomly selected.
and 84 director responded. The study concluded to support the multi-faceted view of the information systems performance, which includes three dimensions represented by the outputs of the tasks represented in efficiency and effectiveness, the output represented in the psychological satisfaction, and organizational outputs represented in the added values of business operations. It also concluded that the information system must possess a number of important characteristics in order to work effectively, these characteristics are: (technological characteristics) technology support, (the draft rules characteristics) the size of the project team, (tasks characteristics), objectives clarity (and operating characteristics), ability to solve problems, (individuals characteristics) experienced workers, and (organizational characteristics) administrative support. In addition to the above, the study recommended the adoption of a more comprehensive view of the information systems performance and improving the theory developed by the study through inserting other factors such as participation, coordination techniques, and modern technology.

This study helped the researcher in the performance of information systems side and the factors influencing them. The difference between this study and the current study is: the current study focuses on the efficiency of the accounting information systems in particular, while this study looked at the information systems in general.

Serafeimis & Smithson (2003) in their study, viz. “Information system evaluation as an organizational institution: experience from a case study” tried to describe the organizational initiatives relating to the assessment of information systems. This study was conducted on the ten largest British companies for life insurance in the world; it has been applied on a sample of 160 employees working in the various information systems departments in the studied companies. The study concluded that the evaluation of information systems has social and regulatory dimensions must be interested in and take them into account when conducting the evaluation process. Also, the study concluded that the process of information systems is a complex processes, needs large efforts of the workers in the organization because they are the closest and knows the system secrets and its capabilities. As well as the results indicated that the assessment process must be in sync with the work performance, periodically and planned.
Researchers have benefited from this study at the side of evaluating accounting information systems. The difference between this study and the current study: the current study focused on the effectiveness of accounting information systems in particular, while this study looked at the information systems in general, and this study looked in insurance companies sector, while the current study looked in commercial banks, and this study was conducted in Britain while the current study in Jordan.

Alaqashi & Dahmash, (2003). In their study “The effectiveness of accounting information systems to achieve safety, reliability and confirmation under the e-commerce”

Identify the problems faces the accounting information systems in light of e-commerce using; Develop a model to link the accounting information system with the e-commerce; and Suggest some appropriate recommendations to ensure the strengthening of the accounting system that is linked to e-commerce.

The following conclusions were found:

1. The e-commerce as a very sophisticated technique, has affected all professional fields in general and the accounting and auditing professions in particular.

2. The e-commerce operates in a unique environment so, all processes completed by e-commerce lacks authentication mechanism in most of the stages.

3. The nature of e-commerce is intangible and the absence of documentation for most of its operations contributed directly to create two major problems faced the accounting and auditing. These problems can be summarized as follows:

   A. Verification mechanism and the recognition of generated revenue from the e-commerce operations.

   B. Taxes allocation mechanism on sales and income from e-commerce operations.

4. Some of the accounting and auditing bodies were alerted to the e-commerce problems and to the need to rehabilitate its artistic techniques to face the new problems associated with the e-commerce environment.
5. The fact that the theory of accounting, in its current form has not been able to address the mechanism of verification and recognition of revenue generated through e-commerce operations.

6. The study found another fact: many problems generally associated with e-commerce and particularly the problems of revenue recognition and allocation of tax can be solved if we were able to provide practical policies and procedures that contribute in achieving security, reliability, and confirmation of the accounting system output.

7. Security, reliability, and confirmation can only be achieved through establishing and developing a linking system between the company's accounting and its website on the Internet, through procedures and technical accounting policies adopted by the company. The audit will be carried out by a third-party qualified in accounting and technology.

Raupeliene's, (2003) study makes an attempt to develop a complex model to assess the effectiveness of accounting information systems in economic, technical and social aspects. The study used a sample of 50 developers of accounting information systems in Lithuania. The study found that the effectiveness of the information system of accounting is expressed by the successful use of accounting information system that meets the users needs, and effectiveness of accounting information systems assess models are weak because most models take the assessment of the technical and economic or socio-economic side, and there is no approved universal method for blending the quantitative and qualitative indicators to assess the accounting information system.

Wong, C. (2003) in his study examined the efficiency and data consolidation using right and appropriate accounting applications. For example of Audrey International Company, which have deployed new accounting system developed in-house by Dynamic Business Solution. The article draws the benefits and advantages achieved by the company after successfully implementing the new accounting systems. The author has not highlighted the cost of the system and the implementation cost for the accounting system. However, the article has limited discussion on the systems development life cycle and how they deployed the new system.
Siam’s (2004). “Assessing the effectiveness of computerized accounting information systems in Jordan confidential banks with the technological development,” makes an attempt to assess the effectiveness of accounting information systems, through a set of criteria that reflect the effectiveness of the performance of these systems of reliability, flexibility, quality and simplicity. To achieve the objectives of this study, a questionnaire was distributed to financial managers and the workers in financial circles in the public departments of commercial banks of Jordan listed in the stock market (Amman Stock Exchange for the year 2003) in 9 Banks. A 45 questionnaires have been distributed, (42) one questionnaire was adopted. The study found that the computerized accounting information systems in the Jordanian commercial banks are characterized by quality with the presence of the technological development. This study is characterized by reliability and simplicity. Its descending order is as follows—quality, reliability, flexibility and simplicity.

Researchers have benefited from this study in the construction of the theoretical framework. This study differed from the current study; it evaluated the accounting information systems through the characteristics of accounting information which are: the quality, simplicity, flexibility and reliability.

Alqtauna (2005) in his study “The impact of the use of information technology on the effectiveness of the accounting information system: A study on the banking and insurance institutions listed on the Amman Stock Exchange within the first market,” aimed to identify the impact of the use of information technology on the effectiveness of the information system of accounting in banks and insurance companies in the Amman Stock Exchange within the first market, where two questionnaires have been developed in order to achieve the objectives of the study. The first was to measure the effectiveness of the accounting system, and the second was to measure the impact of information technology on the effectiveness of the accounting information system. The study covered 13 Banks and 10 insurance institutions. 138 questionnaires were distributed and the statistical analysis made at 113 questionnaires.

The study concluded that the use of information technology affected the effectiveness of the accounting information system, and the most influential factor is using the telecommunications networks, followed by hardware and software, then databases. The study found that the banking sector has the higher technological levels than in the
insurance companies. The study recommended the need to increase investment in information technology and work to keep pace with technological developments.

This study helped the researcher in building the study tool during the first questionnaire of the study through which the effectiveness of accounting information systems was measured.

Ahmad, Tauseef (2005). This study focuses on the impact of information technology on work life has been one of the most talked about issues over the recent years. Chief executive officers spending many millions of dollars on information technology face the critical issue of assessing the impact of this technology on work. In this study, the data collected from the financial statement of the State Bank of India (SBI) have been analyzed with the help of different accounting and statistical tools. The techniques used are Trend analysis and ratios analysis to record the performance of (SBI) particularly during pre- and post-Introduction of IT.

The results of the study are:

1. Use of IT in the State Bank of India has a positive impact on the total income because it is increasing continuously and more rapidly than earlier years as has been shown through the available data of the selected period of study.

2. Increase in deposits of the bank has a positive impact of IT because both bank and customers are using IT frequently and awareness of information technology using also increasing in India. By use of IT, the deposit is more safe in banks than before and available to customer the clock.

3. It is quite clear that the increase in the State Bank of India's profit is not only due to increase technology which is creating new possibilities of profitability improvement.

Eyadat, Mohammad & Kozak, Sylwester J. (2005). This study focuses on the role of information technology in the profit and cost efficiency improvements of the banking sector. This paper examines the impact of the progress in information technology on the profit and cost efficiency of the United States banking sector during the period of 1991-2003. Researchers test relationships between the level of implemented technology and the banks efficiency. The researchers show a correlation between the level of implemented information technology and both, cost savings and assets profitability. Although for (US) banks the efficiency has increased, the
improvement of the profit efficiency were relatively much bigger than in the case of costs efficiency. Most results indicate that introduction of the good range of services at a bank, firstly, generate additional revenues, secondly, imply new, significant cost charges. This means, broadening the new range of the banking services may lead, at some point, to a strong increase of cost of their processing, what put in questions possibility to achieve economy of scales by bank conducting such type of bank, The results of the study. 1. Comparing values of correlation coefficients between the IT developments and efficiency of banks researchers have found out that technology had a positive impact and was positively correlated with profit efficiency of all U.S. banks. 2. Although information technology progress in positive way influences both, cost and profit effectiveness of banks, the changes of the values of ROA.

Acharya, et al. (2006) studied the competitive environment that was increasing rapidly between national and community banks of Texas where national banks were the major competitors and active rivals for community banks with respect to residential mortgage, commercial credit, electronic banking etc. Authors conclude that commercial banks responded this challenge by offering internet based products and services, wide variety of transactional, informational offerings etc. This technological enhancement in community banks gave financial and non-financial return to them in terms of quality, best client relationships and loyalty, efficiency and increase in profit.

Romeny (2006) focused on the main tasks performed by the accountant in the year 1996 within the Institute of Management Accountants (IMA) research projects to analyze the workload, work duties of the accountants, and arrange the ten main activities carried out by them. This study showed the priorities of the activities carried out by accountants in the following order:

1. Accounting systems and financial reports.
2. Long-term strategic planning.
3. Accounting and financial position management.
4. Internal consultation.
5. Short-term budgets.
6. Financial and economic analysis.
7. Improve and develop the operations

9. Evaluate the performance of the organization.

10. Analyze the profitability of the product and the customer.

From this study, it's clear that the work of accounting systems is located in the first priority activities of the accountant's responsibility within the top ten priorities for the activities described above.

Oyewo, Rachael Oyenike, (2006). This research project is carried out to appraise the impact of computer on the accounting processes and procedures. Accountants are responsible for the preparation and presentation of financial information for users of information. The objective of this study is to explain if the use of computer has affected the staff, management and the financial information presented to users. The study has among other things highlighted the meaning of accounting processes and accounting procedures, computer in generation of financial information, data processing cycle, a logical model of accounting processes in a computerized environment, financial information and its user, auditing of accounting processing a computerized environment, evaluation of computer utilization on accounting processes, importance of computers in accounting processes.

The study also discussed the process of implementing a complete computer accounting systems in an organization. The study concludes that computerization of accounting processes and procedures improves the decision making processes of management, management and staff benefit in no small measure when accounting processes are computerized.

Salhieh, Loay M. & Abu-Doleh, Jamal D. (2007). This study focuses on the psychometric stability of the information technology use instrument by Doll's and Torkzadeh's (1998), and the psychometric stability of the information technology satisfaction instrument by Palvia's and Palvia's (1999) when applied to Jordanian last users. Furthermore, the research uses canonical analysis to investigate a causal link proposed by the success model of Delone and McLean (1992). The results of the study give evidence that the two instruments are valid and reliable measure; which contributes to the popularization of the two instruments. The results of the canonical analysis give evidences of the causal link between IT use and IT satisfaction, and identify not useful and useful variables in the two instruments.
Fadel's (2007) study entitled "The effect of environmental, organizational, behavioral and technological factors on the effectiveness of accounting information systems at commercial banks in the Republic of Yemen, a field study" makes an attempt to determine the effect of environmental, organizational, behavioral and technological factors on the effectiveness of accounting information systems, whether these factors are taken together or independently. The study sample consisted of 340 employees in the departments of finance and accounting of commercial banks in Yemen. (172) questionnaires subjected for analysis. The study found several results including the following: factors that taken as a package; it was found that there is a positive impact for both technological and organizational factors on the effectiveness of accounting information systems, while there was no effect of both behavioral and environmental factors. But in case of taking each factor independently, it was found a positive effect for all the variables of the study on the effectiveness of accounting information systems used in commercial banks in Yemen.

The researcher benefited from this study in developing the theoretical framework of the current study. The difference between this study and the current study is that this study looked at the impact of environmental, behavioral, organizational and technological factors on the effectiveness of accounting information systems. The current study did not address these factors and the difference was also that this study looked at the commercial banks in Yemen and this study looked at the commercial banks of Jordan.

Kaoud (2007) in his study entitled "study and evaluate the electronic accounting information systems of Palestinians companies: An Empirical Study on joint-stock companies in Gaza provinces," aim to research in the evaluation of electronic accounting information systems in shareholding companies in Palestine, in order to recognize its reality in terms of quality specifications availability, provide the capacity and necessary capabilities to meet the needs of customers, the extent to keep pace with technological developments, as well as provide a clear vision helps in the evaluation.

The study sample consisted of 150 joint stock companies in Gaza province in Palestine. The study found that the characteristics of quality in electronic accounting information systems are available with different degrees, and also the appeasement of evolution, the competence and experience with software companies are available, in
addition to having a high correlation between the availability of quality characteristics in electronic accounting information systems and the ability of these systems to meet the needs of and desires of the users. The study recommended the need to work on the development of specifications and quality characteristics (speed, accuracy, flexibility, etc.) in electronic accounting information systems and controls need to develop the necessary powers to use the software and the necessity to set needed controls in software use and the need for attention to keep pace with technological developments.

The advantage of this study is to build a theoretical framework. The difference between this study and the current study that it tried to assess the accounting information systems in the electronic contribution companies in Palestine through the availability of quality specifications in those systems, but the current study looked at different environment and sector.

Abdullah & Qatanani, (2007) in their study entitled “Environmental banking and its impact on the efficiency and the effectiveness of accounting information systems: an analytical study on the commercial banks in Jordan.” Attempt identify the characteristics, variables and the factors from the banking environment and measure its effect at the level of efficiency and effectiveness of accounting information systems in the commercial banks in Jordan. The study data were collected through a list of the survey, which was designed for this purpose. (51) questionnaires were distributed on a sample of workers in the management of information systems in commercial banks in Jordan. Three questionnaires were given for each bank. The results indicate the presence of a very high degree of influence of each of the factors, legal, professional, legislation administrative, behavioral, organizational, technical and information technology factors at the level of efficiency and effectiveness of accounting information systems in commercial banks in Jordan. Also, the results of the statistical analysis of data on community study showed the degree of efficiency and effectiveness of accounting information systems in commercial banks in Jordan vary depending on the level of banking management interest of these factors when building, designing and developing the accounting information systems.

This study helped the researcher to identify some of the factors influencing the effectiveness of accounting information systems.
This study differed from the current study. This study tried to find out the level of efficiency and effectiveness of accounting information systems in commercial banks in Jordan through the legal, professional, legislation, administrative, organizational, behavioral, technical and information technology factors. This study mentioned the impact of information technology on the effectiveness of accounting information which is one of the variables of the current study.

CHU-FEN LI (2007) explores how (IT) information technology, operational efficiency, and operating costs are related to each other in banking. This paper proposes a framework for measuring the performance and efficiency of information technology application which provides us with some empirical evidence as follows.

First, low operational efficiencies exist in the banking industry during the research period. These inefficiencies are in normal ascribable to a combination of both wasteful overuse of information technology resources and inappropriate scale of IT investments.

Second, operational efficiencies measured by two frontier efficiency and performance analyses, data analysis and stochastic random approach, present a significant strong relationships.

Third, for an individual inefficient bank, the operational efficiency should be enhanced if the total amounts of information technology investments is enlarged.

Fourth, the different ownership type has a significant effect upon the performance contributions of information technology application.

Fifth, to enhance performance in banks, banks can reduce operating costs by increasing the number of financial cards issued and improve operational efficiency by installing more ATM and providing clients with a wide variety of IT services. Furthermore, the mutually-owned banks need a cutback in IT personnel as well to enhance performance and efficiency.

Dumitru Valentin F. et al. (2007). The main target of this study is to suggest a model for the assessment of the performance of the financial-accounting department. A model of assessment of the performance has to group financial and non-financial measures. The model suggested was built starting from the one conceived by Savoie, Morin and Beaudin in 1994 and improved, which relies on four dimensions: the
human resources value, the economic efficiency, the legitimacy of the company and the continuity of the company.

Ismail, Noor Azizi & King, Malcolm (2007) in their study entitled “Factors influencing the alignment of accounting information systems in small and medium sized Malaysian manufacturing firms”, make an attempt to explain the factors that affect the use of accounting information systems in small and medium-sized factories in Malaysia. The study sample consisted of 214 companies have accounting systems.

The study found that the use of accounting information systems (the work to in flow form to make it connects the information from the top and bottom) helps workers in companies to achieve their goals. In addition, the use of these systems enables companies to give accurate information to the relevant government agencies.

This study helped the researcher in identifying the factors influencing the use of accounting information systems. The difference between this study and the current study: this study looked in the factory sector of small and medium-sized businesses, while the current study searched in the commercial banks, taking into account the difference in the study environment as this study was conducted in Malaysia and the current study in Jordan.

Sajady, et al, (2008) in their study entitled “Evaluation of the Effectiveness of accounting information Systems (AIS)” aimed to help the effectiveness of AIS from the financial managers point of view around 347 Industrial company of the total 1383 companies registered in the stock market in Tehran city in the Iran. The study found that the applications of accounting information systems in these companies is in a good level and it helps to improve the decision-making process as well as it helps to improve the quality of internal controls and financial reporting. The advantages of this study are evaluating the accounting information systems and its impact on improving the decision-making process and improve the control, all of which are of the current study variables.

The difference between this research and the current study: this research searched at the industrial sector in Iran, while the current study searched at the commercial banks in Jordan, taking into account the difference locale of the study being Iran and Jordan.

Study”. This study explain to identify how the investment in information systems in the commercial banks in Jordan contributing in the effectiveness of accounting information systems. In addition to measuring the factors that determining the effectiveness of accounting information systems in the major commercial banks in Jordan.

The study sample consisted of 12 Jordanian commercial banks. The study found that the accounting information systems have dramatically affected the performance of these banks and they affect the level of competitiveness between the banks of the study sample.

The researcher particularly benefited of this study in the construction of the study tool, as it is similar to the subject of the study and the study environment.

The difference between this study and the current study: this study attempted to assess through investing in information systems in general. Does this investment will lead to effective accounting information systems? The current study is looking in the impact of information technology on the efficiency of accounting at the same sector.

Almatarneh, Ghassan F. & Al-Sharairi, Jamal (2009). The study aimed at identifying the impact of (IT) on the effectiveness of accounting information systems in the pharmaceutical companies in Jordan, through identifying the effect of the use of software, hardware and databases uses on the effectiveness of accounting information systems at these companies. To achieve the objectives of the research and testing its hypotheses, a questionnaire was submitted and distributed to a sample of 42 respondents, of standard deviation and average were computed, and (T-test) to test the hypotheses. The study found that there is an effect for the use of information technology on the effectiveness of accounting information systems, and there is an impact for the software, hardware and databases uses on the effectiveness of accounting information systems. The research has recommended the need to develop the IT in management and accounting systems, relevant to the requests and changes in the environment.

Gomes, Princly (2009) under the title “Internet Banking” makes an attempt to identify the banking services through internet in India and the security risks that may face these services. The owners believes that security risk arises on account of unauthorized access to a bank’s critical information stores like risk management
system, portfolio management accounting system and accounting system. There are other important risks such as loss of reputation and violation of customer privacy and its legal implications. Thus, the Basel Committee on Banking Supervision has taken the lead in this area. The major tasks of EBG’s work has been to develop risk management guidance for internet banking that will help bankers to control and monitor these services around the world.

Al-Shami's, (2009) study entitled “The Impact of the qualitative characteristics of accounting information on the quality of the financial reports of commercial banks operating in the Yemen” aimed to measure the effect of the qualitative characteristics of accounting information on the quality of financial reports issued by commercial banks in Yemen by measuring the effect of the basic characteristics and its components as the ability to understand accounting information, benefit property, convenience reliability, property and quality of the financial reports of commercial banks in Yemen and through measuring the effect of the secondary characteristics of accounting information and its components like consistency and comparability on the quality of the financial reports of commercial banks operating in Yemen. To achieve the objectives of the research, the researcher prepared a questionnaire targeted the accountants, internal auditors and financial managers, at 70 questionnaires were distributed on the study sample and 63 questionnaires were retrieved, 90% of the retrieved questionnaires were analyzed. The most important findings of this study that there is a high influence of the basic characteristics of accounting information on the quality of financial reporting, where the influence percentage was 83%, and the results showed that the characteristics of the secondary accounting information affect the quality of the financial reports of commercial banks operating in Yemen by 85%.

The important recommendations of the research were the need for the commercial banks operating in Yemen to increase attention by using qualitative characteristics information for the accounting information, and the need to improve the quality of the reports issued by these banks.

And the benefits from this study were identifying the most essential characteristics of accounting information and use it to build a theoretical framework.

The difference between the two studies that this study looked at the environment of Yemen while the current study looked at the environment of Jordan, also this study
discussed the impact of the qualitative characteristics of accounting information on the quality of financial reporting, while the current study tries to detect the impact of information technology on accounting efficiency.

**Madueme, Ifeoma Stella, (2010).** This empirical study tries to assess the effect of Information Communication Technology (ICT) on the productivity of the Nigerian banking sector. Effect on productivity was conceptualized as ability to make positive contributions to output after deductions for depreciation and labor expenses has been made.

The Transcendental Logarithmic Production function and the CAMEL rating were used for the study. Results explained that bank output such as loans and other assets increased significantly to changes in expenditure on information communication technology. Information communication technology labor expenses impacted more on bank output more than capital expenditure on ICT gadgets. The recommendation centered on the require to increase investments in information technology in order to increase productivity of banks. This is based on the scope that increased productivity in many instances leads to improved profitability and operational efficiency which are the laudable aims of any organization establishment.

**Alves, Maria (2010),** under the title "Information Technology roles in Accounting Tasks – A Multiple-case Study" focused on the impacts of information technology related organizational changes on the managerial accounting function and to contribute to the body of knowledge about to what extent IT information technology impacts the ability to solve accounting tasks. The relationship between information technology and accounting practices was investigated qualitatively using 6 case studies and the effect of information technology on accountant, and tasks is also measured. The findings recommend a tendency for decentralization and the change of accounting tasks.

**Akram Jalal-Karim & Allam M. Hamdan (2010)** in their study titled is also measured “The impact of information technology on improving banking performance matrix: Jordanian banks as case study” examines the affects of information technology (IT) on the Jordanian banking industry for the period of 2003-2007.

The research examine the level of using IT by (15) Jordanian Banks for a period of five years, then explore the impression on improving the performance of two forms of
matrix. The first is matrix of financial performance which comprises Market Value-Added (MVA), Return on Investment (ROI) and Earning per Share (EPR) and the second is matrix of operational performance, which includes the Net Profit Margin (NPM), Operating Return on Assets (ORA) and Profitability of Employee (PE). Utilizing IT by Jordanian banks will be measured by testing the level of investment in Hardware, Software, Internet Banking, Phone banking, number of ATMs, use of Cyber branches and Banking via SMS.

The results of measurements indicated there is an impact on the use of MIS in Jordanian banks in the market value added (MVA), Earnings Per Share (EPS), Return on Assets (ROA), Net Profit Margin (NMP).

Akinyomi Oladele John’s (2010) study “The impact of information technology on the operations of Nigerian banks” examines the effect of information technology on the operations of Nigerian banks (5) banks were randomly selected for the study, while three hundred and fifty questionnaires were distributed to respondents, but only two hundred and sixty were retrieved. The study revealed that IT has significant impact on the bank work, cashiers, productivity, bank patronage, banking transactions, bank services delivery, bank services and customer services. These affect the development and growth of the banking industry positively. Clients can now withdraw cash through the ATM in any part of the country.

Customers do not need to move about with large sums of cash anymore; clients are also being attended to within a short time.

Lupasc, Adrian, et. al. (2011) This study focuses on the Financial accounting activities, are currently affected as many important areas that characterize and surrounds the activities within each economic entity, the avalanche of modern information technologies, which are able to improve determine business processes and to ensure future business success. Approach analysis of the effect of new technologies on this scope should be so as a starting to identify the opportunities and the gains they would bring to determine activities. Information technology and communication technology are in use both at the organizational level and at the individual level with the flexibility of the increasingly, using a huge volume of information that financial accounting with direct effect on all human resources activities. Therefore, it has already made the passage to a new step: the global
network society, whose main features are digitizing and interconnectivity. In this sense, this paper has as its important objective of examining the effect of modern information technologies may have on the identification and the financial accounting domain and submission directions for their integration within companies.

*Sakini and Awada (2011)* The study entitled: “Risks of using information technology and its impact on the performance of the accounting information systems”, aimed to measure the effect of using information technology on the performance of the accounting information systems. The sample of the research consisted of shareholding companies listed in Amman Stock Exchange. The research concluded that there is a relation of impact between risks of using the information technology and the performance of the accounting information systems such as operation risks and the risks’ lack in specifying the authorities.

*Maziyar Ghasemi et al. (2011)*, “The impact of Information Technology on modern accounting systems” attempts to clarify the impacts of information technology on accounting systems. The biggest effect information technology has made on accounting system is the ability of companies to develop and use computerized systems to record and track accounting transactions. networks and computer systems have shortened the time needed by accountants to prepare and present financial information and accounting information to management. This system allows organizations to create individual reports fast and easily for decision makers. Other capabilities of computerized accounting systems are: Faster Processing, Improved Accuracy, Increased Functionality, and Better External Reporting. Finally, this research focusses on disadvantages and advantages of using IT in accounting systems.

*Sumra, Sana H. & Sumra, Hassan H. (2011)* aimed to examine the effect of e-banking on the profitability of Pakistani banks, in particular. This paper covers twelve banks across Pakistan. The research is qualitative in nature which examines different objectives which determine the performance of banks mainly in terms of profitability. It also discusses the effect of clients’ literacy on provision of services from banks’ perspective. It also discusses the motive of banks to adopt e-banking services.

The research is done through taking interviews from the managers of these banks.

The results show that e-banking has increased the profitability of the banks; it has enabled the banks to meet their costs and profits even in the short span of time. The
illiteracy of clients is not regarded as a major impediment in provision of their products and services. The main motive to adopt e-banking is to increase their client age and to retain their clients. The profitability of banks has augmented in transitioning to e-banking medium.

Al-Qudah (2011) conducted a study to investigate the effect of accounting information systems on the effectiveness of internal control in Jordanian commercial banks. The study concluded that accounting information systems have an effect on the effectiveness of accounting control in Jordanian banks particularly that the accounting information systems helps generate accurate, up to date, comparable and comprehensive data. Moreover, there is a positive impact of accounting information systems (AIS) on the effectiveness of management control at Jordanian banks in that the data produced by the accounting information systems helps decision makers to make operational and strategic decisions.

Al-shbiel 2011, aimed in his study to identify the effect of using accounting information systems AIS in achieving competitive advantage for Jordanian commercial banks, and concluded that there is a statistically significant effect for (AIS) on achieving the dimensions of competitive advantage (improving the pricing process for banking services, reducing costs of banking services, increasing market share, and increasing the speed of provided services).

Cristina, Gabriela Zamfeir (2011), under the title “Integration of Modern Information Technologies in the Field of Financial Accounting”, aimed to clear Financial accounting activities are currently affected as many important areas that characterize and surrounds the activities within of organization, the avalanche of new information technologies, which are able to improve business processes and to ensure future business success. Approach analysis of the effect of new technologies on this field should be so as a starting point to identify the opportunities and the benefits they would bring to specific activities. Information technology and communication technology are in use both at the individual level and at the organizational level with the high flexibility, using a huge volume of accounting information with direct impact on all human activities. specially, it has already made the passage to a new stages: the global network society, whose main features are interconnectivity and digitizing. In this sense, this study has as its main objective of examining the impact of modern
information technologies may have on the financial accounting domain and the identification and submission directions for their integration within organizations.

**Wedyan, Lu'ay M et al. (2012).** This study aimed to identify the effect of applying accounting information systems on reduction of the costs, and increase the profits in Jordanian banks. The important results that banks rely on accounting systems, by connecting the banking services of banks each department separately and connecting among all departments at the relevant time, reliance on accounting information systems (AIS) to satisfy the customers through the implementation of banking customers as quickly and with minimal efforts, for reaching a competitive advantage among Jordanian banks, also the some of the actors in the commercial banks that Banks attempt to provide accurate information by showing the financial position for the customers and provide electronic access by the customers to their account and make any withdraw, deposit and transfer money using the good connection between the electronic accounting systems.

**Naseem, Imran et al. (2012),** under the title “The Impact of Information Technology on the Efficiency of Banks: (An Empirical Investigation from Pakistan)” shows that use of Information technologies is increasing day by day in banking industry all over the world. Investment in Information Technology is helping the top level management in achieving their objectives and anticipated targets. This study reveals the contribution and role of IT on the efficiency of bank and also explores the existence of relationship between the investment in information technology and bank efficiency measures. The result clears that investment in information system is contributing towards reducing operating cost, increase market share, improve client services and assisting the banks in introducing new products and services. That is the reason that most of the organizations Pakistan are using the information technology as competitive tools. The banks in Khyber Pukhtoon Khowa of Pakistan are using information technology in banks to get competitive advantage as well.

**Sarokolaei, Mehdi A. (2012),** in his paper tried to study the amount of information technology's effectiveness on the efficacy of accounting data and accounting reports. By using analysis methods and Freedman's test in order to classify the factors, researcher studied the effectiveness of information technology on factors such as in time presentation and supply of the data, the convergence of accounting data with changing some economic conditions, and interpreting the data resulted from
qualitative desirability of the outputs, the administrators confidence on the appropriateness of the system, the format and variety of the outputs and the interference of the data related to decision. Here we have tries to select an a relevant sample of statistical society from among administrators of companies accepted in bourse to assess the effectiveness of information technology on factors related to reports of accounting. To conclude, on the whole information technology is efficacy on effectiveness of the data resulted from accounting system.

Kabiru, Farouk (2012) in his paper investigates the impact of investment in information technology on the return on assets of selected banks in Nigeria for the period 2000-2010, using independent variables (MIS surrogates) which comprise of hardware, software, investment, and number of ATMs, while the financial performance as a variable is proxied by the return on assets. The research used secondary data generated from annual reports and accounts of selected banks quoted in the Nigerian Stock Exchange (NSE). The data analyzed using multivariate Statistical Package for Social Sciences (SPSS). It was found that management information system surrogates which are hardware, software investment and number of ATMs had a significant impact on financial performance of Nigerian banks as measured by return on assets (ROA) because t- statistics results are all significant at 1 percent. The study recommends that banks should increase investment in hardware, software and ATMs which will confirm their Management Information System (MIS) and profitability.

Dacosta et al. (2012) focuses on assessing the impact of the use of Computerized Accounting Systems in the corporate reporting of rural banks in Ghana. The centre of attention was on three rural banks namely Nsutaman, Nwabiagya and Okomfo Anokye Rural Banks; all in the Ashanti Region. A stratified sampling technique was used to select this sample. The Banks were stratified as follows: computerized and networked bank computerized but not networked and partially computerized. The main objectives of this work is to explore how Computerized Accounting Systems (CAS) have forever changed many aspects of business and accounting practices especially in corporate reporting and to consider the main reasons for the reluctance of some Rural Banks to adopt and utilize this new capability.

The focus of the study was on areas that the researchers considered very critical in Computerized Accounting System (CAS). These areas include: the need for CAS, the
cost-benefit analysis of a change to Computerized Accounting Systems, financial and non-financial benefits of CAS, factors considered before choosing accounting software and challenges associated with the use of CAS and how these challenges can be overcome.

The research concluded that the advantages of a Computerized Accounting System far outweigh its associated challenges as it has impacted the financial reporting of the banks positively. Hence, there is the need for businesses, particularly their banks to adopt a CAS.

Recommendations were that rural banks should make a meticulous effort to migrate onto the Terminus 24, a CAS that the government of Ghana has introduced, as it comes with added advantage to serve as a platform in which all the rural banks in the country are networked to each other to facilitate faster and efficient banking.

El-Dalabeeh Abd El-Rahman Kh & Alshbili Seif O. (2012). This study aimed to identify the role of computerized accounting information systems in reducing the costs of medical services provided at King Abdullah University Hospital.

The study sample consisted of 36 employees including the management and financial managers, information systems personnel, accountants, and a head of accounting department. This research adopted the theoretical and field approaches of the descriptive analytical methodology. The study findings show that there is a significant impact of computerized accounting information systems in reducing services costs at the King Abdullah University Hospital. It illustrated a positive correlation among each component of accounting information systems (databases, equipment and hardware, software, human resources, and procedures) and the reduction of services costs at the hospital. The research suggestions and recommendations included retaining the increased levels of computerized accounting information systems by keeping up with the modern developments in the fields of databases, hardware and software, conducting regular maintenance which helps raise the level of medical services provided to patients at the Hospital, developing procedures along with the perfect of computerized accounting information systems, and conducting more researches on the role and effect of computerized accounting information systems in reducing of the medical services cost at other hospitals which were not studied such as private hospitals and the University of Jordan Hospital.
Al Hanini Eman (2012). This study aim to identify the risks of computerized accounting information systems in the banks of Jordan, there are a ways of prevention. To achieve this, a questionnaire was distributed to a sample consisted of 63 employees who work as managers and their assistants, assistants of the general managers, and the employees in this banks. After data was analyzed using Statistical Package for Social Sciences (SPSS), it was concluded that there were risks the security of AIS in the Jordanian banks; regarding the employees as the employees’ entry of very bad data, risks regarding viruses’ entry into these systems, internal control as the unauthorized to know the outputs, and risks natural and unnatural disasters done by human.

The study suggested some procedures to be used by the banks to reduce the impacts of the risks of the computerized accounting systems as the management of bank’s updating the means of protection according the technological development continuously and keeping suitable copies of information in safe places, carrying out procedures to protect the computerized accounting information system by insureing a fire-resistance place (physical protection) and developing and implementing a system of internal control characterized by strength.

2.3 Research Gap

From the foregoing literature review, it is obvious that there are many research studies on the different aspects of information technology with special reference to information technology in Jordanian banks. It is nevertheless found that there is a still dearth of research mainly focusing on the use of information technology in Accounting system. The present study was conducted against this backdrop and no work has been performed with this scope as yet.

The research gaps pointed out in the literature show that the researcher has looked thoroughly in the area of study and makes interpretation and suggestions on how the research may proceed or what could be done to fill those gaps.

2.4 Significance of the Study

The importance of this study lies in the importance of information technology used in the Jordanian commercial banks, and the need to identify the impact of information technology used in those banks in accounting system.
Simultaneously the importance of the study lies in the growing contribution of the Jordan's banking sector in development, economic progress, investments in recent years in Jordan, and the importance of the Jordanian commercial banks to keep pace with technological developments that have affected many sectors in the world to serve the beneficiaries efficiently, in addition to the role of the accounting system in recording data and economic events then processing and analyzing them to show the results in a financial template, and summarize the results of the various activities and information in all its forms to facilitate the decision-making process. (Chang, et al., 2003). Also helps other sectors which did not adopt information technology so far in accounting regulations to clarify the outlines of the importance of information technology to the accounting system, and identify some of the potential challenges associated with the use of information technology in accounting systems.

2.5 Objectives of the Study

The main objective of this study is to identify the impact of information technology on the efficiency of accounting in commercial banks of Jordan. The detailed objectives of the study are as follows:

1. To identify the impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks, which represent the data collection, recording and the storing process.

2. To identify the impact of information technology used in the Jordanian commercial banks on the efficiency of accounting processes, which represent the processing of the data that have been recorded.

3. To identify the impact of information technology used in the Jordanian commercial banks on the efficiency of the accounting outputs, which represent accounting information, as measured by the efficiency of accounting information through qualitative characteristics of accounting information namely relevance, reliability, comparability and consistency.

4. To identify the difficulties those limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks, if available.
2.6 Hypotheses of the Study

The review of literature and the pilot study facilitates the following hypotheses.

The first main hypothesis:

H01: There is no statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks.

The second main hypothesis:

H02: There is no statistically significant impact of the use of information technology on the efficiency of accounting process in the Jordanian commercial banks.

The third main hypothesis:

H03: There is no statistically significant impact of information technology on the efficiency of accounting outputs in the Jordanian commercial banks.

Sub-Hypotheses of this are:

The first sub-hypothesis:

H0: There is no statistically significant impact of the use of information technology on relevance.

The second sub-hypothesis:

H0: There is no statistically significant impact of the use of information technology on reliability.

The third sub-hypothesis:

H0: There is no statistically significant impact of the use of information technology on comparability.

The fourth sub-hypothesis:

H0: There is no statistically significant impact of the use of information technology on consistency.

The fourth main hypothesis:

H04: There are no difficulties to limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks.
2.7 Research Methodology

The study uses both primary and secondary sources for collecting facts and figures relating to the topic under research.

Primary information and data are based on empirical field study. They are obtained through a well designed questionnaire to elicit information necessary to the requirements for testing the hypotheses of the study. The questionnaire was served on each member of the universe based on the sample of banks chosen through statistical sampling technique. Administration of the questionnaire was done to the member of universe. Bank officials were personally interviewed for discussion on various aspects of bank. The information thus collected have been classified, analyzed and interpreted through application of statistical tools and logical inferences drawn for the purpose of the study.

Secondary data include previously published pertinent literature, books, articles, periodicals, bulletins, magazines and specialized journals. Such information provides the basis for building up the theoretical and conceptual framework of the study.

Besides the above primary and secondary sources of information, the study makes use of informal channels of extensive discussion and critical comments of academics and professionals in the field of banking industry. Their view and comments have also been incorporated which have greatly enriched this study in its contents and outcome.

Data Analysis and Hypothesis Testing Methods

Statistical tools used for analyzing the data and testing study hypotheses are as under:

1. Working out frequency rates and percentages relevant to the questionnaire paragraphs.
2. Calculating standard deviations and mean in all questionnaire paragraphs.
3. Using the sample test for testing the general hypotheses.

2.8 Limitations of the Study

The study has the following limitations:

1. Primary data has been collected through a questionnaire served by the researcher. Some persons reluctantly divulged their mind to answer the questions while others lacked confidence in answering the questions. Hence,
the possibility of some biased and irresponsible information may have crept into interpretation relied on for analysis and interpretation in this study cannot be ruled out.

2. It was difficult to collect data from all over the country. Yet, best efforts have been made to collect latest data and information from as many sources as possible, like the Central Bank of Jordan.

3. In some cases, the data and information related to the study have not been available in the form and at the time required for this study.

2.9 Research Plan

The study is spread over five chapters. Each chapter devoted to the subject matter as elaborated hereunder.

The first chapter is devoted to ‘Introduction’. It explains the topic of research, its significance and implications.

The second chapter presents review of the literature. It goes through the pertinent published work so far done by scholars, academicians and professionals in the area of commercial banks in Jordan. The review of literature brings to fore the gap emerging from these works for further research. The gap justifies the problem of research which this study has set for itself as no work has been done so far specifically on the topic of research under current study. Also spelled out in this chapter are the objectives of the study, the hypotheses to be tested, the scope of study, the methodology and limitations of study and the full view of the plan of work envisaged for conducting this study up to the completion.

The third chapter comprises of three sections. The first section enlightens on the evolution, development and growth of the banking sector in Jordan with special emphasis on the commercial banking segment in Jordanian banking industry. This also presents an overview of the Jordan’s economy and dwells upon the development and growth of the various economic sectors in Jordan as well as presents the economic indicators that highlight the current status of Jordan’s economy. The evolution of banking in Jordan starting from foreign-owned banking sector and progressing up to the formation of Jordanian owned national banks, the current growth of their assets, expansion of deposits as well as loans and advances, the rate of capital formation, and study of the auditing and internal control practices of banking.
sector in Jordan are highlighted. Also it peeps into the internal audit control system, internal audit programs and procedures, the organization for internal audit control, the functioning and effectiveness of such control.

The second section discusses the applications of Information Technology in commercial banks of Jordan. It assesses the depth and extent of the application of Information Technology and the nature in Jordanian banking sector. The effectiveness of the use of this Technology is gauged. The age and stage of the Information Technology is also taken into account so as to determine its compatibility with the requirements of modern day.

The third section discusses the accounting applications in commercial banks of Jordan. It assesses the depth and extent of the application of computerized accounting in Jordanian commercial banks.

The fourth chapter makes a critical analysis of the work done, as a whole, in this study. Through application of statistical tools, as described in the methodology, the data collected and used in the study are analysed and interpreted.

The fifth and the final chapter is devoted to a critical examination of the interpretation in order to draw logical conclusions. The outcome has its bearing on the hypothesis which is tested positive or negative. Based on the conclusions, the recommendations have been made. A pragmatic, practical and long-range view has been taken for fixation of the negative aspects emerging through this study and the corrective suggestions have been made to overcome them accordingly.

Summary

The second chapter presents review of the literature. It goes through the pertinent published work so far done by scholars, academicians and professionals in the area of commercial banks in Jordan. The review of literature brings to fore the gap emerging from these works for further research. The gap justifies the problem of research which this study has set for itself as no work has been done so far specifically on the topic of research under current study. Also spelled out in this chapter are the objectives of the study, the hypotheses to be tested, the scope of study, the methodology and limitations of study and the full view of the plan of work envisaged for conducting this study up to the completion.
References:


Cristina Gabriela ZAMFIR (2011), under the title "Integration of Modern Information Technologies in the Field of Financial Accounting", "Dunarea de


Siam, W. Z. (2004). “*Assessing the effectiveness of computerized accounting information systems in Jordan confidential banks with the technological development*”, paper presented to the sixth scientific career conference in 2004,
Amman, Jordan. / 9/23 - the Association of Chartered Accountants, for the period from 22.


CHAPTER 3

Theoretical Framework
CHAPTER 3
THEORETICAL FRAMEWORK

3.1 Jordanian Banks
   3.1.1 Growth of Commercial Bank and other Financial Institution
   3.1.2 Capital and Money Markets
   3.1.3 Overview of Jordan Banking Network

3.2 Information Technology in Jordanian Banks
   3.2.1 Location of Information Technology Functions
   3.2.2 Importance of Computerized Accounting Systems
   3.2.3 Challenges Encountered with the Use of Computerized Accounting Systems
   3.2.4 The Impact of Computer Use on Accounting Procedures
   3.2.5 Computer Uses in Accounting:

3.3 Accounting and Accounting in Banks
   3.3.1 Efficiency and Accounting Efficiency
   3.3.2 Accounting System
   3.3.3 Information Systems Components
   3.3.4 Problems and Limitations to the Use of Qualitative Characteristics
   3.3.5 Features of Accounting Information Systems
As a result of the technological, economic developments and globalization information systems has an important position in all areas as information systems speedily developed and it has numerous applications in all levels of management. These systems have been used in the operational, technical and strategic levels, since accounting systems have achieved many advantages through the availability of important information for all users of accounting information. The information which are produced by the systems is considered as an essential resource for organizations with its various forms, they are the backbone of the financial decisions, whether these decisions are operational, investment or financing, as these decisions contribute to raise the performance of the organization and achieve competitive advantage which positively reflected on the market value of the organization, then maximizing shareholders wealth, and its continuation in the sector in which it operates. Accounting information systems help the development towards the design of such systems efficiently so as to provide the users with information they need for decision-making in various fields and in all branches of economic activity (Peters: 2002)).

3.1 JORDANIAN BANKS

3.1.1 Growth of Commercial Bank and other Financial Institutions

In the preceding section we have discussed the evolution of banking in Jordan leading to the establishment of the Central Bank of Jordan. An elaborate discussion is also made of the organizational structure, objective and functions of the CBJ and it may be surmised that the Bank is capable enough organizationally, legislatively and administratively to trigger development and expansion of banking network in the state of Jordan. The Bank has, indeed played a significant role in this direction. This section accordingly deals with the status of the existing banking and financial institutional structure in the state of Jordan as well as the various services provided and the volume of financial transactions handled by them (Abdul-Allah Amen Khalid, 1987).

Growth of Banking System

It is opt to mention here that the Central Bank has proved a catalyst of a revolutionary change in the banking and finance structure in Jordan. The CBJ initiated steps both legislative and administrative to expand the banking system and make it a significant instrument for supporting the economy and its development. The domestic bankers
were given encouragement and assistance to establish themselves as commercial banking units in the country. These banks were given licenses allowing them to operate in the country and run the banking business on commercial lines.

They were also authorized to expand themselves by establishing branches in unbanked regions of Jordan. Opening their branches outside the country was also legislatively allowed to them. (Abu Roman Mohamed A., 1982). As a result a number of domestic banking sectors sprang up and established them as banking companies under license from the CBJ. They came to be known as licensed banking sector. These banks in course of time came of age and expanded themselves by branching out in various parts of the country. Some of them even established their branches in foreign countries. The table 3-1 below presents development of number of Banks and branches in Jordan (2003 – 2013).

The number of banks operating in Jordan reached 26 at the end of 2013, 16 of which are Jordanian banks (3 of which are Islamic banks), 10 of them are foreign banks (of which one is an Islamic bank). The services of these banks cover most parts of the kingdom through a network of branches that consist of 731 branches and 79 offices. The banking density indicator (the population to the total number of branches of banks operating in the kingdom) reached about 8848 people for each branch by the end of 2013.

Table 3-1

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Banks</th>
<th>Number of Jordanian Banks</th>
<th>Number of foreign Banks</th>
<th>Total</th>
<th>Number of Branches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commercial Banks</td>
<td>Islamic Banks</td>
<td>Commercial Banks</td>
<td>Islamic Banks</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>14</td>
<td>2</td>
<td>5</td>
<td>0</td>
<td>21</td>
</tr>
<tr>
<td>2004</td>
<td>14</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>24</td>
</tr>
<tr>
<td>2005</td>
<td>13</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>2006</td>
<td>13</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>2007</td>
<td>13</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>2008</td>
<td>13</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>2009</td>
<td>13</td>
<td>2</td>
<td>8</td>
<td>0</td>
<td>23</td>
</tr>
<tr>
<td>2010</td>
<td>13</td>
<td>3</td>
<td>9</td>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>2011</td>
<td>13</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>2012</td>
<td>13</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>2013</td>
<td>13</td>
<td>3</td>
<td>9</td>
<td>1</td>
<td>26</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ) 2014
The growth and expansion of banking system in Jordan is presented in the following Table 3-2.

**Table 3-2**

**Growth of Commercial Banks in Jordan (end 2013)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Commercial Bank</th>
<th>No. of Branches</th>
<th>No. of branches abroad</th>
</tr>
</thead>
<tbody>
<tr>
<td>1930</td>
<td>Arab Bank PIC</td>
<td>77</td>
<td>102</td>
</tr>
<tr>
<td>1956</td>
<td>Jordan Ahli Bank PLC</td>
<td>51</td>
<td>6</td>
</tr>
<tr>
<td>1960</td>
<td>Bank of Jordan PLC</td>
<td>67</td>
<td>14</td>
</tr>
<tr>
<td>1960</td>
<td>Cairo Amman Bank</td>
<td>69</td>
<td>19</td>
</tr>
<tr>
<td>1974</td>
<td>The Housing Bank for Trade &amp; Finance</td>
<td>110</td>
<td>13</td>
</tr>
<tr>
<td>1977</td>
<td>Jordan Kuwait Bank</td>
<td>44</td>
<td>3</td>
</tr>
<tr>
<td>1978</td>
<td>Jordan Commercial Bank</td>
<td>28</td>
<td>5</td>
</tr>
<tr>
<td>1978</td>
<td>Arab Jordan investment bank</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>1989</td>
<td>Arab Banking Corporation (Jordan)</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>1989</td>
<td>Jordan Investment finance Bank</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>1991</td>
<td>Union Bank of Saving &amp; Investment</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>1993</td>
<td>Societe General- Jordan</td>
<td>16</td>
<td>-</td>
</tr>
<tr>
<td>1996</td>
<td>Capital Bank of Jordan</td>
<td>13</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>553</td>
<td>164</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ) 2014

Over the course of more than four decades from the inception of Central Bank, the banking network has grown widely and considerably in Jordan. As will be evident from Table 3-2 above, the banking institutions strength during the period grew to a total of 13 bank. Except a couple of them, each bank has expanded itself by establishing a number of branches in the country. The total number of branches of these banks aggregate to 553. These branches are serving as mini-banks covering all regions of the country. Some banks have established their branches which serve as headquarters for a group of branches attached to them of the surrounding areas so that the subordinate branches may draw on the resources of the headquarter branches and get instruction and counsel in times of need. The monitoring of the working branches also gets facilitated for the apex bank through the branches designated as headquarters. The present strength of the big branches serving as headquarter is 49 in Jordan.

The banking sector in Jordan have so far set up 164 branches in countries outside Jordan. Such development and expansion of banking network indicates that
substantial progress has been made by Jordan in the banking sector. The development and growth of this sector, however, continues and the future holds good promise for further progress.

Foreign Banks

Alongside the growth in strength of the domestic banking sector the foreign banks were also attracted to establish their banking offices in Jordan. Their number and expansion in the form of branches is presented in the following Table 3-3.

Table 3-3

Growth of Foreign Banks in Jordan (end 2013)

<table>
<thead>
<tr>
<th>Year</th>
<th>Foreign Bank</th>
<th>No. of Branches in Jordan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949</td>
<td>HSBC Ltd Middle east</td>
<td>4</td>
</tr>
<tr>
<td>1951</td>
<td>Egyptian Arab Land Bank</td>
<td>9</td>
</tr>
<tr>
<td>1957</td>
<td>Rafidain Bank</td>
<td>2</td>
</tr>
<tr>
<td>1974</td>
<td>Citibank N.A.</td>
<td>2</td>
</tr>
<tr>
<td>2002</td>
<td>Standard Chartered Bank</td>
<td>6</td>
</tr>
<tr>
<td>2004</td>
<td>National Bank of Kuwait</td>
<td>4</td>
</tr>
<tr>
<td>2004</td>
<td>Audi Bank</td>
<td>12</td>
</tr>
<tr>
<td>2004</td>
<td>BLOM Bank</td>
<td>11</td>
</tr>
<tr>
<td>2009</td>
<td>National Bank of Abu Dhabi</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>53</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ), 2014

Foreign bank which have set up themselves in Jordan belong, as will appear from the above table to China, Egypt U.S.A. Kuwait etc. The strength of foreign bank offices so far stands at 53. A couple of these foreign banks have extended their activities in parts of Jordan other than the capital town Amman by establishing their branches.

Islamic Banks

In the crowd of domestic banking sector and foreign banks with their numerous branches operating all around the Jordanian territory the Islamic banks cannot be lost sight of. In addition to the conventional type of domestic and foreign banks carrying on their banking business on the principle of interest on lending and deposits, Islamic banks operate on the principles of Islamic ‘SHARIA’ which makes the interest (Riba) giving and taking as taboo in Islam. Accordingly Islamic banking is riba-free or interest free banking. Lending and deposits in Islamic bank don’t fetch any interest;
rather, the depositors share the profit or loss made by the Islamic bank through banking business over the period of a year. The role of return is based on the volume of profit made which may be negative in case of a loss. (Fouad Yassen, Ahmed Darwesh, 1996). The current status of Islamic banks operating in Jordan is presented in the following Table 3-4.

Table 3-4

<table>
<thead>
<tr>
<th>Year</th>
<th>Islamic Bank</th>
<th>No of branches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>Jordan Islamic Bank</td>
<td>64</td>
</tr>
<tr>
<td>1997</td>
<td>Islamic International Arab Bank</td>
<td>36</td>
</tr>
<tr>
<td>2009</td>
<td>Jordan Dubai Islamic Bank</td>
<td>113</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ), 2014

Though there are only three Islamic banks in Jordan but they are operating with a fairly large number of branches in the country. The Jordan Islamic Bank, for instance, has 64 branches. Each branch is big enough to be itself the headquarter of the bank. The other Islamic International Arab Bank has 36 large sized branches each operating itself in the capacity of headquarters of the bank. And Jordan Dubai Islamic Bank having 13 large sized branches each operating itself in the capacity of headquarters of the bank. Put together all Islamic banks run 113 branches cover the area spread all around the Jordanian territory.

The total number of bank branches inside Jordan totaled 731 branches at the end of 2013. These are distributed as follows: 553 branches of Jordanian commercial banks (76.6% of total number of branches), 116 branches of Islamic banks (constituting 16.1% of total branches) and 53 branches of foreign commercial banks (7.3% of total branches).

Banks’ Ranking According to the Number of ATMs Inside Jordan

The table 3-5 below presents the no. of ATMs of commercial Banks operating in Jordan. The total number of ATMs at banks inside Jordan reached 1291 machine as at the end of 2012. These are distributed as follows: 1006 machines belonging to Jordanian commercial banks (constituting 77.9% of the total number of ATMs), 197
machines belonging to Islamic banks (15.3% of total ATMs), and 88 ATMs belonging to foreign commercial banks (6.8% of the total number of ATMs).

Table 3-5

The Number of ATMs of Commercial Banks Operation in Jordan at the End of 2013

<table>
<thead>
<tr>
<th>Ranking 2013</th>
<th>Commercial Banks</th>
<th>Number of ATMs</th>
<th>Ratio of Total Number of ATMs %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Housing Bank for Trade &amp; Finance</td>
<td>194</td>
<td>15.03%</td>
</tr>
<tr>
<td>2</td>
<td>Cairo Amman Bank</td>
<td>188</td>
<td>14.56%</td>
</tr>
<tr>
<td>3</td>
<td>Arab Bank PIC</td>
<td>143</td>
<td>11.08%</td>
</tr>
<tr>
<td>4</td>
<td>Bank of Jordan PLC</td>
<td>110</td>
<td>8.52%</td>
</tr>
<tr>
<td>5</td>
<td>Jordan Ahli Bank PLC</td>
<td>82</td>
<td>6.35%</td>
</tr>
<tr>
<td>6</td>
<td>Jordan Kuwait Bank</td>
<td>72</td>
<td>5.58%</td>
</tr>
<tr>
<td>7</td>
<td>Arab Banking Corporation (Jordan)</td>
<td>51</td>
<td>3.95%</td>
</tr>
<tr>
<td>8</td>
<td>Union Bank of Saving &amp; Investment</td>
<td>39</td>
<td>3.02%</td>
</tr>
<tr>
<td>9</td>
<td>Jordan Commercial Bank</td>
<td>36</td>
<td>2.79%</td>
</tr>
<tr>
<td>10</td>
<td>Capital Bank of Jordan</td>
<td>34</td>
<td>2.63%</td>
</tr>
<tr>
<td>11</td>
<td>Arab Jordan Investment bank</td>
<td>24</td>
<td>1.86%</td>
</tr>
<tr>
<td>12</td>
<td>Societe General- Jordan</td>
<td>17</td>
<td>1.32%</td>
</tr>
<tr>
<td>13</td>
<td>Jordan Investment finance Bank</td>
<td>16</td>
<td>1.24%</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ), 2014.

Ranking According to the Total Assets as at the end of 2013

The total assets of licensed banks operating in Jordan at the end of 2013 amounted to almost 37.3 billion JD, distributed as follows: 27.7 billion JD for Jordanian commercial banks (74.2% of the total assets of banks operating in Jordan); 5.2 billion JD for the Islamic banks (13.9% of total assets) and 4.4 billion JD for foreign banks (11.9% of total assets). Their total assets of Banks operating in Jordan is presented in the following table 3-6.
Table 3-6

Total Assets of Banks Operating in Jordan at the End of 2013

<table>
<thead>
<tr>
<th>Ranking 2013</th>
<th>Commercial Banks</th>
<th>Assets (JD million)</th>
<th>Ratio to Total Assets %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Arab Bank PIC</td>
<td>7858.00</td>
<td>21.05%</td>
</tr>
<tr>
<td>2</td>
<td>The Housing Bank for Trade &amp; Finance</td>
<td>5857.00</td>
<td>15.69%</td>
</tr>
<tr>
<td>3</td>
<td>Jordan Kuwait Bank</td>
<td>1992.90</td>
<td>5.34%</td>
</tr>
<tr>
<td>4</td>
<td>Jordan Ahli Bank PLC</td>
<td>1979.00</td>
<td>5.30%</td>
</tr>
<tr>
<td>5</td>
<td>Union Bank of Saving &amp; Investment</td>
<td>1727.00</td>
<td>4.63%</td>
</tr>
<tr>
<td>6</td>
<td>Bank of Jordan PLC</td>
<td>1600.10</td>
<td>4.29%</td>
</tr>
<tr>
<td>7</td>
<td>Cairo Amman Bank</td>
<td>1583.00</td>
<td>4.24%</td>
</tr>
<tr>
<td>8</td>
<td>Capital Bank of Jordan</td>
<td>1460.00</td>
<td>3.91%</td>
</tr>
<tr>
<td>9</td>
<td>Arab Jordan Investment Bank</td>
<td>877.70</td>
<td>2.35%</td>
</tr>
<tr>
<td>10</td>
<td>Arab Banking Corporation (Jordan)</td>
<td>813.00</td>
<td>2.18%</td>
</tr>
<tr>
<td>11</td>
<td>Jordan Commercial Bank</td>
<td>775.01</td>
<td>2.08%</td>
</tr>
<tr>
<td>12</td>
<td>Investment Bank</td>
<td>694.00</td>
<td>1.86%</td>
</tr>
<tr>
<td>13</td>
<td>Societe General-Jordan</td>
<td>480.14</td>
<td>1.29%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>27696.85</td>
<td>74.18%</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ) 2014

The table 3-7 below presents non-current Assets are depreciated at the cost according to straight – Line Depreciation Method.

Table 3-7

Non-Current Assets

<table>
<thead>
<tr>
<th>Category</th>
<th>Depreciation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lands</td>
<td>0%</td>
</tr>
<tr>
<td>Constructions</td>
<td>2%</td>
</tr>
<tr>
<td>Furniture</td>
<td>10%</td>
</tr>
<tr>
<td>Equipments &amp; Tools</td>
<td>15%</td>
</tr>
<tr>
<td>Computer devices</td>
<td>20%</td>
</tr>
<tr>
<td>Books</td>
<td>10%</td>
</tr>
<tr>
<td>Software</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ) 2014
Banks’ Ranking according to the Total Deposit as at the end of 2013

The total deposit at the banks operating in Jordan reached approximately 26.8 billion JD by the end of 2013. These deposits are divided as follows: 19.1 billion JD at Jordanian commercial banks (73.4% of total deposit), 4.1 billion JD at Islamic banks (15.25% of total deposit), and 3.04 billion JD for foreign commercial banks (11.3% of total deposit).

Their total deposits of Banks operating in Jordan is presented in the following table 3-8.

### Table 3-8

**Total Deposits at Banks Operating in Jordan at the End of 2013**

<table>
<thead>
<tr>
<th>Ranking 2013</th>
<th>Commercial Banks</th>
<th>Deposits (JD million)</th>
<th>Ratio to Total Deposits %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Arab Bank PIC</td>
<td>6906.00</td>
<td>25.72%</td>
</tr>
<tr>
<td>2</td>
<td>The Housing Bank for Trade &amp; Finance</td>
<td>3944.00</td>
<td>14.69%</td>
</tr>
<tr>
<td>3</td>
<td>Jordan Kuwait Bank</td>
<td>1310.20</td>
<td>4.88%</td>
</tr>
<tr>
<td>4</td>
<td>Jordan Ahli Bank PLC</td>
<td>1208.00</td>
<td>4.50%</td>
</tr>
<tr>
<td>5</td>
<td>Bank of Jordan PLC</td>
<td>1174.80</td>
<td>4.37%</td>
</tr>
<tr>
<td>6</td>
<td>Cairo Amman Bank</td>
<td>999.00</td>
<td>3.72%</td>
</tr>
<tr>
<td>7</td>
<td>Union Bank of Saving &amp; Investment</td>
<td>946.80</td>
<td>3.53%</td>
</tr>
<tr>
<td>8</td>
<td>Capital Bank of Jordan</td>
<td>870.00</td>
<td>3.24%</td>
</tr>
<tr>
<td>9</td>
<td>Arab Banking Corporation (Jordan)</td>
<td>579.00</td>
<td>2.16%</td>
</tr>
<tr>
<td>10</td>
<td>Jordan Commercial Bank</td>
<td>578.08</td>
<td>2.15%</td>
</tr>
<tr>
<td>11</td>
<td>Investment Bank</td>
<td>459.00</td>
<td>1.71%</td>
</tr>
<tr>
<td>12</td>
<td>Arab Jordan Investment Bank</td>
<td>411.50</td>
<td>1.53%</td>
</tr>
<tr>
<td>13</td>
<td>Societe General- Jordan</td>
<td>327.44</td>
<td>1.22%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>19713.81</strong></td>
<td><strong>73.41%</strong></td>
</tr>
</tbody>
</table>

*Source: Association of Banks of Jordan (ABJ), 2014*

Banks’ Ranking According to the After-Tax Net Profit in 2013

The total after tax net profit of banks operating in Jordan amounted to 416.2 million JD, of which 321 million JD went to Jordanian commercial banks (77.1% of the total net profit), 49.8 million JD went to Islamic banks (12% of the total net profit) and 45.5 million JD for foreign banks (10.9% of the total net profit). Their net after-Tax profit of Banks operating in Jordan is presented in the following table 3-9.
Table 3-9
Net After-Tax Profit of Banks Operating in Jordan at the End of 2013

<table>
<thead>
<tr>
<th>Ranking 2013</th>
<th>Commercial Banks</th>
<th>Net After Tax Profit (JD million)</th>
<th>Ratio to Total Net AfterTax Profit %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Housing Bank for Trade &amp; Finance</td>
<td>74.000</td>
<td>17.78%</td>
</tr>
<tr>
<td>2</td>
<td>Arab Bank PIC</td>
<td>63.000</td>
<td>15.14%</td>
</tr>
<tr>
<td>3</td>
<td>Bank of Jordan PLC</td>
<td>34.510</td>
<td>8.29%</td>
</tr>
<tr>
<td>4</td>
<td>Jordan Kuwait Bank</td>
<td>34.500</td>
<td>8.29%</td>
</tr>
<tr>
<td>5</td>
<td>Cairo Amman Bank</td>
<td>29.000</td>
<td>6.97%</td>
</tr>
<tr>
<td>6</td>
<td>Jordan Ahli Bank PLC</td>
<td>20.000</td>
<td>4.80%</td>
</tr>
<tr>
<td>7</td>
<td>Union Bank of Saving &amp; Investment</td>
<td>14.800</td>
<td>3.56%</td>
</tr>
<tr>
<td>8</td>
<td>Capital Bank of Jordan</td>
<td>13.000</td>
<td>3.12%</td>
</tr>
<tr>
<td>9</td>
<td>Arab Jordan Investment Bank</td>
<td>11.300</td>
<td>2.71%</td>
</tr>
<tr>
<td>10</td>
<td>Arab Banking Corporation (Jordan)</td>
<td>11.000</td>
<td>2.64%</td>
</tr>
<tr>
<td>11</td>
<td>Investment Bank</td>
<td>9.816</td>
<td>2.36%</td>
</tr>
<tr>
<td>12</td>
<td>Societe General-Jordan</td>
<td>4.727</td>
<td>1.14%</td>
</tr>
<tr>
<td>13</td>
<td>Jordan Commercial Bank</td>
<td>1.341</td>
<td>0.32%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>320.994</td>
<td>77.12%</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ), 2014

3.1.2 Capital and Money Markets

The banking and finance structure, apart from the aforesaid banking and specialized financial institutions, also comprises the much needed Capital & Money markets in Jordan. These markets are also governed and controlled by the CBJ like other financial institutions. The capital market provides long term finance and functions both as primary and secondary market. Corporate sector can make initial public issues by listing or through underwriters as well as the investors can trade their shareholdings in the secondary market (Khaled Alrawe, 2005).

The money market provides funds for short time finance where commercial banks are the main and significant players on the supply side and government as well as corporations on demand side. Credit is also extended from the call money for a very short period of fortnight or a week or for a moderately short period of a few months to government and industry for financing their short term or working capital requirements.
The Capital and Money markets have come of age and now function as an important apparatus for providing funds for economic development through industrial and commercial growth of the nation.

3.1.3 Overview of Jordan Banking Network

It is pertinent to note that Jordan’s banking system and its sprawling network is quite elaborate, effective and efficient. Over the course of years since the inception of CBJ, the system got a flip as well as direction and encouragement for growth and development. The banking and financial structures consists of domestic commercial banking institution with a network of mini branches and headquarters branches, foreign banks operating through branching out all around Jordan, Islamic Banks with their large number of branches providing interest (riba) free banking, specialized financial and credit institution devoted to extend credit finance to important core sectors of economy like agriculture, industry etc. capital and money market and a large number of money changers spread all over the country. (Fouad Yassen, Ahmed Darwesh, 1996)

3.2 Information Technology in Jordanian Banks

3.2.1 Location of Information Technology Functions

The location of the information technology has a significant impact on its effectiveness. In case of banks which have an incessant flow of financial operations requiring utmost secrecy, integrity and accuracy, great significance is ascribed to the location of Information technology function. Since banking institutions are strategic organization – i.e. in which information technology are important to both the current operations and future operations, the banks in Jordan have a separate Information Technology Department that takes organization-wide responsibility for the Information Technology Function. As this Department has to be effective, it has been made independent of user groups. Accordingly, the information technology department is located at the Head Office of the bank with internet connectivity to each branch for data transmission with regard to all sorts of banking operations conducted at the branches. In the overall organizational hierarchy of the banks the Information Technology Function has been placed very high and this reflects the importance banks ascribe to this function. The IT Function management has access to and influence on top management decision-making. (Ron Weber, 2008).
Information Technology: (Internal Audit and Controls)

Computerized operations and services as the foregoing brings out, play a large and significant role in Jordanian banks. They assist in maintaining accounting and other financial records as well as assist to process data, draw financial statements and provide important information for decision-making. But software based facilities are prone to abuse. Privacy and integrity of data is of great concern in computerized environment working, particularly for banking institution which are basically deposit accepting, credit granting and other money oriented operational institutions. Banks, therefore, control and credit computer based information technology because the cost of errors and irregularities that arise in this technology can be high. In fact, bank’s ability to survive can be severely undermined through corruption or destruction of its data bases; decision errors caused by poor quality information technology; losses incurred through computer abuse, loss of valuable software and hardware personnel computer; the high costs of some types of computer errors; failure to maintain privacy of individual persons; and failure to control how computer are used within the bank (Prasad. L.M, Prasad. U, 2009).

The information technology audit and control function has therefore been established in banks both at the local level and at apex level in headquarters to safeguard assets, to maintain data integrity and to achieve technology efficiency.

Internal Organization of the (IT) Function

The Information Technology (IT) function has been organized internally according to the major technology based activities that had to be performed by Jordan commercial banking institutions. Typically a centralized data processing or Information Technology Department has been established within banks. The department usually has a technology development group, a programming group, an operations group, a data preparation group and a general support or control group. The chart-shows the organizational set-up of the IT function in banks:
These groups are subdivided further. The programming group and technology analysis group are broken into a development group and a maintenance group each. The operations group is split into a computer operation group, network operations group and a library. (Earl, Michael J, 1989).

The designations, authority and responsibility structures have different levels in different banks. Moreover each Manager’s span of control is constrained to a small number of immediate subordinates. Some of the typical jobs that are performed include the following (McFarlan, F. et.al, 1983 )
Table 3-10

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Position Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology Analyst</td>
<td>Elicits information, requirements for new and existing applications, designs information technology architectures to meet their requirements; facilitates implement-action of information technology, writes procedures and user documentation.</td>
</tr>
<tr>
<td>Application Programmer</td>
<td>Designs program to meet information requirements; codes, tests, and debugs program; documents programs; modifies programs to remove errors; better meet user's requirements and improve efficiency.</td>
</tr>
<tr>
<td>Technology Programmer</td>
<td>Maintains and enhances operating technology software, network software and utility software, provides assistance when unusual technology failures occur.</td>
</tr>
<tr>
<td>Data Administrator</td>
<td>Elicits data requirements of the users of information technology services, formulates data policies, plans the evolution of banks data bases, and maintains data documentation.</td>
</tr>
<tr>
<td>Database Manager</td>
<td>Responsible for the operational efficiency of banks data bases; maintains access control over database; assists users to use database better.</td>
</tr>
<tr>
<td>Network Manager</td>
<td>Responsible for planning implementing, and maintaining data and voice networks.</td>
</tr>
<tr>
<td>Security Manager</td>
<td>Implements and maintains physical and logical security over the IS function; monitors the status of security over the IS function; investigates security breaches; assist users to design control; maintains access control mechanisms.</td>
</tr>
<tr>
<td>Librarian</td>
<td>Maintains library of magnetic media and documentation.</td>
</tr>
<tr>
<td>Administrative support clerk</td>
<td>Acquires consumables needed by IS function; registers and follows up users complaints, handles users enquiries, collates and distributes reports.</td>
</tr>
</tbody>
</table>

Source: Association of Banks of Jordan (ABJ), 2014

There is high degree of separation of duties within the Information Technology function. The separation of duties enables detection of errors and irregularities which otherwise would remain undetected. Separation of duties serves as an important means of reducing expected losses from unlawful events.
3.2.2 Importance of Computerized Accounting Systems

Computerized Accounting Systems are important to businesses in various methods. The use of computers is time saving for businesses and all financial information for the business is well organized (Baren, 2010).

Time and Cost Savings

Using a Computerized Accounting Systems saves companies money and time. The use of a computer makes inputting accounting information very simple. Transactions are entered into the system and the system processes and posts transactions accordingly. Computerized Accounting Systems reduce staff time preparing accounts and reduce audit expenses as records are neat, up-to-date and accurate. Better use is made of resources and time; cash flow should improve through better debt collection and inventory control. More importantly, the system helps present financial reports on time to aid in the economic decision-making process of external users.

Organisation and Accuracy

A Computerized Accounting System enables businesses to be organized. When information is entered into the systems, it makes finding the information very easy. Employees can look up every information whenever it is needed. There is less room for errors as only one accounting entry is needed for each transaction rather than two (or three) for a manual system. The accounting records are automatically updated and so account balances (e.g. customer accounts) will always be up-to-date.

Storage and Speed

Storing financial information is vital to a business. When information is entered into the system, the information is stored. Companies perform backups on the system regularly to avoid losing any information. The introduction of Computerized Accounting Systems provides the ability to see the real-time state of the company’s financial position.

Distribution

Computerized Accounting Systems allow companies to distribute financial information easily and fast. Financial statements are printed directly from the system and are distributed internally and externally to those needing the information. Reports can be produced which will help management monitor and control the business, such
as the aged debtors analysis will show which customer accounts are overdue, balance sheet, income statement and trial balance. In effect, Computerised Accounting Systems enable financial statements to be prepared and presented to meet the relevance and faithful representation criteria of financial statements. (Baren, 2010).

3.2.3 Challenges Encountered with the use of Computerised Accounting Systems

Despite the numerous benefits of Computerised Accounting Systems that can be listed they are not without challenges. The impediments to implementing a CAS include: lack of time.

Financial Reporting

Having discussed the history and essence of Computerised Accounting information System, it is imperative to assess the importance of financial reporting in every company. The scenario posed by Enron and other companies like WorldCom, Tyco, Adelphia, Global Crossing, and copy, endears both management and users of accounting information to pay critical attention to the content of the financial statements (Romney et al. 2008).

The process of periodically providing general-purpose financial information to people outside an organisation is termed financial reporting (Greuning, 2006).

Financial Reporting can be defined as the process of presenting financial data about a company's operating performance, the company's financial position, and its flow of funds (Rose and Hudgins, 2008). Issues bothering on financial reporting are quite complex and cumbersome. The function of financial reporting is to make publicly available information which concerns stewardship (for example, what resources are under control of the organization, and the consequence of their past use) and management's planning (for example, what are the future plans for the controlled resources, and how prior mistakes will be avoided) (Greuning, 2006).

The end product of financial reporting is a financial report. This financial report generally consists of:
Statement of (balance sheet) at the end of the period.

Comprehensive income statement.

Cash flows statement for the period.

Accounts notes. (Greuning, 2006)

Financial Reporting of Rural Banks

The particular services that each financial firm chooses to offer and overall size of each financial-service organization are reflected in its financial statements. Literally, financial statements can be concluded to be a “road map” that link the past, present, and perhaps the future to abet stakeholders to make better economic decisions.

Importance of Financial Reporting

Financial reporting:

Provides information that is useful to potential creditors, investors and other users in assessing the timing, amounts, and uncertainty of prospective cash receipts from dividends or interest and proceeds from redemption, sale, or maturity of loans or securities.

Provides general information about an enterprise’s economic resources, obligations, and owners’ equity. This helps identify the enterprise’s financial weaknesses and strengths and assess its solvency and liquidity.

Provides a basis to evaluate information about the enterprise’s performance during a period. This provides direct indications of the cash flow potentials of some resources and of the cash needed to satisfy many, if not all, obligations.

Provides information about how management of an enterprise has discharged its stewardship responsibility to owners for the use of enterprise resources entrusted to it. (Rose and Hudgins, 2008)

3.2.4 The Impact of Computer Use on Accounting Procedures

The use of computers in the field of accounting regulation affected the nature of operations of accounting, these effects are the following:

1. Accountant’s role is limited at the following:

  Compiling documents that contain data.
Preparing the data in a suitable form for input into the computer.

Ask for assistance from the experienced data operators in writing computer programs.

Interpreting the output information in order to facilitate decision-making in the light of the various opinions.

2. The computer and its accessories role is limited on the following:

Data recording and data entering to the computer in specific files until operating.

Tab, compiling and analyzing data according to the instructions and orders of the program, and the computer itself is doing this process by the various units. (Baren, 2010).

3. Centralization of documents saving after the input process, instead of the scattering in every department of the facility.

4. Registration will be in the daily books then the deportation to the ledger book in one a single operation; this process saves time and reduces the chance of error, as well as a it will cut some stages in the cycle of the accounting processes.

5. Expansion of the scope of the data analysis, after that analysis is carried out on a small scale by using traditional methods. It is possible after using the computers to analyse data on a wide scope a scientific manner and by using operations research methods.

6. A noticeable change was occurred in the method of results showing and information. Computer outputs are used as reports, especially after the development of output unit and after providing it with units for preparing charts and inkling.

Figure 3-2 shows the role of each of the accountant and the computer operating under the electronic accounting system, (Gelinas et al, 2005).
FIGURE 3-2

Computerized Accounting System

Prepared by: the researcher

The role of the accountant in light of electronic accounting system operating:

This role is as follows:

1. Data collection.
2. Data entry.
3. Participation in the development of the computer program.
4. Interpretation of output results.
5. Or remodeling output accounting in a manner can fit the management.

The role of the computer in operating the accounting system: This role is as follows:

1. Receiving the scientific data
2. Tab / classify data download according to the instructions mentioned in the program.
3. Data storage and playback of data.

(Gelinas et al, 2005)

The impact of using computer on the concepts and methods of accounting

The use of computers in the field of accounting opened new prospects, and the emergence of new concepts as the following:

Concept of models.

Concept of experiments.

Concept of data and information multipurpose.

Concept of immediate operating of data.

Concept of totalitarianism when studying the problem.

Concept of integration and coordination.

Concept of systems analysis and study their behavior.

Computer use in the field of accounting has an important role in the development of methods. Modern methods where used are the following:

1. Method of electronic operating in the field of analysis, preservation and retrieval of data and information, because the manual methods are not suitable in the case of the large volume of business.

2. Methods of mathematical, statistical and engineering in the field of data analysis, this was not possible without using computers.

3. Methods of theory systems in the field of accounting systems designing and to study their behavior over the time, also designing the financial and administrative policies.

4. Accounting was expanded and its purposes were developed to include the provision of data and information about the possibility of problem occurring under different conditions and under alternative policies. (Romney et al 2008).

3.2.5 Computer Uses in Accounting

The computer is used in many areas of accounting which include

First: do some accounting procedures:
Proof the financial transactions in the daily books.

Deportating to the ledger books and extracts the balance of the audit.

Preparing the financial statements and the periodic reports, such as: the balance sheet and a list of the interior, and cash flow statement.

Second: the evidence in some statistical records:

Fixed assets Record.

Employees and staff Record.

Payroll and salaries Record.

Suppliers and exporters record.

Stores Records.

Third: store and analyze data to help in decision-making:

Pricing under several different conditions and the impact of pricing on the profitability of the company.

Warehouse management and determine the amount of purchase.

Analyse the cost of labor in departments and in other processes.

Deviations costs analysis.

Analyze the breakeven point in the case that the company produces and distributes several products.

The indirect costs analysis.

Define consumption premiums.

The financial statements Analysis.

Manage the cash flow by operations research.

Fourth: data storage, accounting information and dealing with local and global information networks. (Greuning, 2006)
3.3 Accounting and Accounting in Banks

3.3.1 Efficiency and Accounting Efficiency

Efficiency is one of the basic concepts of this research. At the beginning it is necessary to clarify this concept. Some researchers have identified efficiency in the light of the cost of the used resources, so it was identified as "an expression of the total cost of the final product." (Alsayyah, Abdul Sattar, 2001). Nour identified the efficiency as "the decision-maker interesting in the inputs of the production process, whether these elements were limited to work or contained other elements as capital and other services" (Nour, Ahmad, and Sawafiri, Fathi: 1997). Both the above definitions identify efficiency in light of the cost of the used resources, regardless if this cost represents the appropriate cost to provide the use of these resources or not.

While others felt that the efficiency synonymous with productivity, i.e., optimal use of resources to achieve the best value added, as efficiency is linked to productivity to determine the amount added to the value of each element of the production, (Shane, 2005). Al-Hassani identified the efficiency "the access to the best relationship between input and output in the sense of the ability to maximize the output of specific inputs" (Al-Hassani & Al-douri, 2000).

On the other hand others believe that efficiency is not synonymous with productivity as Alamrosi defined efficiency as "the ability to correct performance of the work. Therefore efficiency is interested in the performance of the work leading to the economic use of the possibilities and resources at the lowest possible cost. Accurately, the efficiency is the ratio of the output to input" (Alamrosi. M: 1993). According to this concept, the efficiency refers to the cost of per produced unit (information) and the productivity is expressed by the rate of output to input.

Through the previous review of attitudes and opinions of the definition of efficiency, the researcher can identify the efficiency of accounting in the banking sector as: Achieving the largest amount of output (useful information) with the appropriate quality and delivering it to all the beneficiaries at the appropriate time and accurately by using the appropriate amount of resources, compared with the level of the achieved output and the specified criteria to perform the accounting system in the banking units.
3.3.2 Accounting System

The value of the accounting system which is marked by precision and efficiency clearly shown through the ability of this system to provide the help to a business organization, that to contribute to increase their competitiveness compared with its competitors in the market through the ability of the system to provide appropriate information (Shane, 2005).

Information system of accounting is considered as an essential factor in most institutions. Growing in demand for evaluation of information systems and ensure efficiency, comes from the importance of information for decision-making, so the designers of accounting information systems must take into account the needs of users of different and knowledge, whether external or internal users. (Peters: 2002). The emergence of information technology created new opportunities for organizations to create opportunities for the use of this technology in business strategies. The dynamic nature of the organizations that adopt information technology as a strategy looking for excellence, have to move from traditional systems to new systems, (Robinson, 2004). A lot of challenges and opportunities have appeared for the accounting profession, and the most important is the emergence of Systems Technology and information technology as one of the most important factors that affecting the size of the usefulness of the information, and accounting information system is considered as on of the operating systems in business organization that benefits from the development of information technology. (Guess, Frank, 2002).

The Objectives of the Accounting System

Accounting system is not a goal by itself which administration seeks to apply only but it is a way to achieve some goals. Also, the accounting system is considered as a network for official contact in the project and then one of his major missions is data production this data is presented to the project implementers to assist them in performing their basic and sub tasks. Therefore, the accounting system must be designed to be able to produce data that will help in the following:

1. Linking the basic and the sub objectives of the project with the tools of achieving. These means and tools are presented in the reports related to decisions.
2. View and analyze the results of the project so charged individuals can evaluate
the performance of various activities.

The accounting system with its components of records and documents is considered a
management tool to produce data represented in the reports, in order to achieve the
efficiency and effectiveness of the accounting system which is designed for the
production of these reports; it must be associated with the following objectives:

a) Produce the necessary reports to serve the objectives of the project.

b) The data and the reports shall be accurate in the setup and results.

c) Reports must be submitted in the appropriate time.

d) The accounting system must meet the requirements of internal control which
are necessary to protect the assets of the project and raise the efficiency of its
performance.

e) The cost of the system and the cost of its data production must suit the goals
required of them (Gelinas et al, 2005)

Now, we will discuss these goals in elaborately:

a) **Produce the necessary reports**: the reports of various kinds are considered the
final results of the accounting system, accounting system designer is like the
designers of machinery and equipment, and firstly, he has to start from what is
required from the system, and does not begin with specifying the system components.
The designer of a machine starts by determining the purpose of this machine, in the
light that he can determine its component. Simultaneously in designing the accounting
system, first we must identify the required reports from the system, the quality, details
of the data, and the adequacy of these details in order to meet the needs of
management to achieve the objectives of the project. (Erica 2004)
The required reports from the accounting system are divided to:

1. **Financial reports**: these reports are presented in the financial position of the
project and in the income statement as reports about the past performance, as well as
planning budgets of various kinds such as reports about the planned performance in
the future. The accounting system designer has to study the components of these
reports and identify points of agreement and disagreement between the past
performance reports and the plan in order to clarify the possibility of making a
comparison between planning and implementation. Also he has to determine the degree of adequacy of the details contained in this report to meet the management needs of data. Moreover, he has to study the possibility of drawing conclusions and financial analysis of these reports to make independent administrative and financing decisions.

2. **Graphical and statistical reports:** the reports of periodic statements of the various aspects of the project. For example; lists of the stores movement of imports of intermediate goods and the outgoing ones, statements of the receipts from customers, payments to suppliers and statements of the cash in the bank and the fund, and so on. The project management is interested in such reports because it shows the project steps and the adequacy of the performance of each section of the divisions. These reports are better to be compared with the planned performance for the period which the report was prepared by, that's to enable the management of the project to follow up the implementation of the planned operational plans. The designer of the accounting system shall study such reports and make sure of the accuracy of the data contained therein and the details as well as to determine the right time to end it and to flow it to the body that needs it. (Erica 2004).

3. **Daily and weekly operating reports:** These reports are presenting the data of the progress of the daily work in the project compared with the specified standards of performance, which is to determine deviations from the standards and analyse these deviations to clarify the causes then find the solutions. Weekly summaries are prepared for these reports in order to be submitted to the specialized regulatory control levels. If the financial reports and graphs are generally associated with the financial accounting system, so the operating reports will be determined through a branch of this system. This branch is the cost system and the management accounting. Therefore, the existence of such reports is linked to the industrial facilities more than to commercial and financial facilities. Nevertheless, in the possibility of the presence of performance standards in commercial and financial facilities, so these reports could enable the designer of the accounting system to study such facilities.

**b) Reports accuracy:** the efficiency of the machine design is linked to quality of its production, as well as the efficiency of the accounting system is associated with the quality of the produced reports. The standard of the reports quality is the accuracy of the data contained on them, which mean the accuracy in reporting and the presented
data are an important goal of the objectives seeked by the accounting system. The accuracy of the produced reports is achieved by the availability of several elements, including the balance of accounting, the presence of a specific system to direct the accounting, the presence of internal audit steps including the validation of registration and deportation, and summarize the different processes, so that the financial reports be an honest presenter to the liability of the financial position of the project. Accuracy is one of the most important objectives of the accounting system because the unavailability may lead to wrong decisions for that cause a failure in the tasks performance. Any error in the reports preparation and the lack of accuracy is a result of linking the accounting system with individuals who are operating it. The error in calculations or in accounting guidance is considered as a real reason for the lack of the required accuracy, then one of designer of the accounting system tasks is to place the means and tools to ensure immediate discovering of such errors and set the processing bases (Gelinas et al, 2005).

c) **Times of submitting reports:** the data availability or submitting the appropriate time is important issue for those in charge of the project management. If we consider the accuracy is one of the core objectives of the accounting system, so the speed in the completion and submission of the data is a part of accuracy, some believes that the speed is a goal may may proceed the accuracy. When the data arrive at the appropriate time will help the administration to make pricing decisions and contract transactions without the fear of falling into the incalculable risks, as well as the availability of data on the financial structure of the project in the appropriate time will protects the project management from making incorrect fundamental decisions. Management may enter contracts with large loans and benefits without the need to such loans and that because of the absence of the necessary data.

To achieve the goal of speed, many projects heading to seek the expensive mechanism equipments in order to record financial transactions and produce reports in short time.

d) **The availability of internal controls in the system:** Represents a set of internal control systems in the project, to control the financial or non-financial aspects, which are placed in the way of work safety in the facility. (Garrison, et.al: 2006).

Also to ensure the protection of property, project accounting data accuracy and operational efficiency within the facility. Generally, the accounting system aims to
produce clear and accurate data, as well as protect the funds of the project and control it, so the availability of internal controls and conditions is a goal of the good accounting system.

e) Achieving a balance between the cost of the system and its objectives:
Achieving a balance between the costs of the accounting system and the desired objectives should be important issue. That means the study and the measurement of the costs of the system application and comparing them with the expected goals and the project's ability to absorb them are factors may entail re-consider the introduction of the new system. The cost study is considered by two ways:

1. **First:** the costs related to inserting the new system and comparing it with the current cost of the system to clarify the extent of savings or additional cost associated with the system creator.

2. **Second:** Study and assess the implications inserting a new system in terms of data access, accurate and quick reports, the effectiveness of these data and reports in raising the returns of the project. If the first side characterized by easily measured relatively, the second one depends in its study on the extent great deal of appreciation and predict future outcomes. However, the task of the system designer in this regard is to put his studies about the cost of the project before the management system, and it has to decide to accept the new system or make some adjustments in the existing system (Baren, 2010).

**Outputs of the Accounting System**

Both financial and administrative outputs of the accounting system can be classified into two types: the daily routine outputs and information feedback outputs. The first type includes daily outputs specialized in documenting activity, regular routine transactions of the economic unit whether these transactions with parties outside the unit or between positions of responsibility within the unit, for example: purchase orders, records of the receipt, payment checks, bills of sale for customers, orders shipping, exchange receipts, cash deposit, the salaries and bonuses checks of employees, resources and permissions errands... etc..

The data contains these outputs are considered the key inputs for daily operations in the accounting system with both parts the financial and administrative to eject the second type of output which is feedback information. The users of the accounting
system require to feedback information to organize and manage activities within the economic unit, and this information can be classified into three types: The first one is specialized in recording the events that describe the past, while the second is to draw attention to a particular thing, and the third type of adverse information shall be in the form of predictions associated with decision-making in the future.

These three types of information are offered in the form of inverse reports produced by the accounting system and classified into three broad categories consistent with the classification of reverse information and operational reports, planning reports and regulatory reports, (Garrison, et al: 2006).

Operational Reports

These reports focus is to reflect the events of the past and the cases and the current situation of the operations within the economic union and the main objective of these reports is to provide support for individuals responsible for implementing the daily operational activities of the economic unit in the field of business. These operational reports can be divided into two types:

a) Status Reports: These reports describe the situation and circumstances of a particular activity or operation within the unit at a certain time, for example; it describes the balance sheet of the financial position of the unit in a certain date, which is the date of preparation of this budget, stock reports show available quantities from stock for at the moment of preparing reports, temporal distribution reports show the situation of the customer balances. The information in such reports are considered valid and express reality only at the time of the preparing these reports, so this information becomes historical and limited in its utility due to the continuing operations of the unit and the change of the circumstances and conditions from time to time.

b) Activity Reports: These reports are for summarizing and reflecting the results of the events that took place within the economic unit as a result of processing operation during a certain period, Such as a list of income, expense report of stock, periodic reports about sales lists of salaries, wages lists cash flow, summaries of the sizes and costs of production and distribution of the uses of the workforce... etc. For example the income statement for a particular unit in a field of business summarizes
income and expenses of this unit during a specific period in order to determine the outcome of the business for this period.

**Planning Reports**

There are many reports of planning that help managers in planning and decision-making for the future. Usually these reports are in the form of analytical reports containing estimated values for one or several periods in the future. Usually analytical reports include information that highlights the trends of indicators or signs of certain conditions within the unit. The aim of these reports is to supply managers with a clear understanding of the behavior of the work or activities which is subjected to their supervision so as to improve the planning and control. For example; the report which includes an analysis of the behavior of customers in payment will help in determining the credit policy of the unit in the field of workers. Also, the report includes an analysis of the cash needs according to the collected cash, wages and salaries in the planning policies which are granted to customers. In the Master Budget most large economic units prepare a comprehensive budget to plan major work of the unit as a whole and the budget is divided to sub-budgets such as capital budgets, cash budget, use plan, distribution of the workforce, the purchase balancing of raw materials, production budget, sales and marketing plan... etc.

**Control Reports**

Control reports help the management to ensure that operations are going according as planned by comparing the actual results with planned results which were previously identified and identify any significant differences and fundamental analysis to find out the reasons that led to it. For example; compare the actual costs reports with standard costs in various cost centers, compare the actual profits reports with planned profits for the appointed center of profitability, and compare the reports of the actual quality of the products with the quality standards laid down and the like. The importance of control reporting seems clear where these reports show any defect in the operation, which requires drawing the attention of managers.

**Information systems concept in general**

As already stated, the concept of information systems in one of the scientific terms commonly used in the present time. Information systems concept has various scientific implications, which includes a set of personnel, equipment, software,
communication networks, and data resources, which are compiling, running, storing and distributing the needed information for decision-making, coordination and control within the organization (Alhadi, 2001). Also known as hardware, software, communications, databases management and other information processing techniques used in information systems which based on computer (Hilmi, 2005).

Information systems technologies were used in banking since the beginning of the sixties of the last century and it changed a lot of the production methods and banking services. Information technology in banks was versatile because it used different techniques, such as: electronic data interchange, processing the documents images, doing the banking work remotely, discriminating the character image, and electronic converting systems for funds from the point of purchase.

Since the beginning of the eighties and up to date, the banking sector witnesses daily evolution of technological means as a result of intense competition, the new competitors into the banking sector in order to enhance sales and marketing capacity, the continuous change in the structures of the banks, repairing the management systems in terms of speeding the decision-making process and giving these systems a larger flexibility to carry out their duties.

Information systems were known as the advance use of information technology. The information technology is considered a component of information systems. According to the modern use of information systems and its advanced technology, the banking sector adopted new working methods rely on these systems for its unique ability to provide accurate, organized and value information helps the financial departments in making the financial decisions, meeting the needs of their customers, and to facilitate the process of change and continuous updating. (Carrado & Bradforal, 2002).

Information systems can be considered as a set of interrelated elements that work together, to collect, retrieve, process, store and disseminate information in order to support the process of decision-making, coordination and control, analysis and observation in the organization. At the same time, it is a group of individuals, equipment, procedures, software, communications and databases, which operated manually or mechanically or automatically to gather, store and process the information and then transmitting it to the beneficiary, (Loudon & Loudon 2008).
The information systems play several strategic roles in the banks. These roles include improving operational efficiency at the lowest possible costs with giving the best performance and quality by linking its operations within a network of information systems, so getting confirmation and accuracy of information among them, shorten the time, reduce costs and thus achieve efficiency, and permeated benefits at all parties. Information systems help in building the information base strategy, which is mainly used in the main purpose of information systems, but this rule is used in many functions of banks such as marketing, at the level of strategic planning and finding better ways to keep its customers and suppliers with him, achieving more effectively growth in the electronic banking services, cover all daily activities and duties, provide the best accurate and constructive information in supporting the process of making sound financial decisions (Hilmi, 2005 ). Because of the above mentioned, it become imperative for these banks to update their banking systems constantly through the installation and deployment of the electronic network and link this network between the branches and the central management in order to respond to the requirements of the era of management techniques leadership to improve banking services.

3.3.3 Information Systems Components

Information systems consist of a set of activities that must be carried out in order to deliver the information accurately and appropriately, and make it available to users in the right time. These components are:

**Input:** the raw data that has not processed. It is considered as the driving force and the fuel needed to run the system. These inputs are represented in raw materials, labor, capital, information, or anything that the system gets from the surrounding environment and from other systems.

**Processors:** The technical side of the system which is a set of calculations, comparison and logical operations, clearing, grading and sorting, which takes place on the input data in order in order to converting them to information provided to the final beneficiary. The processing or operating stage is the technical side of the system, which performs several operations at the same stage, so the operating is interaction of all the factors within the system, such as the factors of production in the economic unit in the form of activity, the result of these factors is converting raw materials into
finished products. Data is converted in information systems to information in different operating ways like recording, summarizing, calculating, comparing... etc.

**Output:** the results of the system. Information is delivered to the beneficiaries in different forms such as reports, tables, lists and graphs. this information is called the output of the information system. It was known as the final output of the system and it goes to the surrounding environment or to other systems, and these may outputs may be in the form of a final product, broker, service to the consumer, information used in making the administrative or used as data to another information system.

**Control:** requires access to accurate information, oversight of input operations, control processing and output to make sure that the information system produces and presents the information in accordance to the standards assumed in its design, and ensure that the system contains all the preventive measures that will ensure the proper input, processing and output.

**Feedback:** It is the process of measuring the reaction of the beneficiaries of the system. The system may perform its functions as it should after designing, but some of the provided information do not suit the needs of the users, then the users request changes in the system, these applications are called feedback, (Romeny: 2006).

**Accounting Information Systems**

The accounting information system is a part of the overall system of information. These systems play an important and effective role in providing the different levels of decision-making with ready, true and accurate information at the right time to help them in making various administrative decisions. This information is provided through reports and lists prepared from the actual daily data. The goal of the accounting system is to produce accurate reports at the appropriate time in order to assist decision-makers to make rational decisions. Accounting is considered as a system of accounting information in the form of raw financial data. (Shane, 2005).

As a result, the accounting information system provides additional information as well as financial information such as:

- provide quantity and accurate financial data and information at the appropriate time.
- Increase the confirmation of external information for planning purposes.
• Amendment of reports submitted to the administration in light of inflation (Schipper, 2006)

Accounting information system can be defined as a component of the administrative organization specialized in collecting, cataloging, processing, analyzing, delivering the appropriate financial information needed for decision-making, and managing the facility. Accounting information system is one of the basic components of Management Information System, the difference between them that the first is limited to data and accounting information while the second is specialized in all data and information that affect the activity of the institution, (moskoff & seekmen, 25: 2002).

**Accounting Information System Components**

Like any other system, the accounting information system consists of a set of elements to achieve its goal, these elements are summarized as follows:

1. Probative documents and papers that support the financial transactions that occur in the business.
2. Databases that store the financial statements of the financial process.
3. Applied Computer programs that address data to be converted to useful and appropriate information.
4. Accounting procedures drawn and written for the sequence of financial operations at the facility.
5. Traders who deal with one or more elements of the accounting information system.
6. Electronic media and communications technology used in the accounting information system.

And the factors that affecting the accounting information system are based on the individuals of the system, processes of data collection, processing, storing and decision-making in addition to the devices and means used to target accounting information system to obtain the information in support of the accounting decisions. (Gelinas et al, 2005)
Qualitative characteristics of accounting information according to the American Financial Accounting Standards Board

Several specialized accounting bodies tried to determine the characteristics and quality of information, and the best results that have been reached by The American Financial Accounting Standards Board when it issued the concept of accounting no.

(2) The qualitative characteristics of accounting information FASB. The concept of accounting no. (2) came to bridge the gap between concept no. (1) and other subsequent concepts, which introduce a comprehensive cover for the mechanism of the recognition, measurement and disclosure of financial statements elements. Trying to answer the following question: What are the characteristics that accounting information should enjoyed by to become effective? (Schroeder, 2001).

The most important characteristics set by the American Financial Accounting Standards Board FASB are:

1. (Relevance) of the information

2. (Reliability) of the information or the degree of confidence

Relevance

The level of information quality not only depends on the intrinsic properties of information (relevance and reliability), but also depends on the properties related to decision-makers (information users). JUsefulness of the information for the decision-maker depends on many factors related to the field of use, such as the nature of the decisions faced, the nature of the used model of opinion, the nature and sources of needed information, the amount and quality of previous available information, the ability to analyze information, and the level of understanding and awareness available in the decision-maker. Before explaining all the characteristics, we find that the property interest of accounting information in the decision-making comes on top of the characteristics of this property. This characteristic represents the general rule that rely on property relevance and reliability property. In order to be information suitable, some sub-set of characteristics are needed:

1. Information arrives to users in a timely manner (the right time).

2. The information has a predictive ability.

3. Information has the ability of feedback.
To be able to count on reliable information needed to provide the necessary set of sub characteristic, are as the following (Schroeder, 2001):

a) Prepare information to reflect honestly about phenomena that are supposed to represent the sincerity expressed phenomena and events.

b) Information to be verifiable and can verify their integrity. The ability to compare information and what it requires of stability in applying the ways and methods of accounting. This characteristic is overlapped with the convenience and reliability.

There are two specific tests to the use the previous two characteristics:

1. Test the level of importance
2. Test cost / benefit. (Schroeder, 2001)

These two restrictions overcome the quantitative trait unlike the previous characteristics. The relative importance of each property will be determined by the circumstances of the case as it will vary from one person to another; usually the user's decision determines the nature and the importance of information for him. The ability to understand an information does not depend on the properties related to the same information, but also depends on other properties related to the users of accounting information, such as level of education, awareness and the amount of information available to them. This explains the fact that the property susceptibility information to understand the link between the characteristics of the information and the characteristics of its users.

3.3.4 Problems and Limitations to the Use of Qualitative Characteristics

1. possibilities of conflict between the main characteristics of accounting information (relevance and reliability) as there is no consensus between the suitability of the information and the degree of trust, for example, given information may be refused or accepted if they are relevant, but not reliable, or they are reliable but are inappropriate. Historical figures enjoy a high degree of confidence that they are free of bias, but the historical figures has a low degree of relevance because those figures are less tied to - or representative - for actual reality.
2. Conflict possibilities between sub-characteristics such as the conflict between the right time and the predictive ability of accounting information, the information may arrive in a timely manner, but do not have a high predictive ability, as in the case of the historical cost figures. Well, that speed in the preparation of the information is often at the expense of accuracy, completeness and uncertainty.

3. Not all relevant information is considered reliable and useful information because it may be of no relative importance to remember. (Test significance level) that the item is useful and has a relatively important if it leads to delete or disclosure curse distorted manner to influence the decision-maker.

4. The cost of access to information is greater than the expected return from it. (Test cost / return). The information is not closely linked to the objectives of the users of financial statements. Information is not considered important information and there is no reason to be disclosed. The general rule with respect to test a specific cost-benefit is that the accounting information should not be produced and distributed only if the utility increased costs, otherwise the company will incur a loss when disclosure such information, because the disclosure of information costs outweigh than their benefits.

5. Accounting information may be relevant and reliable, however, the user is facing difficulty to understand, analyze and use in model resolution.

Although the information should be understood and understanding this recipe reflected the characteristics of the ease and clarity that characterizes the published information. It is the responsibility of the accountant as he prepares the financial reports to reconcile the desires and the qualities of the multiple and disparate users of accounting information contained in those reports.

Despite the importance of comparison in the decision-making process, the users of accounting information cares in compare the information about a specific company or companies with similar or competing company with the industrial sector (Jarbou, 2001: p 71).
Qualitative Characteristics of Financial Statements According to International Accounting Standards

There are four characteristics of quality basic ability to understand, convenience, reliability (trust) and comparability. (Hilton, Ronald W: 2005).

1. Susceptibility to Understand

The ability to understand by the users is one of the main characteristics that must be met in the information provided to the financial statements for this purpose, it is assumed that users will be sufficiently aware of the commercial and economic activities and accounting, and have the desire to study the information carefully.

2. Relevance

The information to be useful it should be appropriate to the needs of decision-makers. The information is relevant to users if they have an impact on the economic decisions they make, and by helping them to evaluate past, present and the future events, or strengthen or modify the foregoing reached to assess. There is an overlap between the predictive ability of information and the ability to enhance expectations.

The relative importance

Information is affected by the nature and adequacy and importance. In some cases, the nature of information alone is sufficient to determine suitability, for example, reports on one of the new sectors in the facility may affect to assess the risks and opportunities faced by the facility regardless of the relative importance of the results achieved by the sector during the period under report. In other cases it is necessary to know both the nature of the information and the relative importance of, for example, the value of each class of the main varieties of the stock. The information is relatively important if the omission or misstatement could have an impact on economic decisions taken by users depending on the financial statements. The relative importance depends on the size of the item or error under special circumstances to delete or distort.

Accounting reports only interested in information that affect the decisions taken by the users of the financial statements. And this quality of accounting information means that in order to investigate the accuracy values for the data to be disclosed, the item must be of relative importance, so that the decisions taken by the users affected
by it. And the degree of impact depends on the size and nature of the item and the circumstances in which the use of personal appreciation, (Aldahrawi, 2001).

Reliability or trust in the financial information

In order to be useful, information must be reliable. The information is considered reliable if they are free from error material and bias and can be relied upon by users in acting honestly of what it represents or what is expected to be represented by a reasonable degree.

The information may be convenient, but is highly unreliable because of the nature or significance of the degree of recognition may make misleading. For example, the case of a claim for damages is still the subject of a legal dispute in terms of proving the case or its value, and in such cases it may be inappropriate to the entity recognizes the value of the entire claim to the budget, it is because it may be appropriate to disclose the value of the claim and the circumstances surrounding it.

Sincere Representation

In order to be the information credible they must faithfully represent the transactions and other events that represent or should represent in a reasonable degree. So it should represent the budget honestly, operations and other events that result in assets, financial rights and liabilities of the entity in the history of the budget which met the criteria of verification.

Substance Over Form

In order to represent the operations information honestly and other events they represent, it is necessary to accounting for these processes and events, according to its essence and economic reality and not only according to the legal doubts; it does not match the essence of the processes and events in all cases with the legal doubts. For example, an enterprise may transfer ownership of assets to a third party so that the documents clearly show the transfer of ownership to the other party, however, there may be agreements between the parties to ensure continuation of the business to take advantage of future economic benefits associated with the asset.

Neutrality

This element is closely connected with the principle of objectivity, and it is particularly important to consider when preparing financial statements published and
so ensuring that the data show the real situation of the company exporting the data as it is and not the image that achieve the desire of a certain class, (Matar, Alsweti, 2008: p 334).

Reservation (caution)

Preparers of financial statements faces uncertainties that surround many of the positions, including the possibility of the collection of bad debts and the expected useful life of the equipment, the tools and the number of claims expected to occur about guarantees and warranties. Taking into account the uncertainties of this by the disclosure of the nature, the extent and in applying the reservation when preparing financial statements. The reservation is embarrassing to take into account a reasonable exercise of caution about discretionary powers necessary to arrive at estimates under conditions not so to make sure there is no exaggeration in estimating the values of assets, income, indicate liabilities and expenses for less than they should. However, we must take into account not result of the application of the basis of the reservation, for example, to create confidential reserves, allocations by more than they should or reduction of deliberately assets and income or amplification deliberate liabilities and expenses as this will not be a neutral financial statements, and then the loss of property trust.

Completion

In order to be the information contained credible to the financial statements, they must be completed within the limits permitted by the considerations of the relative importance of the cost. Deleting of some information may make the financial statements false and misleading, and then lose credibility not be appropriate.

Comparability

Users of financial statements must be able to make comparisons of the financial statements on different time periods, in order to determine some of the trends relating to the status and performance of the financial establishment. Also, they should be able to compare the financial statements of the various facilities in order to assess the financial position and performance, as well as the relative changes in the financial centers of those facilities. Thus, the method of measurement and presentation of the financial impact of operations and similar events must be consistent over time for
each facility, and also be prepared in a consistent manner for various facilities, (Greuning, 2006).

In response to the desire of users of financial statements to compare the financial position, results of operations and changes in financial position of an entity from one period to another, it must appear that the financial statements have similar information for prior periods.

**Restrictions on the Appropriate Information that can be Relied Upon**

**Appropriate Timing**

Information may lose their relevance if there is unnecessary delay in reporting them. The administration needs to convenience between the comparative advantages resulting from the provision of timely information and the need to provide property information on the reliability and trust of the other hand. Providing information in a timely manner in many cases may acquire a report of the process or what happened before knowing all that process dimensions or event which negatively affects the confidence in the information and reliability. On the contrary, as the delay in the report on the event or process until you know all the dimensions of the process or event greatly increases the confidence in the information but become less useful in helping users make decisions in the meantime. To achieve the kind of balance between the suitability of the information and reliability should always take the needs of the decision-making process of economic information into account and try to fulfill that as much as possible. (Barren, 2010).

**Harmonization between cost and revenue**

It is a constraint and not a quality of the property. The benefit of the information should outweigh the cost of preparing. However, the evaluation of the benefits and cost largely depend on personal appreciation, in addition to the cost borne by the preparation of information does not necessarily benefit from it. Some users may benefit information, but the information is no longer for. For example, the provision of additional information to lenders may lead to a reduction in the cost of borrowing for the facility. For these reasons, it is difficult to test the application of cost / return on a particular case. However, the accounting standard setters, in particular, as well as engaged in the preparation of financial statements and users of these data should be aware of this limitation. (Barren, 2010).
Harmonization of the Qualitative Characteristics of Information

Usually shows the need to establish a balance or alignment of the qualitative characteristics of information. In general, you should find some kind of an appropriate balance between those characteristics in order to achieve the objectives of the financial statements. The process of determining the relative importance of the characteristics in different cases is subject to government and professional judgment.

Fair and True Image/ Fair Presentation

Often the financial statements are described as it show a fair and true picture or present fairly the financial position, performance and changes in financial position for the particular facility. Despite the fact that this framework does not directly exposed to these concepts, but that the application of each of the qualitative characteristics and appropriate accounting standards usually leads to obtain financial data show that the concept is generally fair and that the image real or fair presenting of such information.

The Effectiveness of Accounting Information Systems

The organizational effectiveness measurement can be considered from internal and external departing. The effectiveness within the internal environment is evaluated on the basis of the degree of achievement of the organization's objectives related to the volume of sales, market share and profits, but within the external environment, the effectiveness is measured on the basis of their competitive strength based on the degree of acceptance of its products and services, the degree of absorption of evolution and technological innovation, the extent detecting economic fluctuations and the ability to take the reactions towards it (Garrison, et.al: 2006).

Also was defined as the extent of information system contribution in achieving organizational goals and the effect on organizational performance and other. (Garrison, et.al: 2006).

Several indicators were identified to measure the effectiveness of information systems, including quantitative as system contribution in achieving profits and increase market share, or qualitative like the end user’s satsfication of the system and the volume of use and other indicators. However, many researchers did not favor the quantitative method because of the existence of intermediate factors and internal factors contribute the impact on the indicators used to measure the effectiveness of the system. Profitability increasing or market share are not necessarily to be resulted from
the incerting of information systems because it affected by economic conditions and other factors contribute to the increase. Therefore, the researchers resorted to qualitative methods in spite of their reservations towards it.

Researchers also disagreed about the point of view of effective information systems. Some see it from the point of view of the user and others see the effectiveness from the viewpoint of the authority supervising the system. If the use of some methods and indicators to measure the effectiveness of information systems feasible in an organization, it is difficult to achieve the same results when the study become for more than one organization or at the level of the industry because each organization own or adopt indicators matching its goals so it is not necessarily to be applicable to other organizations.

The accounting information systems must be characterized by a set of basic properties in order to achieve the goals expected of them, which are:

I. Fitness: that the information affect the decision or the actions of the user, which can help and contribute in their mission. If the information has no on the decision, they described the information an non-appropriate. the information to be appropriate for administrative decisions, it must be characterized by the following characteristics:
   - The information relates to the future.
   - The information varies depending with the change of the alternatives relating to the decision.

II. Accuracy: any information to be on the degree of accuracy and specificity, since this trait increases the suitability of the information for decision-makers.

III. Timely: the information reaches to users in a timely manner, as the late arrival of information loses it a lot of its importance and relevance to the decision.

IV. Fullness: the information is complete to give the decision-maker full images about the theme of the overall decision.

V. Susceptibility to understand: refers to the need to be the provided information is understood by users, which requires, in some cases, write reports in plain language and avoids technical terms that may be difficult to understand by some of them.
the accounting system have only two parties, namely the debtor and the creditor, both parties must match in all items, and accounts can be defined in the accounting system as follows:

- **Asset accounts**: always is the debt of balance. This balance is increasing by the debt entries and decreasing by credit entries.
- **Accounts commitments**: are always payable balances. This balance is increasing by the credit entries and decreasing by debt entries.
- **Equity accounts**: are always payable balances. This balance is increasing by the credit entries and decreasing by debt entries.
- **Revenue accounts**: are always payable balances. This balance is increasing by the credit entries and decreasing by debt entries.
- **Expense accounts**: always is the debt balance. This balance is increasing by the debt entries and decreasing by credit entries.

3. Basic Equation: It is known in the double-entry system that the debtor must be matched by an equal party creditor in quantum and vice versa, and this concept leads to the basic equation:

\[ \text{Assets} = \text{liabilities} + \text{equity} \]

3.3.5 **Features of Accounting Information Systems**

1. There are those who believe that the accounting information system is part of a management information system, on the grounds that the accounting information system is concerned with the measurement of the historical accounting information for the purpose of preparing the consolidated for the third parties. Management information system is interested with all the information necessary for the management in order to optimize the use of available resources for economic unity, and therefore it can broaden the concept of management information system to include all information systems in the economic unity, including accounting information system, this view had prevailed since the fifties of the last century (Eldahrawi & Mohammed.2000).

2. However, Vaassen (2002) finds that it is not longer true at the present time, accounting information system has got convenient location within the economic unity,
it represents a key sub-system within the overall system. As well as, the modern perception on the system of accounting information represented by of economic unity as a whole, is that it is no longer limited to the interest in providing historical information only, but has extended to include other types of information such as: current information for the operational processes and control and future information for the problem solving and planning.. (Vaassen, 2002).

3. There are those who believe that the role of accounting information system is not just a preparation of financial statements for those outside the economic unit only, but also it is interested in the preparation of the necessary reports for bodies from within the economic unit represented by all kinds of information that the different administrative levels need in the planning, control and decision-making process. Thus, proponents of this view believe that the accounting information system is a basis system, and management information system is a part of it. There are those who believe that the accounting information system is the oldest system known by commercial and industrial projects and other, and represents the important basic foundation for other information systems in the economic unit and for management information system, in particular, based on the following:

A. The accounting information system is the only one which enables the management and other concerned authorities to get a complete descriptive and accurate picture on the economic unity. B. Accounting information system is related to other information systems through a series of channels that are considered links between the sources to obtain information and users of this information, and together constitute the paths of the comprehensive system of information.

B. Accounting information system aims at identifying the future events properly and directing the scarce resources towards the optimal use, it also provides metrics that help to develop the methods of control.

C. The information produced by other subsystems illustrate the finalized financial connotations (terms) in the strategic planning to achieve the objective of economic unit. (Hilton, Ronald W :2005)

4. There are those who believe that the accounting information system focuses only on financial information (which can be measured by its effects financially), and management information system will be interested in the other information (non-
financial), while we see that the concept of accounting information is not limited to financial information, but it also extends to all information.

Moscove (2001) has said that "The accounting information system has become interested in the administrative and financial information, which is supported by the accounting system. It must provide financial and non-financial information after its traditional role was confined in providing financial information only. (Moscove, et al., 2001).

Also, Moscove has identified the accounting information as "All quantitative and non-quantitative information concerning economic events that are processed and reported by accounting information systems in the financial statements provided to the third parties in the operating plans and reports used internally". Because that the non-financial information includes both quantitative and non-quantitative information, it can be said that the accounting information system is interested in all of the financial and non-financial information, which occur in the Economic Unity (Moscove, et al., 2001)

5. There is another view that has been adopted by the American Accounting Association through the preparation of the report and has been considered a compromise between the previous views, when it has considered that the accounting information system and management information system are two independent systems, each of them has its functions, but there is overlap between the two systems presented by that the accountant needs to several data from other information systems in the Economic Unit represented by the Management Information System. (Eldahrawi & Mohamad :2000)

Contribution of accounting information systems in achieving the objectives of the organization: Information System in the organization can provide a number of contributions or returns, for example, the system that is re-renovated regulates the business automatically, reduces errors and provides good and innovative services to customers. Some of these contributions can be measured, and some of them are difficult to be measured. Returns that can be measured are represented in reducing the costs borne by the organization, but returns which are difficult to be measured have positive impact on the market value of the organization and its reputation and thus on improving the profitability and achieving a competitive advantage. These benefits can be determined as follows:
1. Reduce errors
2. Increase flexibility
3. Increase the speed of activity
4. Improve planning and management oversight
5. Open new markets and increase sales
6. Competitive Advantage
7. Increase organizational flexibility
8. Increase employee morale

The basic objectives to measure contributions or benefits of accounting information systems include the following:

Determining the feasibility of establishing an accounting information system based on the use of modern equipment by grouping the estimated net benefits to users of the information and the corresponding capital cost for the establishment of the new system. Determining the feasibility of establishing a change in a characteristic of the current system, a certain section may require, for example, information of higher degree of preference, and such a change leads to added cost that should be offset by the added benefit that justifies it. Reporting the feasibility of obtaining certain information or not, and if the information produced by the accounting has no economic value, there is no justification for its production. In all cases, the primary objective of the accounting information system may be maximizing profitability, but there are other objectives that are expected to be achieved by the accounting system, such as providing better services or drawing attention to the phenomenon of Education by data of reverse flow, or reducing costs.

The current developments in the concepts of the value of information have been characterized by a focus on the value of information on the one specific respect that is decision, meaning that the accounting information system has value only when the information generated by it affects in decisions that are made, i.e. facilitates decision-making and improves the expected returns. This means that the benefit of the accounting information system depends on its ability to reduce the element of uncertainty. (Kurdi, 2005).
The Role of Accounting Information System in Decision-making Process

Information systems in the project could be considered as means to discover the facts that are related to the administrative decisions. The owner of a small individual project depends in his decision-making upon his memory and personal view; his memory may contain what he needs of the data. However, the ability of the individual's memory is limited. The greater the number and type of experiences that the decision-maker would be based on, the greater the need arose to other means to supplement their needs.

Problem is compounded with the size of the project, where there is no physical memory for the project, but there is the memory of staff who works in its different departments. This project may be exposed to the loss of the data that have been grouped in the memory of its staff if they decide to leave their jobs. So, the need for information systems that compile and save the data is urgent.

The collector observes economic events in the project, and sends signals about them to the decision-maker who in turn interprets these signals in light of the information previously stored in memory, and in the light of what he watches in the business climate. If the connection is active, the signals sent by the collector will create the same effect in decision-maker as if he watched the events himself. (Vaassen, 2002).

Most of the studies provided us with a theoretical analysis of the relationship between accounting data and decision-making process in the project. And the mentioned analysis is based on distinguishing the decision-making process by three main factors:

A. Input of decisions.

B. Output of decisions.

C. Models of decision-making.

Decision inputs are the factors on which the decision-maker depends in the process of administrative decision-making. The decision outputs are the resolution that has been taking by the project manager. The decision-making models represent the relationship between the decision and a set of decision inputs. It should be noted that one of the primary purposes of preparation and distribution of accounting data is to assist the decision-maker in the process to predict the value of the variables in the models of decision-making that is based on it; such this prediction is considered a cornerstone in
decision-making process. So it can be said that the contribution of the accounting information system is limited to the generation of data of an economic nature that the decision-maker depends on to predict the value of the variables in the decision-making models that the decision-maker will follow in the test between the uses of limited economic resources to manage the project (Gelinas et al, 2005)

Summary

The third chapter comprised of three sections. The first section enlightened on the evolution, development and growth of the banking sector in Jordan with special emphasis on the commercial banking segment in Jordanian banking industry. This also presents an overview of the Jordan’s economy and dwells upon the development and growth of the various economic sectors in Jordan as well as presents the economic indicators that highlight the current status of Jordan’s economy. The evolution of banking in Jordan starting from foreign-owned banking sector and progressing up to the formation of Jordanian owned national banks, the current growth of their assets, expansion of deposits as well as loans and advances, the rate of capital formation, and study of the auditing and internal control practices of banking sector in Jordan are highlighted. Also it peeps into the internal audit control system, internal audit programs and procedures, the organization for internal audit control, the functioning and effectiveness of such control.

The second section discusses the applications of Information Technology in commercial banks of Jordan. It assesses the depth and extent of the application of Information Technology and the nature in Jordanian banking sector. The effectiveness of the use of this Technology is gauged. The age and stage of the Information Technology is also taken into account so as to determine its compatibility with the requirements of modern day.

The third section discussed the accounting applications in commercial banks of Jordan. It assesses the depth and extent of the application of computerized accounting in Jordanian commercial banks.

The following chapter, relates to the testing of hypotheses by analyzing and interpreting the primary data collected through questionnaire from the respondents of the Housing Bank for Trade & Finance, Arab Bank PIC, Bank of Jordan PLCB, and Cairo Amman Bank, in Jordan.
References:


Hanan, Helwa (2003), *A Contemporary Form of Accounting*, Dar Wael for publication i 1, p. 184.


**Websites:**

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https://www.google.jo/search?q=information+technology+in+banks


CHAPTER 4

Data Analysis
and
Interpretation
CHAPTER 4

DATA ANALYSIS AND INTERPRETATION

4.1 Introduction:
4.2 Universe and Sample
4.3 The Questionnaire
4.4 Instrument Reliability and Validity
   4.4.1 Validity
   4.4.2 Reliability
4.5 Demographic Variables
   4.5.1 Qualification
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   4.9.4 The Fourth Main Hypothesis
4.10 Summary of the Hypotheses Testing
4.1 Introduction

In the previous chapters we have discussed the conceptual and theoretical framework of impact of information technology on the efficiency of accounting, literature review and study design. This chapter presents the analysis of research instrument (Questionnaire), which design to measure the impact of information technology on the accounting efficiency of commercial banks; the questionnaire includes section one which relates to study sample characteristic, and sections for each variables of study.

4.2 Universe and Sample

The study universe or population is consisting of all Jordanian Banks. A sample of 414 employees based on 4 banks was selected randomly for the purpose of this study. The unit of analysis in this study is employees in different managerial levels. The questionnaire was distributed to total 500 employees in all banks, each bank filled 125 questionnaire. The accepted questionnaire for statistical analysis were 414, the response rate was 83% for all sample. Table 4.1 shows that response rate is 85% for Arab Bank and 89% for Housing Bank and 76% for the Amman Cairo bank, also 82% for Jordan Bank, these rate reflect that the study result will make sense at these banks works environment.

<table>
<thead>
<tr>
<th>No.</th>
<th>Bank Name</th>
<th>Distributed Questionnaire</th>
<th>Accepted Questionnaire</th>
<th>Response Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Housing Bank</td>
<td>125</td>
<td>111</td>
<td>89%</td>
</tr>
<tr>
<td>2</td>
<td>Arab Bank</td>
<td>125</td>
<td>106</td>
<td>85%</td>
</tr>
<tr>
<td>3</td>
<td>Jordan Bank</td>
<td>125</td>
<td>102</td>
<td>82%</td>
</tr>
<tr>
<td>4</td>
<td>Amman Cairo Bank</td>
<td>125</td>
<td>95</td>
<td>76%</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>500</td>
<td>414</td>
<td>83%</td>
</tr>
</tbody>
</table>

Source: Primary Data
4.3 The Questionnaire

Data was collected through questionnaire which was valid and reliable to carry out the statistical analysis. The Questionnaire items are written in the form of statement using a 5-point Likert-type scale (ranging from (1) strongly disagree to (5) strongly agree). Questionnaires collected were used for analysis using Statistical Package for Social Sciences (SPSS) software. Results presented in two phases; the first one presents the descriptive data of study sample and variables to establish general view about the sample characteristics, the correlation, the attitude of sample for reporting of information technology and its effect on accounting efficiency. The second phase intended to present the results of testing hypotheses of the study as the follows:

Information technology: questions (1-7).
Accounting inputs: questions (8-21).
Accounting processes: questions (22-40).
Accounting outputs: questions (41-80).
Difficulties limit the application of information technology (81-87).

4.4 Instrument Reliability and Validity

4.4.1 Validity

The survey instrument was evaluated for validity. The items used in the questionnaire have been assessed and tested by a panel of arbitrators who are experts in the field, whose knowledge and experiences were sufficient in this scope, thus their remarks and directions had been taken into consideration.

4.4.2 Reliability

To provide evidence that the instrument produced the data for which it was designed, reliability test was conducted. The reliability value gained was greater than 0.998 indicating an acceptance of research testing.

Reliability is calculated mainly to test if questionnaire or study tool have the ability to give the same results if the measurement was repeated on the same person several times in the same circumstances, and reliability considered as a correlation coefficient, and are intended to link the extent of repeated readings of the measurement results. In many of the research if tool used to measure for the first time, it should carry reliability tests such as “Cronbach's alpha test” on certain individuals and then re-tested on the same people again, and then calculates the value of Cronbach's alpha.

Table 4.2: Cronbach’s Alpha for Research Variables

<table>
<thead>
<tr>
<th>No.</th>
<th>Variable</th>
<th>Cronbach's Alpha</th>
<th>No. of Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Information technology</td>
<td>0.986</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Accounting inputs</td>
<td>0.995</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>Accounting processes</td>
<td>0.995</td>
<td>19</td>
</tr>
<tr>
<td>4</td>
<td>Accounting outputs</td>
<td>0.998</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>Difficulties</td>
<td>0.954</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>0.998</td>
<td>87</td>
</tr>
</tbody>
</table>

Source: Primary Data
Reliability less than 60% are generally considered to be poor and more reliability more than 70% is acceptable and those are over 80% to be good. Table 4.2 shows the Cronbach’s alpha corresponding to each variable. The Cronbach’s alpha value for information technology variable is 0.986, and for accounting inputs variable is 0.995, and for accounting processes variable is 0.995, and for accounting outputs variable is 0.998, finally for difficulties is 0.954.

4.5 Demographic Variables

4.5.1 Qualification

As shown in Table 4.3 the percent of employee having diploma degree in Arab Bank are 23.6%, Housing Bank 18.9%, Amman Cairo Bank 18.9%, Jordan Bank 24.5%, and the percent of employee having diploma degree in all banks are 10.6%. The percent of employee have Bachelor degree in Arab Bank are 47.2%, Housing Bank 63.1%, Amman Cairo Bank 54.7%, Jordan Bank 47.1%, and the percent of employee have Bachelor degree in all banks are 53.1%.

The percent of employee having M.A. degree in Arab Bank are 17.9%, Housing Bank 8.1%, Amman Cairo Bank 11.6%, Jordan Bank 21.6%, and the percent of employees having M.A. degree in all banks is 14.7%.

The percent of employee having PhD degree in Arab Bank are 11.3%, Housing Bank 9.9%, Amman Cairo Bank 14.7%, Jordan Bank 6.9%, and the percent of employee have PhD degree in all banks are 21.5%.

Table 4.3: Qualification

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Arab Bank</th>
<th>Housing Bank</th>
<th>Amman Cairo Bank</th>
<th>Jordan Bank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Diploma</td>
<td>25</td>
<td>23.6</td>
<td>21</td>
<td>18.9</td>
<td>18</td>
</tr>
<tr>
<td>Bachelor</td>
<td>50</td>
<td>47.2</td>
<td>70</td>
<td>63.1</td>
<td>52</td>
</tr>
<tr>
<td>M.A.</td>
<td>19</td>
<td>17.9</td>
<td>9</td>
<td>8.1</td>
<td>11</td>
</tr>
<tr>
<td>PhD</td>
<td>12</td>
<td>11.3</td>
<td>11</td>
<td>9.9</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>106</td>
<td>100.0</td>
<td>111</td>
<td>100.0</td>
<td>95</td>
</tr>
</tbody>
</table>

Source: Primary Data
Graph 4.2 shows the distribution of sample according qualification, most employee in all four bank have bachelor degree, Housing Bank have the most bachelor degree holder employees, then Amman Cairo bank, after that comes Arab bank, the lowest number of bachelor degree holder employees as graph shown is Jordan Bank.

**Graph (4.2): The Sample According to Qualification**

Source: Table (4.3)

### 4.5.2 Major

As shown in table number 4.4 the percent of employee are accountant in Arab Bank are 51.9%, Housing Bank 46.8%, Amman Cairo Bank 43.2%, Jordan Bank 63.7%, and the percent of employee as accountant in all banks are 51.4%. The percent of employee having B.M in Arab Bank are 7.5%, Housing Bank 8.1%, Amman Cairo Bank 12.6%, Jordan Bank 12.6%, and the percent of employee as B.M in all banks are 8.9%. The percent of employee with finance as major in Arab Bank is 30.2%,
Housing Bank 27.9%, Amman Cairo Bank 28.4%, Jordan Bank 21.6%, and the percent of employee with finance in all banks are 27.1%.

Table 4.4: Major

<table>
<thead>
<tr>
<th>Major</th>
<th>Arab Bank NO.</th>
<th>Housing Bank NO.</th>
<th>Amman Cairo Bank NO.</th>
<th>Jordan Bank NO.</th>
<th>Total NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Accountant</td>
<td>55</td>
<td>51.9</td>
<td>52</td>
<td>46.8</td>
<td>41</td>
</tr>
<tr>
<td>B.M</td>
<td>8</td>
<td>7.5</td>
<td>9</td>
<td>8.1</td>
<td>12</td>
</tr>
<tr>
<td>Finance</td>
<td>32</td>
<td>30.2</td>
<td>31</td>
<td>27.9</td>
<td>27</td>
</tr>
<tr>
<td>Other</td>
<td>11</td>
<td>10.4</td>
<td>19</td>
<td>17.1</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>106</td>
<td>100.0</td>
<td>111</td>
<td>100.0</td>
<td>95</td>
</tr>
</tbody>
</table>

Source: Primary Data

Graph 4.3: The Sample According to Major

Source: Table (4.4)
Graph 4.3 shows the distribution of sample according major, Jordan Bank have the most accountant employees, followed by Arab Bank. Housing Bank and Amman Cairo Bank.

4.5.3 Experience

Table 4.5 shows the statistic related to experience, the percent of employee have experience (Less than 5 years) Arab Bank are 17%, Housing Bank 22.5%, Amman Cairo Bank 15.8%, Jordan Bank 14.7%, and the percent of employee have experience (Less than 5 years) in all banks are 17.6%.

The percent of employee having experience (6-10 years) in Arab Bank is 36.8%, Housing Bank 33.3%, Amman Cairo Bank 34.7%, Jordan Bank 40.2%, and the percent of employee have experience (6-10 years) in all banks is 36.2%.

<table>
<thead>
<tr>
<th>Experience</th>
<th>Arab Bank</th>
<th>Housing Bank</th>
<th>Amman Cairo Bank</th>
<th>Jordan Bank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
<td>No.</td>
</tr>
<tr>
<td>Less than 5 years</td>
<td>18</td>
<td>17.0</td>
<td>25</td>
<td>22.5</td>
<td>15</td>
</tr>
<tr>
<td>6-10 years</td>
<td>39</td>
<td>36.8</td>
<td>37</td>
<td>33.3</td>
<td>33</td>
</tr>
<tr>
<td>11-15 years</td>
<td>28</td>
<td>26.4</td>
<td>29</td>
<td>26.1</td>
<td>25</td>
</tr>
<tr>
<td>16 years and more</td>
<td>21</td>
<td>19.8</td>
<td>20</td>
<td>18.0</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>106</td>
<td>100.0</td>
<td>111</td>
<td>100.0</td>
<td>95</td>
</tr>
</tbody>
</table>

Source: Primary Data

The percent of employee having experience of 11-15 years in Arab Bank are 26.4%, followed by Housing Bank 26.1%, Amman Cairo Bank 26.3%, Jordan Bank 25.5%, and the percent of employee having experience 11-15 years in all banks is 26.1%.

The percent of employee having experience of 16 years and more in Arab Bank is 19.8%, followed by Housing Bank 18%, Amman Cairo Bank 23.2%, Jordan Bank 9.6%, and the percent of employee having experience (16 years and more) in all banks is 20%.
Graph 4.4: The Sample According to Experience

Source: Table (4.5)

Graph 4.4 shows the distribution of sample according experience, Amman Cairo Bank have the most experience in category (16 years and more) employees, followed by Arab Bank, Jordan Bank, the lowest experience in category (16 years and more) as graph shows is in Housing Bank.

4.5.4 Job Title

Table 4.6 shows the statistic related to job title, the percent of employee have job title (Manager) Arab Bank are 16%, Housing Bank 15.3%, Amman Cairo Bank 12.6%, Jordan Bank 14.7%, and the percent of employee have job title (Manager) in all banks are 14.7%.

The percent of employee have job title (Manager assistant) in Arab Bank are 10.4%, Housing Bank 6.3%, Amman Cairo Bank 8.4%, Jordan Bank 8.8%, and the percent of employee have job title (Manager assistant) in all banks are 8.5%.
The percent of employee have job title (Head of Department) in Arab Bank are 56.6%, Housing Bank 53.2%, Amman Cairo Bank 55.8%, Jordan Bank 60.8%, and the percent of employee have job title (Head of Department) in all banks are 56.5%.

The percent of employee have other job title in Arab Bank are 17%, Housing Bank 25.2%, Amman Cairo Bank 23.2%, Jordan Bank 15.7%, and the percent of employee have other job title in all banks are 20.3%.

<table>
<thead>
<tr>
<th>Job Title</th>
<th>Arab Bank</th>
<th>Housing Bank</th>
<th>Amman Cairo Bank</th>
<th>Jordan Bank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
</tr>
<tr>
<td>Manager</td>
<td>17</td>
<td>16.0</td>
<td>17</td>
<td>15.3</td>
<td>12</td>
</tr>
<tr>
<td>Manager assistant</td>
<td>11</td>
<td>10.4</td>
<td>7</td>
<td>6.3</td>
<td>8</td>
</tr>
<tr>
<td>Head of Department</td>
<td>60</td>
<td>56.6</td>
<td>59</td>
<td>53.2</td>
<td>53</td>
</tr>
<tr>
<td>Other</td>
<td>18</td>
<td>17.0</td>
<td>28</td>
<td>25.2</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>106</td>
<td>100.0</td>
<td>111</td>
<td>100.0</td>
<td>95</td>
</tr>
</tbody>
</table>

Source: Primary Data

Graph 4.5 shows the distribution of sample according Job title, the most job title between response is head of department, then manager assistant, then manager, and in all banks there is good ratio of response have other job title, Arab bank have the most head of department between employees, then Amman Cairo Bank, after that come Housing bank, then Jordan Bank.
Graph 4.5: The Sample According to Job Title

Source: Table (4.6)

4.5.5 Professional Certificate

Table 4.7 shows the statistic related to professional certificate, the percent of employee have professional certificate (CPA) Arab Bank are 10.4%, Housing Bank 7.2%, Amman Cairo Bank 6.3%, Jordan Bank 14.7%, and the percent of employee have professional certificate (CPA) in all banks are 9.7%. The percent of employee have professional certificate (JCPA) in Arab Bank are 17.9%, Housing Bank 10.8%, Amman Cairo Bank 7.9%, Jordan Bank 19.6%, and the percent of employee having professional certificate (JCPA) in all banks is 16.4%.

The percent of employee have experience (CMA) in Arab Bank are 11.3%, Housing Bank 9%, Amman Cairo Bank 8.4%, Jordan Bank 6.9%, and the percent of employee have experience (CMA) in all banks are 8.9%. The percent of employee have experience (CFM) in Arab Bank are 5.7%, Housing Bank 2.7%, Amman Cairo Bank
4.2%, Jordan Bank 4.9%, and the percent of employee having experience (CFM) in all banks is 4.3%.

**Table 4.7: Professional Certificate**

<table>
<thead>
<tr>
<th>Certificate</th>
<th>Arab Bank</th>
<th>Housing Bank</th>
<th>Amman Cairo Bank</th>
<th>Jordan Bank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
<td>%</td>
<td>NO.</td>
</tr>
<tr>
<td>CPA</td>
<td>11</td>
<td>10.4</td>
<td>8</td>
<td>7.2</td>
<td>6</td>
</tr>
<tr>
<td>JCPA</td>
<td>19</td>
<td>17.9</td>
<td>12</td>
<td>10.8</td>
<td>17</td>
</tr>
<tr>
<td>CMA</td>
<td>12</td>
<td>11.3</td>
<td>10</td>
<td>9.0</td>
<td>8</td>
</tr>
<tr>
<td>CFM</td>
<td>6</td>
<td>5.7</td>
<td>3</td>
<td>2.7</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>58</td>
<td>54.7</td>
<td>78</td>
<td>70.3</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>106</td>
<td>100.0</td>
<td>111</td>
<td>100.0</td>
<td>95</td>
</tr>
</tbody>
</table>

Source: Primary Data

**Graph (4.6): The Sample According to Professional Certificate**

Source: Table (4.7)
Graph 4.6 shows the distribution of sample according professional certificate, Arab bank have the most professional certificate holder employees, then Jordan Bank and Amman Cairo Bank. The lowest number of professional certificate as graph is in Housing Bank and the most professional certificate held by all banks employees is JCPA certificate.

4.6 Mean and Standard Deviation of Data

Five points Likert scale has been coded to enter the data into SPSS software in order to achieve the research objective. The levels of the scale were given the following rating: (1) strongly disagree, (2) disagree, (3) neutral, not sure, (4) agree and (5) strongly agree. To get the general results of the research, the mean and the standard deviation of different responses to the statements were calculated using Statistical Package for Social Sciences (SPSS). While the standard mean of all statements is 3, and the response below is considered negative.

4.6.1 Information Technology

Table 4.8 shows the descriptive statistics of the variables used in the statistical analyses for all respondents. This table shows the distribution of respondent's scores according to their answers on the statements related to Information technology variable.

Table 4.8 reveals that there are positive attitudes toward statements related to Information technology, because their means are above the standard mean. The highest value been represented by statement number (1) which stated “The bank is using information technology in accountancy” with mean equal (4.03), while the lowest mean value is presented by statement number (7) which stated “The bank's internal policies help to use information technology efficiently” with mean equal (3.64) on a five-point Likert scale.
Table 4.8: Information Technology

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The bank is using information technology in accountancy</td>
<td>4.0338</td>
<td>1.09536</td>
</tr>
<tr>
<td>2. The bank is using a developed and appropriate accounting software for accounting operations</td>
<td>3.9517</td>
<td>1.06795</td>
</tr>
<tr>
<td>3. The bank is using a developed and appropriate data basis for accounting operations and for customers' size.</td>
<td>3.9130</td>
<td>1.07680</td>
</tr>
<tr>
<td>4. The bank is using a developed and adequate technological tools can efficiently perform the accounting operations</td>
<td>3.8889</td>
<td>1.28211</td>
</tr>
<tr>
<td>5. There are an efficient employees in the bank can deal with the computerized accounting system</td>
<td>3.9444</td>
<td>1.22891</td>
</tr>
<tr>
<td>6. The infrastructure of the bank being able to use information technology and keep up with the ongoing developments in the field of computerized accounting</td>
<td>3.7536</td>
<td>1.25730</td>
</tr>
<tr>
<td>7. The bank's internal policies help use information technology efficiently</td>
<td>3.6425</td>
<td>1.27852</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.8754</td>
<td>1.14039</td>
</tr>
</tbody>
</table>

Source: Primary Data

4.6.2 Accounting Inputs

Table 4.9 shows the descriptive statistics of the variables used in the statistical analyses for all respondents. This table shows the distribution of respondent's scores according to their answers on the statements related to accounting inputs variable. Table 4.9 reveals that there are positive attitudes toward statements related to accounting inputs, because their means are above the standard mean.

The highest value been represented by statement number (15) which stated “Accounting events are recorded by using information technology in accordance with the generally accepted accounting principles (GAAP)” with mean equal 3.47, while the lowest mean value presented by statement number (10) which stated “Using information technology in the field of accounting leads to reduce the routine procedures when recording accounting events” with mean equal 3.47 on a five-point Likert scale.
<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Accounting events can be recorded quickly by using the information technology</td>
<td>3.6715</td>
<td>1.16582</td>
</tr>
<tr>
<td>9. Accounting events can be recorded accurately by using the information technology</td>
<td>3.6667</td>
<td>1.23115</td>
</tr>
<tr>
<td>10. Using information technology in the field of accounting leads to reduce the routine procedures when recording accounting events</td>
<td>3.4783</td>
<td>1.32521</td>
</tr>
<tr>
<td>11. Mistakes can be treated quickly and easily if they occur when inserting the accounting data by information technology</td>
<td>3.5700</td>
<td>1.38957</td>
</tr>
<tr>
<td>12. Information technology contributes in reducing costs by reducing the cost of the use of books and documents, and reducing the number of staff in the field of accounting</td>
<td>3.6643</td>
<td>1.32980</td>
</tr>
<tr>
<td>13. Computerized accounting helps in accommodating a large number of bank dealers and in the covered activities</td>
<td>3.5652</td>
<td>1.37932</td>
</tr>
<tr>
<td>14. Information technology used in accounting can cope with the diverse activities of the accounting events</td>
<td>3.7923</td>
<td>1.26619</td>
</tr>
<tr>
<td>15. Accounting events are recorded by using information technology in accordance with the generally accepted accounting principles (GAAP)</td>
<td>3.8237</td>
<td>1.17080</td>
</tr>
<tr>
<td>16. Information technology helps in reducing the number of bank clients through allowing the client to insert some operations on his account electronically</td>
<td>3.6377</td>
<td>1.37396</td>
</tr>
<tr>
<td>17. Inserting information technology in the field of accounting to achieve a competitive advantage for banks</td>
<td>3.6473</td>
<td>1.30793</td>
</tr>
<tr>
<td>18. The use of Information technology leads to improve the accounting services provided to customers and beneficiaries</td>
<td>3.5966</td>
<td>1.38623</td>
</tr>
<tr>
<td>19. The ongoing developments in the field of information technology is considered to enter financial data efficiently</td>
<td>3.6884</td>
<td>1.36615</td>
</tr>
<tr>
<td>20. Secrecy elements can be provided in entering accounting data by using information technology</td>
<td>3.6232</td>
<td>1.37534</td>
</tr>
<tr>
<td>21. Specifying authorities elements are available for accounting data entry in light of using information technology</td>
<td>3.7464</td>
<td>1.27404</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.6511</td>
<td>.84714</td>
</tr>
</tbody>
</table>

Source: Primary Data
4.6.3 Accounting Processes

Table 4.10 reveals that there are positive attitudes toward statements related to accounting processes, because their means are above the standard mean. The highest value been represented by statement number 39 which stated “The client can make transfer between accounts electronically” with mean equal 3.96, while the lowest mean value presented by statement number 27 which stated “Using information technology in the field of accounting leads to efficiently tapping the recorded data” with mean equal 3.48 on a five-point Likert scale.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. The bank can complete the accounting operations quickly and accurately by using information technology in the field of accounting</td>
<td>3.7585</td>
<td>1.29428</td>
</tr>
<tr>
<td>23. Database used in the bank have a high capacity (storage, retrieval, deletion, display and printing)</td>
<td>3.6546</td>
<td>1.44270</td>
</tr>
<tr>
<td>24. The used computerized accounting software can easily , accuracy and speed accomplish operations</td>
<td>3.6256</td>
<td>1.29533</td>
</tr>
<tr>
<td>25. The use of Information technology in the field of accounting leads to the integration and interdependence between the accounting processes of data entry and even access to information</td>
<td>3.6256</td>
<td>1.26698</td>
</tr>
<tr>
<td>26. The computerized accounting system can deal with any changes in the internal policies of the bank</td>
<td>3.8043</td>
<td>1.19842</td>
</tr>
<tr>
<td>27. Using information technology in the field of accounting leads to efficiently tapping the recorded data</td>
<td>3.4879</td>
<td>1.29577</td>
</tr>
<tr>
<td>28. Used information technology helps in treating the computerized accounting operations and summarizing them quickly and accurately.</td>
<td>3.7246</td>
<td>1.40270</td>
</tr>
<tr>
<td>29. Used information technology helps in analyzing accounting operations and in issuing the reports with high efficiency.</td>
<td>3.8213</td>
<td>1.15900</td>
</tr>
<tr>
<td>30. Used information technology helps in processing all different accounting operations with high efficiency.</td>
<td>3.8164</td>
<td>1.27183</td>
</tr>
<tr>
<td>31. The bank is using a set of control procedures to ensure</td>
<td>3.6208</td>
<td>1.25014</td>
</tr>
<tr>
<td>Statement</td>
<td>Score 1</td>
<td>Score 2</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td>the integrity of electronic data and electronic operation to detect errors when occur</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32. Information technology used in the Bank can efficiently process all operations pertaining to customer accounts</td>
<td>3.6353</td>
<td>1.32029</td>
</tr>
<tr>
<td>33. Information technology used in banks can efficiently process all of transactions involving loans and amendments</td>
<td>3.6546</td>
<td>1.29406</td>
</tr>
<tr>
<td>34. Information technology used in banks can efficiently process all operations pertaining to the benefits quickly and efficiently</td>
<td>3.9275</td>
<td>1.05287</td>
</tr>
<tr>
<td>35. Information technology used in banks can efficiently and quickly process all banks transactions involving letters of credit.</td>
<td>3.7343</td>
<td>1.28577</td>
</tr>
<tr>
<td>36. Information technology used in banks can efficiently and quickly process all operations pertaining to e-commerce quickly and efficiently</td>
<td>3.7947</td>
<td>1.31074</td>
</tr>
<tr>
<td>37. Accounting data is processed by using information technology according to the adopted accounting policies by the Bank</td>
<td>3.8478</td>
<td>1.28449</td>
</tr>
<tr>
<td>38. Accounting data is processed by using information technology according to the International financial reporting standard(IFRS)</td>
<td>3.8406</td>
<td>1.19875</td>
</tr>
<tr>
<td>39. The client can make transfer between accounts electronically</td>
<td>3.9638</td>
<td>1.18143</td>
</tr>
<tr>
<td>40. The use of Information technology in the field of accounting leads to not overlap and conflict between the goals and procedures of accounting</td>
<td>3.6908</td>
<td>1.31707</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.7384</td>
<td>1.21744</td>
</tr>
</tbody>
</table>

Source: Primary Data

4.6.4 Accounting outputs

The impact of information technology on the efficiency of the accounting outputs (accounting information), will be measured through the qualitative characteristics of accounting information, which are relevance, reliability, comparability and consistency. Table 4.11 shows the distribution of respondent's scores according to their answers on the statements related to relevance variable.
Table 4.11: Relevance

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>41. Accounting information are delivered in a short time by using IT</td>
<td>3.7874</td>
<td>1.35769</td>
</tr>
<tr>
<td>42. The bank can complete most of the accounting procedures for the client electronically in a short time</td>
<td>3.6039</td>
<td>1.32679</td>
</tr>
<tr>
<td>43. The bank can use the information technology to provide the desired information to the beneficiaries and to exclude the secondary information</td>
<td>3.7222</td>
<td>1.26516</td>
</tr>
<tr>
<td>44. Extracted reports by using information technology are appropriate to the needs of the bank</td>
<td>3.4348</td>
<td>1.40884</td>
</tr>
<tr>
<td>45. To e-accounting system responds the bank customer service in a short time</td>
<td>3.6546</td>
<td>1.29780</td>
</tr>
<tr>
<td>46. Customers and beneficiaries can get the of accounting information through the Internet in a short time</td>
<td>3.6135</td>
<td>1.37969</td>
</tr>
<tr>
<td>47. Information technology used in the field of accounting, contributes to provide quick feedback to help in making decisions optimally</td>
<td>3.8068</td>
<td>1.26849</td>
</tr>
<tr>
<td>48. Information technology provides the possibility to get accounting information quickly and timely</td>
<td>3.6087</td>
<td>1.34633</td>
</tr>
<tr>
<td>49. Accounting information which provided by the bank are always correct</td>
<td>3.6884</td>
<td>1.22009</td>
</tr>
<tr>
<td>50. Accounting information provided by the bank under the Information technology is enough to beneficiaries</td>
<td>3.6184</td>
<td>1.36339</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.6539</td>
<td>1.28256</td>
</tr>
</tbody>
</table>

Source: Primary Data

Table 4.11 reveals that there are positive attitudes toward statements related to relevance, because their means are above the standard mean. The highest value been represented by statement number 47 which stated “Information technology used in the field of accounting, contributes to provide quick feedback to help in making decisions optimally” with mean equal 3.80, while the lowest mean value presented by statement number 44 which stated “Extracted reports by using information technology are
appropriate to the needs of the bank" with mean equal 3.43 on a five-point Likert scale.

Table 4.12: Reliability

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>51. Information technology used in the field of accounting contributes in expressing the accounting information required truthfully</td>
<td>3.6087</td>
<td>1.30431</td>
</tr>
<tr>
<td>52. Accounting information is characterized with enough objectivity by using information technology</td>
<td>3.5266</td>
<td>1.45573</td>
</tr>
<tr>
<td>53. By using information technology, the accounting information characterized with neutrality and impartiality</td>
<td>3.6184</td>
<td>1.14103</td>
</tr>
<tr>
<td>54. The use of information technology leads to the lack of fake or false information.</td>
<td>3.5362</td>
<td>1.28970</td>
</tr>
<tr>
<td>55. The beneficiaries can rely on accounting information and trust it in light of the use of information technology</td>
<td>3.7101</td>
<td>1.40840</td>
</tr>
<tr>
<td>56. By using information technology the necessary protection for accounting information will be available</td>
<td>3.7126</td>
<td>1.22405</td>
</tr>
<tr>
<td>57. Computerized accounting measurement methods (neutrality)</td>
<td>3.7536</td>
<td>1.30084</td>
</tr>
<tr>
<td>58. Bank accounting procedures using information technology (neutrality)</td>
<td>3.6787</td>
<td>1.27204</td>
</tr>
<tr>
<td>59. Bank's accounting policies are using information technology neutrality</td>
<td>3.7029</td>
<td>1.33898</td>
</tr>
<tr>
<td>60. By using information technology, accounting information is complying with the requirements of decision-makers</td>
<td>3.8309</td>
<td>1.16462</td>
</tr>
</tbody>
</table>

**Total** | 3.6679 | 1.24619

Source: Primary Data

Table 4.12 shows the distribution of respondent's scores according to their answers on the statements related to reliability variable. Table 4.12 reveals that there are positive attitudes toward statements related to reliability, because their means are above the standard mean.
The highest value been represented by statement number 60 which stated “By using information technology, accounting information is complying with the requirements of decision makers” with mean equal 3.83.

The lowest mean value presented by statement number 52 which stated “Accounting information is characterized with enough objectivity by using information technology” with mean equal 3.52 on a five-point Likert scale.

By using information technology in the field of accounting, bank provides comparable accounting information with other banks and with the same bank for prior periods. Table 4.13 shows the distribution of respondent's scores according to their answers on the statements related to comparability variable.

Table 4.13 reveals that there are positive attitudes toward statements related to comparability, because their means are above the standard mean. The highest value been represented by statement number 70 which stated “Measurement and disclosure mechanisms of accounting adopted by the bank on the internet” with mean equal 3.69.

The lowest mean value presented by statement number 64 which stated “Measurement and disclosure policies related to documentary credits” with mean equal 3.43 on a five-point Likert scale.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>61. Measurement and disclosure policies related to loans</td>
<td>3.6498</td>
<td>1.20954</td>
</tr>
<tr>
<td>62. Measurement and disclosure policies related to the customers accounts</td>
<td>3.5459</td>
<td>1.26475</td>
</tr>
<tr>
<td>63. Measurement and disclosure policies related to interest</td>
<td>3.6522</td>
<td>1.27550</td>
</tr>
<tr>
<td>64. Measurement and disclosure policies related to documentary credits</td>
<td>3.4324</td>
<td>1.32914</td>
</tr>
<tr>
<td>65. Measurement and disclosure policies related to currency exchange</td>
<td>3.5773</td>
<td>1.33950</td>
</tr>
<tr>
<td>66. Measurement and disclosure policies related to facilities granting</td>
<td>3.5266</td>
<td>1.31042</td>
</tr>
<tr>
<td>67. Measurement and disclosure policies related to warranties</td>
<td>3.5628</td>
<td>1.32023</td>
</tr>
</tbody>
</table>
Table 4.14 shows the distribution of respondent's scores according to their answers on the statements related to consistency variable. Table 4.14 reveals that there are positive attitudes toward statements related to consistency, because their means are above the standard mean.

The highest value been represented by statement number 75 which stated “Information technology helps on the stability measurement and disclosure policies relating to currencies exchange” with mean equal 3.76, while the lowest mean value presented by statement number 72 which stated “Information technology helps on the stability measurement and disclosure policies relating to the customers’ accounts” with mean equal 3.48 on a five-point Likert scale.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>72. Information technology helps on the stability measurement and disclosure policies relating to the customers accounts</td>
<td>3.4807</td>
<td>1.42389</td>
</tr>
<tr>
<td>73. Information technology helps on the stability measurement and disclosure policies relating to the documentary credits</td>
<td>3.6691</td>
<td>1.23867</td>
</tr>
<tr>
<td>74. Information technology helps on the stability measurement and disclosure policies relating to loans</td>
<td>3.5749</td>
<td>1.34144</td>
</tr>
<tr>
<td>75. Information technology helps on the stability measurement and disclosure policies relating to</td>
<td>3.7657</td>
<td>1.13098</td>
</tr>
<tr>
<td>Statement</td>
<td>Mean</td>
<td>Standard Deviation</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------</td>
<td>--------------------</td>
</tr>
<tr>
<td>76. Information technology helps on the stability measurement and disclosure policies relating to interest</td>
<td>3.5966</td>
<td>1.23668</td>
</tr>
<tr>
<td>77. Information technology helps on the stability measurement and disclosure policies relating to (facilities granting)</td>
<td>3.6087</td>
<td>1.36951</td>
</tr>
<tr>
<td>78. Information technology helps on the stability measurement and disclosure policies relating to warranties</td>
<td>3.7053</td>
<td>1.28320</td>
</tr>
<tr>
<td>79. Information technology helps on the stability of accounting policies in presenting accounting information</td>
<td>3.5676</td>
<td>1.36686</td>
</tr>
<tr>
<td>80. Information technology helps on the stability of accounting policies and keep pace with the ongoing developments</td>
<td>3.7101</td>
<td>1.28430</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3.6310</td>
<td>1.26745</td>
</tr>
</tbody>
</table>

Source: Primary Data

### 4.6.5 Difficulties

Table 4.15 shows the descriptive statistics of the variables used in the statistical analyses for all respondents. This table shows the distribution of respondent’s scores according to their answers on the statements related to difficulties variable.

Table 4.15 reveals that there are positive attitudes toward statements related to difficulties, because their means are above the standard mean. The highest value has been represented by statement number 81 which stated “The cost of investment in the information technology field of accounting is very high” with mean equal 3.94, while the lowest mean value presented by statement number 85 which stated “Resistance bankers to use sophisticated information technology in the field of accounting” with mean equal 1.50 on a five-point Likert scale.
Table 4.15: Difficulties

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>81. The cost of investment in the information technology field of accounting is very high.</td>
<td>3.9420</td>
<td>1.23372</td>
</tr>
<tr>
<td>82. Correlation the evolution of accounting information systems used in the development of human capabilities banks.</td>
<td>1.6715</td>
<td>.83698</td>
</tr>
<tr>
<td>83. Workers in the field of accounting do not have the necessary competence to use information technology and keep up with evolution.</td>
<td>1.6111</td>
<td>.79403</td>
</tr>
<tr>
<td>84. Unavailability of private financing using information technology in the field of accounting.</td>
<td>1.7367</td>
<td>.90506</td>
</tr>
<tr>
<td>85. Resistance bankers to use sophisticated information technology in the field of accounting.</td>
<td>1.5000</td>
<td>.86568</td>
</tr>
<tr>
<td>86. The high cost of the use of information technology in the field of accounting compared with usefulness.</td>
<td>1.6401</td>
<td>1.04774</td>
</tr>
<tr>
<td>87. Not conviction the administration using sophisticated information technology in the field of accounting.</td>
<td>1.6449</td>
<td>.97772</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.9638</strong></td>
<td><strong>.85218</strong></td>
</tr>
</tbody>
</table>

Source: Primary Data

4.7 Descriptive Statistics for Variables

Table 4.16 shows that Jordan Bank employee have the highest mean of all banks, related to information technology, the mean value for information technology reach value 4.0, the Arab Bank employee come the second with mean value reach 3.9, the third one are Amman Cairo bank employee with mean value reach 3.8, the last one are Housing Bank employee with mean value reach 3.6. In general all mean value for all banks greater than 3 which mean that employees of these banks have positive attitude toward information technology and agree for the what questionnaire statements stated, also standard deviation value for all banks result as reported in table 4.16 shows that there is no difference between responses from all banks. The total mean value for information technology is 3.87.
Table 4.16: Descriptive Statistics

<table>
<thead>
<tr>
<th>Information technology</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>Housing Bank</td>
<td>111</td>
<td>3.6692</td>
<td>1.29147</td>
<td>.12258</td>
<td>3.4263</td>
</tr>
<tr>
<td>Arab Bank</td>
<td>106</td>
<td>3.9690</td>
<td>1.03824</td>
<td>.10084</td>
<td>3.7691</td>
</tr>
<tr>
<td>Jordan Bank</td>
<td>102</td>
<td>4.0728</td>
<td>.93812</td>
<td>.09289</td>
<td>3.8886</td>
</tr>
<tr>
<td>Amman Cairo Bank</td>
<td>95</td>
<td>3.8000</td>
<td>1.22650</td>
<td>.12584</td>
<td>3.5501</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>414</td>
<td>3.8754</td>
<td>1.14039</td>
<td>.05605</td>
<td>3.7653</td>
</tr>
</tbody>
</table>

Source: Primary Data

Table 4.17: Descriptive Statistics

<table>
<thead>
<tr>
<th>Accounting inputs</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>Housing Bank</td>
<td>111</td>
<td>3.5707</td>
<td>.87503</td>
<td>.08305</td>
<td>2.2159</td>
</tr>
<tr>
<td>Arab Bank</td>
<td>106</td>
<td>3.6273</td>
<td>.85880</td>
<td>.08341</td>
<td>2.2528</td>
</tr>
<tr>
<td>Jordan Bank</td>
<td>102</td>
<td>3.7451</td>
<td>.80939</td>
<td>.08014</td>
<td>2.3378</td>
</tr>
<tr>
<td>Amman Cairo Bank</td>
<td>95</td>
<td>3.6879</td>
<td>.84900</td>
<td>.08711</td>
<td>2.2857</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>414</td>
<td>3.6511</td>
<td>.84714</td>
<td>.04163</td>
<td>2.3549</td>
</tr>
</tbody>
</table>

Source: Primary Data

Table 4.17 shows that Jordan Bank employees have the highest mean of all banks, related to Accounting inputs, the mean value for Accounting inputs reach value of 3.74, the Amman Cairo Bank employee come the second with mean value reach 3.68, the third one are Arab bank employee with mean value reach 3.62, the last one are Housing bank employee with mean value reach 3.57.
In general all mean value for all banks more than 3 which mean that employee of these banks have positive attitude toward Accounting inputs and agree for the what questionnaire statements stated, also standard deviation value for all banks result as reported in table 4.17 shows that there is no different between responses answers form all banks. The total mean value for accounting inputs is 3.65.

Table 4.18: Descriptive Statistics

<table>
<thead>
<tr>
<th>Accounting processes</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>Housing Bank</td>
<td>111</td>
<td>3.6321</td>
<td>1.29598</td>
<td>.12301</td>
<td>3.3883</td>
</tr>
<tr>
<td>Arab Bank</td>
<td>106</td>
<td>3.7552</td>
<td>1.21491</td>
<td>.11800</td>
<td>3.5212</td>
</tr>
<tr>
<td>Jordan Bank</td>
<td>102</td>
<td>3.8648</td>
<td>1.12518</td>
<td>.11141</td>
<td>3.6438</td>
</tr>
<tr>
<td>Amman Cairo Bank</td>
<td>95</td>
<td>3.7080</td>
<td>1.22704</td>
<td>.12589</td>
<td>3.4581</td>
</tr>
<tr>
<td>Total</td>
<td>414</td>
<td>3.7384</td>
<td>1.21744</td>
<td>.05983</td>
<td>3.6208</td>
</tr>
</tbody>
</table>

Source: Primary Data

Jordan Bank employee have the highest mean of all banks, related to Accounting processes as shown in Table 4.18. The value for Accounting processes reach value 3.86, the Arab Bank employees come the second with mean value reach 3.75, the third one are Amman Cairo Bank employee with mean value reach 3.70, the last one are Housing Bank employee with mean value reach 3.63.

In general all mean value for all banks greater than 3 which mean that employee of these banks have positive attitude toward Accounting processes and agree for the what questionnaire statements stated, also standard deviation value for all banks result as reported in Table 4.18 shows that there is no difference between responses answers form all banks. The total mean value for accounting processes is 3.73.
### Table 4.19: Descriptive Statistics

<table>
<thead>
<tr>
<th>Accounting outputs</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>Housing Bank</td>
<td>111</td>
<td>3.5485</td>
<td>1.27160</td>
<td>.12069</td>
<td>3.3093</td>
</tr>
<tr>
<td>Arab Bank</td>
<td>106</td>
<td>3.6285</td>
<td>1.29196</td>
<td>.12549</td>
<td>3.3797</td>
</tr>
<tr>
<td>Jordan Bank</td>
<td>102</td>
<td>3.6632</td>
<td>1.24957</td>
<td>.12373</td>
<td>3.4177</td>
</tr>
<tr>
<td>Amman Cairo Bank</td>
<td>95</td>
<td>3.7172</td>
<td>1.23035</td>
<td>.12623</td>
<td>3.4666</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>414</td>
<td>3.6360</td>
<td>1.25904</td>
<td>.06188</td>
<td>3.5143</td>
</tr>
</tbody>
</table>

Source: Primary Data

Amman Cairo Bank employees have the highest mean of all banks, related to Accounting outputs as shown in Table 4.19, the mean value for Accounting outputs reach value 3.71, the Jordan Bank employee come the second with mean value reach 3.66, the third one are Arab Bank employees with mean value reach 3.62, the last one are Housing Bank employee with mean value reach 3.54, in general all mean value for all banks greater than 3 which mean that employee of these banks have positive attitude toward Accounting outputs and agree for the what questionnaire statements stated, also standard deviation value for all banks result as reported in Table 4.19 shows that there is no different between responses answers form all banks. The total mean value for accounting outputs is 3.63.

### Table 4.20: Descriptive Statistics

<table>
<thead>
<tr>
<th>Difficulties</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>95% Confidence Interval of the Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Upper</td>
</tr>
<tr>
<td>Housing Bank</td>
<td>111</td>
<td>2.0129</td>
<td>.88516</td>
<td>.08402</td>
<td>1.8464</td>
</tr>
<tr>
<td>Arab Bank</td>
<td>106</td>
<td>1.9555</td>
<td>.81157</td>
<td>.07883</td>
<td>1.7992</td>
</tr>
<tr>
<td>Jordan Bank</td>
<td>102</td>
<td>1.8978</td>
<td>.79103</td>
<td>.07832</td>
<td>1.7424</td>
</tr>
<tr>
<td>Amman Cairo Bank</td>
<td>95</td>
<td>1.9865</td>
<td>.92607</td>
<td>.09501</td>
<td>1.7978</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>414</td>
<td>1.9638</td>
<td>.85218</td>
<td>.04188</td>
<td>1.8814</td>
</tr>
</tbody>
</table>

Source: Primary Data
Table 4.20 shows that mean for all banks are weak and less than 3. Housing bank employee have the highest mean of all banks, related to Difficulties, the mean value for Difficulties reach just only a value of 2.01, the Amman Cairo bank employee come the second with mean value reach 1.96, the third one are Arab bank employees with mean value reach 1.95, the last one are Jordan Bank employee with mean value reach 1.89. in general all mean value for all banks less than 3 which mean that employee of these banks have negative attitude toward Difficulties and disagree for the what questionnaire statements stated, also standard deviation value for all banks result as reported in table 4.20 shows that there is no difference between responses from all banks. The total mean value for Difficulties is 1.96.

4.8 Correlation

Correlation Coefficient indicates both the value and the direction of the linear relationship between the information technology and the efficiency of accounting in Jordanian Banks. Table 4.21 indicates the correlation matrix between the independent variable which are represented by (information technology), and dependent variable dimensions which are represented by Accounting inputs, Accounting processes, Accounting outputs, Difficulties.

The results indicate that the correlation between dependent variable dimensions is positive and high value of the coefficient, which is between \( r=0.728 \) and \( r=0.997 \). The results also indicate that there was a positive and high relationship between the independent variable (information technology) and dependent variable dimensions with value of the coefficient between greater than \( r=0.900 \) except the relation between all variables and “Difficulties” variable which express value range between \( r=0.728 \) and \( r=0.783 \). Also Table 4.21 summarizes the correlation coefficient between each dependent variables and independent variable. The highest score of correlation was presented by the information technology and Accounting processes \( r=0.984 \) where the lowest score was between information technology and Difficulties with \( r=0.728 \).
Table 4.21: Correlation

<table>
<thead>
<tr>
<th>Information technology</th>
<th>Accounting inputs</th>
<th>Accounting processes</th>
<th>Accounting outputs</th>
<th>Relevance property</th>
<th>Property reliability</th>
<th>Property comparability</th>
<th>Property consistency</th>
</tr>
</thead>
<tbody>
<tr>
<td>son Correlation (2-tailed)</td>
<td>1</td>
<td>.973**</td>
<td>.994**</td>
<td>.989**</td>
<td>.968**</td>
<td>.954**</td>
<td>.987**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>son Correlation (2-tailed)</td>
<td>.973**</td>
<td>1</td>
<td>.994**</td>
<td>.989**</td>
<td>.968**</td>
<td>.954**</td>
<td>.987**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>son Correlation (2-tailed)</td>
<td>.966**</td>
<td>.994**</td>
<td>1</td>
<td>.990**</td>
<td>.987**</td>
<td>.997**</td>
<td>.990**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>son Correlation (2-tailed)</td>
<td>.956**</td>
<td>.995**</td>
<td>.990**</td>
<td>1</td>
<td>.997**</td>
<td>.997**</td>
<td>.995**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>son Correlation (2-tailed)</td>
<td>.966**</td>
<td>.993**</td>
<td>.997**</td>
<td>.997**</td>
<td>1</td>
<td>.99**</td>
<td>.998**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>son Correlation (2-tailed)</td>
<td>.966**</td>
<td>.954**</td>
<td>.990**</td>
<td>.997**</td>
<td>.995**</td>
<td>1</td>
<td>.997**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>son Correlation (2-tailed)</td>
<td>.982**</td>
<td>.994**</td>
<td>.986**</td>
<td>.988**</td>
<td>.994**</td>
<td>.993**</td>
<td>.993**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>son Correlation (2-tailed)</td>
<td>.723**</td>
<td>.782**</td>
<td>.746**</td>
<td>.775**</td>
<td>.758**</td>
<td>.769**</td>
<td>.733**</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

at the 0.01 level (2-tailed).
4.9 Testing Study Model

One way ANOVA was used to test the main and sub hypotheses and f-test was used to test each hypothesis as following:

4.9.1 The first main hypothesis

**H01:** There is no statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks.

<table>
<thead>
<tr>
<th>Table 4.22</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ANOVA</strong></td>
</tr>
<tr>
<td><strong>Accounting inputs</strong></td>
</tr>
<tr>
<td>Between Groups</td>
</tr>
<tr>
<td>Within Groups</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Source: Primary Data

The result of F-test related to first main hypothesis as shown in Table 4.22 it was found that calculated F value equal (540.852) and significant of “F” value is .000 which is less than (α≤ 0.05) comparing with tabulated F value which is equal 2.21. This provides evidence to reject null hypothesis, which states: There is no statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks. It means alternative hypothesis is accepted, which states: There is statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks.

4.9.2 The second main hypothesis

**H02:** There is no statistically significant impact of the use of information technology on the efficiency of accounting process in the Jordanian commercial banks.
Table 4.23

ANOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>600.630</td>
<td>28</td>
<td>21.451</td>
<td>718.003</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>11.502</td>
<td>385</td>
<td>.030</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>612.132</td>
<td>413</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data

The result of F-test related to second main hypothesis as shown in table 4.23 it was found that calculated F value equal (718.003) and significant of “F” value is (.000) which is less than (α≤ 0.05) comparing with tabulated “F” value which equal (2.21). This provides evidence to reject null hypothesis, which states: There is no statistically significant impact of the use of information technology on the efficiency of accounting process in the Jordanian commercial banks. It means alternative hypothesis is accepted, which states: There is statistically significant impact of the use of information technology on the efficiency of accounting process in the Jordanian commercial banks.

4.9.3 The third main hypothesis:

H03: There is no statistically significant impact of information technology on the efficiency of accounting outputs in the Jordanian commercial banks.

Table 4.24

ANOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>633.399</td>
<td>28</td>
<td>22.621</td>
<td>409.186</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>21.284</td>
<td>385</td>
<td>.055</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>654.683</td>
<td>413</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data
The result of F-test related to third main hypothesis as shown in table 4.24 it was found that calculated F value equal (409.186) and significant of “F” value is (.000) which is less than (α≤ 0.05) comparing with tabulated F value which equal (2.21). This provides evidence to reject null hypothesis, which states: There is no statistically significant impact of information technology on the efficiency of output accounting in commercial banks of Jordan. It means alternative hypothesis is accepted, which states: There is statistically significant impact of information technology on the efficiency of output accounting in commercial banks of Jordan.

4.9.3.1 The First Sub-hypothesis

H0: There is no statistically significant impact of the use of information technology on the relevance property.

<table>
<thead>
<tr>
<th>Table 4.25</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relevance property</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>654.546</td>
<td>28</td>
<td>23.377</td>
<td>362.564</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>24.823</td>
<td>385</td>
<td>.064</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>679.369</td>
<td>413</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data

The result of F-test related to first sub-hypothesis as shown in table 4.25 it was found that calculated F value equal (362.564) and significant of “F” value is (.000) which is less than (α≤ 0.05) comparing with tabulated F value which equal (2.21). This provides evidence to reject null hypothesis, which states: There is no statistically significant impact of the use of information technology to the relevance property. It means alternative hypothesis is accepted, which states: There is statistically significant impact of the use of information technology on the relevance property.
4.9.3.2 The Second Sub-hypothesis

**H0:** There is no statistically significant impact of the use of information technology on the property reliability.

**Table 4.26**

<table>
<thead>
<tr>
<th>Property.reliability</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>618.729</td>
<td>28</td>
<td>22.097</td>
<td>375.544</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>22.654</td>
<td>385</td>
<td>.059</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>641.383</td>
<td>413</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data

The result of F-test related to second sub hypothesis as shown in table 4.26 it was found that calculated F value equal (375.544) and significance of “F” value is .000 which is less than (α≤ 0.05) comparing with tabulated F value which equal 2.21. This provides evidence to reject null hypothesis, which states: There is no statistically significant impact of the use of information technology on the property reliability. It means alternative hypothesis is accepted, which states: There is statistically significant impact of the use of information technology on the property reliability.

4.9.3.3 The Third Sub-hypothesis

**H0:** There is no statistically significant impact of the use of information technology on the property comparability.

**Table 4.27**

<table>
<thead>
<tr>
<th>Property.comparability</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>624.776</td>
<td>28</td>
<td>22.313</td>
<td>319.878</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>26.856</td>
<td>385</td>
<td>.070</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>651.632</td>
<td>413</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data
The result of F-test related to third sub-hypothesis as shown in table 4.27 it was found that calculated F value is equal (319.878) and significance of “F” value is .000 which is less than α≤ 0.05 comparing with tabulated F value which equal 2.21. This provides evidence to reject null hypothesis, which states: There is no statistically significant impact of the use of information technology on the property comparability. It means alternative hypothesis is accepted, which states: There is statistically significant impact of the use of information technology on the property comparability.

4.9.3.4 The Fourth Sub-hypothesis

**H0**: There is no statistically significant impact of the use of information technology to property consistency.

<table>
<thead>
<tr>
<th>Table 4.28</th>
</tr>
</thead>
</table>

**ANOVA**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>640.519</td>
<td>28</td>
<td>22.876</td>
<td>383.904</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>22.941</td>
<td>385</td>
<td>.050</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>663.460</td>
<td>413</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data

The result of F-test related to fourth sub-hypothesis as shown in table 4.28 it was found that calculated F value equal (383.904) and significance of “F” value is .000 which is less than α≤ 0.05 comparing with tabulated F value which equal 2.21. This provides evidence to reject null hypothesis, which states: There is no statistically significant impact of the use of information technology on property consistency. It means alternative hypothesis is accepted, which states: There is statistically significant impact of the use of information technology to property consistency.

4-9-4 The Fourth Main Hypothesis

**H0**: There are no difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks.
Table 4.29

ANOVA

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>215.992</td>
<td>28</td>
<td>7.714</td>
<td>35.384</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>83.934</td>
<td>385</td>
<td>.218</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>299.926</td>
<td>413</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Primary Data

The result of F-test related to fourth main hypothesis as shown in Table 4.29 it was found that calculated F value equal 35.384 and significant of “F” value is .000 which is less than α≤ 0.05 comparing with tabulated F value which equal to 2.21. This provides evidence to reject null hypothesis, which states: There is no difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks. It means alternative hypothesis is accepted, which states: There is difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks.

4.10 Summary of the Hypotheses Testing

Table 4.30 Summary of the Hypotheses Framed for this Study and the Results Obtained after Analyzing the Data by using F-test, One Way Analysis of variance (ANOVA).

Table 4.30

<table>
<thead>
<tr>
<th>No.</th>
<th>Hypotheses</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td><strong>H0</strong>: There is no statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks.</td>
<td>Rejected</td>
</tr>
<tr>
<td>2.</td>
<td><strong>H0</strong>: There is no statistically significant impact of the use of information technology on the efficiency of accounting process in the Jordanian commercial banks</td>
<td>Rejected</td>
</tr>
<tr>
<td>3.</td>
<td><strong>H0</strong>: There is no statistically significant impact of information technology on the efficiency of accounting outputs in the Jordanian commercial banks.</td>
<td>Rejected</td>
</tr>
<tr>
<td>i.</td>
<td><strong>H0:</strong> There is no statistically significant impact of the use of information technology on relevance.</td>
<td>Rejected</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------------------------------</td>
<td>----------</td>
</tr>
<tr>
<td>ii.</td>
<td><strong>H0:</strong> There is no statistically significant impact of the use of information technology on reliability.</td>
<td>Rejected</td>
</tr>
<tr>
<td>iii.</td>
<td><strong>H0:</strong> There is no statistically significant impact of the use of information technology on comparability.</td>
<td>Rejected</td>
</tr>
<tr>
<td>iv.</td>
<td><strong>H0:</strong> There is no statistically significant impact of the use of information technology on consistency.</td>
<td>Rejected</td>
</tr>
<tr>
<td>4.</td>
<td><strong>H0:</strong> There are no difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks.</td>
<td>Rejected</td>
</tr>
</tbody>
</table>

Source: Primary Data

**Note:** The Correlation Co-efficient of all the variables under study is in excess of 70% and Significance F value is .000 which is less than (0.05). Therefore, Correlation between all the variables is Statistically Significant thereby all Hypotheses stand rejected.

The results emphasize the impact of information technology on the efficiency in general, that’s because, all the null hypotheses which argue that: there is no statistically significant impacts of information technology on the efficiency are rejected as it shown in table 4.30. The first three hypotheses are rejected which states that: there is no statistically significant impact of information technology on accounting inputs, accounting process, output accounting in the Jordanian commercial banks. Also the study result emphasize that banking industry in Jordan face many obstacle and difficulties, because the four null hypotheses is rejected which states that: there is no difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks.

The sub-hypotheses as shown in Table 4.30 also rejected, which argue that: there is no statistically significant impact of the use of information technology on relevance property, property reliability, property comparability, and property consistency. These results insure the relationship between information technology from side and
relevance property, reliability property, comparability property and consistency property, from other side.

**Summary**

The fourth chapter makes a critical analysis of the work done, as a whole, in this study. Through application of statistical tools, as described in the methodology, the data collected and used in the study are analysed and interpreted.
CHAPTER - 5

Summary, Findings and Suggestions
CHAPTER 5

SUMMARY, FINDINGS AND SUGGESTIONS

5.1 Summary

5.2 General Findings
   5.2.1 Demographic Variables
   5.2.2 Descriptive Statistics of the Variables
      5.2.2.1 Overall Study Sample
      5.2.2.2 Over Each Bank

5.3 Main Findings
   5.3.1 The Result of Hypothesis Testing
   5.3.2 The Alternative Hypothesis

5.4 Conclusion

5.5 Suggestions
   5.5.1 Specific Suggestions
   5.5.2 General Suggestions

5.6 Future Research Directions
5.1 Summary

The present research study was undertaken to examine the impact of information technology on the efficiency of accounting in commercial banks of Jordan. The difficulties faced by banking industry in Jordan to achieve their service rendering goal, make an urgent need to conduct a systematic investigation on the impact of information technology on accounting. These difficulties impact on the banking industry as it reported by many studies, such as complaints by banks customers or beneficiaries about poor information technology, which result to inefficient application of computer to the accounting of the banks, also increasing demand from citizens on banking services is a problem because the need of provide the service at the desired quality.

Banking industry need to computerized accounting information systems, this led to contributing to improving the efficient and quality of services. In order to make general view about information technology and efficiency, the study research literature review and previous studies related to the topic of the study. The gaps with this literature review show that the researcher have looked thoroughly in the area of study and makes interpretation and suggestion on how the research may proceed to fill those gaps.

The study conducted on Jordanian banking industry because of the growing contribution of the Jordan's banking sector in development, economic progress, investments in recent years in Jordan.

The banking system is the most sensitive sectors in terms of vulnerability, which is reflected the size and quality of the components of this activity. The work of Jordanian banking system, which includes national and other foreign banks in the light of other domestic and external environment, that affected the activity and the development of future performance. Therefore the study has selected four banks. They are: The Housing Bank for Trade & Finance, Arab Bank PIC, Bank of Jordan PLCB, and Cairo Amman Bank.

The study examine if there is no statistically significant impact of the use of information technology on the efficiency of (accounting inputs, accounting process, accounting outputs). The output accounting in this study includes (relevance, reliability, comparability and consistency). The study also examine wether there is a
difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks.

The study is applied study, therefore the instrument used in order to achieve the goals is the questionnaire, which design to measure the impact of information technology on the accounting efficiency of commercial banks; the questionnaire includes sample characteristic, and sections for each variables of study, and the Questionnaire items are written in the form of statement using a 5-point Likert-type scale (ranging from (1) strongly disagree to (5) strongly agree).

The response rate was 83% for all banks employee, the response rate is 85% for Arab Bank and 89% for Housing Bank and 76% for the Amman Cairo Bank, also 82% for Jordan Bank, these rate reflect that the study result will make sense at these banks works environment, and this high response rate indicated that study result can generalize on four banks, because point view of employee participate in the study reflect the real situation on these banks.

5.2 General Findings

5.2.1 Demographic Variables

The study analyzing demographic variables for banks employees who participated in the study, in order to get general view about the sample, and how the nature of employee situation in the four banks, we can from demographic variables know the attitude of Jordanian banks toward hiring employee and how they prefer the staff of each bank in hierarchy from top management to line staff, and by analyzing demographic variables, that consist of Qualification, Major, Experience, Job Title, and Professional Certificate. The study has the following findings:

It was found that percent of employee having diploma degree over all study sample is 10.6%, and the percent of employee with Bachelor degree over all study sample is 53.1%, while the percent of employees with M.A. degree over all study sample are 14.7%, and the percent of employees having PhD degree over all study sample is 21.5%.

The Housing Bank have the most bachelor degree holders followed by Amman Cairo Bank, Arab Bank and the lowest number of bachelor degree holder are in Jordan Bank. This result indicated that most employees working in the four banks have bachelor degree, which reflect the good education level of employees.
It was found that percent of employee with account major over all study sample are 51.4%, and percent of employee with B.M. over all study sample are 8.9%, and percent of employees with finance over all study sample are 27.1%.

The Jordan Bank have the most accountant employees, followed by Arab Bank, Housing Bank, and the lowest number of major of accountant are in Amman Cairo Bank, the lowest major over all study sample is business management. This result indicated that most employees working in the four banks have accountant certificate, which reflect banks like to hiring people who have accountant certificate, because the nature of work need people who have good hold over accountancy and in second rank finance certificate as it shown in the general result related to demographic variables.

It was found that percent of employee having experience (Less than 5 years) over all study sample is 17.6%, and percent of employee having experience (6-10 years) over all study sample are 36.2%, while the percent of employees having experience (11-15 years) over all study sample are 26.1%, where the percent of employees having experience (16 years and more) over all study sample are 17.6%.

Amman Cairo Bank have the most experienced between employees, then Arab Bank, after that come Jordan Bank, the lowest experience in category (16 years and more) is in Housing Bank. This result indicated that most employee work in the four banks have good experience with variety years, which reflect the ability of employees to accomplish the task.

It was found that percent of employee having job title (Manager) over all study sample are 14.7%, and percent of employee having job title (Manager assistant) over all study sample is 8.5%, whereas the percent of employee having job title (Head of Department) over all study sample is 56.5%, also the percent of employees having other job title over all study sample are 20.3%. Arab Bank have the most head of department employees, then Amman Cairo Bank, after that come Housing Bank, then Jordan Bank. This result indicated that most employees who participated in the study work as head of department.

It was found that percent of employee having professional certificate (CPA) over all study sample is 9.7%, also the percent of employees having professional certificate (JCPA) in the study sample 16.4%, while the percent of employee have experience
(CMA) over all study sample is 8.9%. The percent of employees having experiences (CFM) over all study sample is 4.3%.

Arab Bank have the most professional certificate holder employees, than Jordan Bank, after that comes Amman Cairo Bank, and lowest number of professional certificate holders are in Housing Bank. This result indicated that most employees who participated in the study have professional certificate in general, and particular (JCPA) professional certificate.

The result related to demographic variable shows that Jordanian banks have employees with very good qualification and education, which reflect the quality of service imparted to consumers, and this indicated that Jordanian banks have the human resource needed to use development and modern information technology system.

The use of information system in all banks function and process not only need for computers and applications, it need also well trained and educated persons, to ensure that the information system used in appropriate way, and less mistakes incurring operational problems.

The four banks employees have a variety of education which include diploma degree, bachelor, master and PhD. Also the four banks employees have a variety of experience, which need in accomplish work with all bank management level and hierarchy. We believe that education and experience integrated with each other, to have good result of work at level of banks branches and overall bank as an organization, which led to achieve competitiveness and performance in annual financial result.

Four banks employees have a verity of major specialization which includes accountant, and business management, and finance; the result indicated that Jordanian banks prefer to hire employees with accountant major, more than other major specialization. The four banks prefer to hiring people who have accountant specialisation.

Four banks employees have a variety of professional certificates which include CPA, JCPA, CMA, CFM, which mean that Jordanian banks encourage employee to get professional certificate by training themselves or have training from bank.
5.2.2 Descriptive Statistics of the Variables

The study analyzing the variables, by measuring the mean and standard deviation related to distribution of respondent's scores according to their answers on the statements of each variable, in order to make point view about the attitude of sample toward these variables positively or negatively. Studying the attitude of the four banks employees help research get general view about their opinion about the statement related to each variable in general. These findings are divided into two parts, the first one related to study sample as all, the second part related to the sample in each bank as following findings:

5.2.2.1 Overall Study Sample

By analyzing the variable (Information Technology). It was found that employees in Jordanian commercial banks have positive attitudes toward information technology, because their means are above the standard mean, The statement has the highest value mean represented by statement stating “The bank is using information technology in accountancy” while the lowest mean value presented by the statement stating “The bank's internal policies help to use information technology efficiently”.

The four banks particularly and Jordanian banks in general widely adopted information technology in the operation related to structured and unstructured financial and non-financial information that needed by bank management, which help for good decision making by top management.

The result indicated that employees believe that accounting process can be easier when bank utilize computer program and system, which aim to perform work more fast in all functions, the information technology includes accounting software, computers, network etc.

By analyzing the variable (Accounting Inputs), it was found that employees in Jordanian commercial banks have positive attitudes toward accounting inputs, because their means are above the standard mean, The statement has the highest value mean represented by statement stateing “Accounting events are recorded by using information technology in accordance with the generally accepted accounting principles (GAAP)” while the lowest mean value is presented by statement “Using information technology in the field of accounting leads to reduce the routine procedures when recording accounting events”.

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Information systems have been computerized after the rapid change and development in technology, this change replaced manual process in banks, and move to use computers to deal with financial information and data, which entered in computerized system as a tool of input of these information.

In accounting information systems, data collection, process, and retrieve data quickly is the significant element of the new accounting information systems, that help banks to have less errors in operation process.

By analyzing the variable (Accounting Processes). It was found that employees in Jordanian commercial banks have positive attitudes toward accounting processes, because their means are above the standard mean. The statement has the highest value mean represented by statement stating “The client can make transfer between accounts electronically” while the lowest mean value presented by statement “Using information technology in the field of accounting leads to efficiently tapping the recorded data”.

Information technology help banks in collecting data about customer or financial indicators of the banks, to enter it into computers, then the data were processed in fast and accurate way, this can reflect good result and performance.

Information technology help banks to updates customers or financial information in receivable files and records are updated easier and in accurate way, this reflect the importance of accounting processes stage, as it integrated with other stages, such as accounting inputs.

By analyzing the variable (Relevance). It was found that employees in Jordanian commercial banks have positive attitudes toward relevance, because their means are above the standard mean. The statement has the highest value mean represented by statement stating “Information technology used in the field of accounting, contributes to provide quick feedback to help in making decisions optimally” while the lowest mean value presented by statement “Extracted reports by using information technology are appropriate to the needs of the bank”.

The results related to the variable (Relevance) indicated that employees in the four banks agree that information technology is important in making decisions process by providing quick feedback.
By analyzing the variable (Reliability), it was found that employees in Jordanian commercial banks have positive attitudes toward reliability, because their means are above the standard mean. The statement has the highest value mean represented by statement stating “By using information technology, accounting information is complying with the requirements of decision makers” while the lowest mean value presented by statement “Accounting information is characterized with enough objectivity by using information technology”.

By analyzing the variable (Comparability), it was found that employees in Jordanian commercial banks have positive attitudes toward comparability, because their means are above the standard mean. The statement has the highest value mean represented by statement stating “Measurement and disclosure mechanisms of accounting adopted by the bank on the internet” while the lowest mean value is presented by statement “Measurement and disclosure policies related to documentary credits”.

By analyzing the variable (Consistency), it was found that employees in Jordanian commercial banks have positive attitudes toward consistency, because their means are above the standard mean. The statement has the highest value mean represented by statement stating “Information technology helps on the stability measurement and disclosure policies relating to currencies exchange” while the lowest mean value is presented by statement “Information technology helps on the stability measurement and disclosure policies relating to the customers’ accounts”.

By analyzing the variable (Difficulties), it was found that employees in Jordanian commercial banks have positive attitudes toward difficulties, because their means are above the standard mean. The statement has the highest value mean represented by statement stating “The cost of investment in the information technology field of accounting is very high” while the lowest mean value is presented by statement “Resistance bankers to use sophisticated information technology in the field of accounting”.

By analyzing the correlation between study variables, it was found that dependent variable dimensions have positive and high value of the coefficient, it was found also that there’s positive and high relationship between the independent variable (information technology) and dependent variable dimensions.
It was found that highest score of correlation was presented by the information technology and accounting processes, where the lowest score was between information technology and Difficulties.

5.2.2.2 Over Each Bank

By analyzing the variable (Information Technology), it was found that Jordan Bank employees have the highest mean of all banks, the Arab Bank employees come the second, the third one are Amman Cairo Bank employees, the last one are Housing Bank employees.

By analyzing the variable (Accounting Inputs), it was found that Jordan Bank employees have the highest mean of all banks, Amman Cairo Bank employees come the second, the third one are Arab Bank employee and the last one are Housing Bank employees.

By analyzing the variable (Accounting Processes), it was found that Jordan Bank employees have the highest mean of all banks, the Arab Bank employees come the second, the third one are Amman Cairo Bank employees, followed by Housing Bank employees.

By analyzing the variable (Accounting Output), it was found that Amman Cairo Bank employees have the highest mean of all banks, Jordan Bank employees come the second, while the third one are Arab Bank employees, with Housing Bank employees at the bottom.

By analyzing the variable (Difficulties), it was found that Housing Bank employees have the highest mean of all banks, Amman Cairo Bank employees come the second, followed by Arab Bank employees and Jordan Bank employee.

5.3 Main Findings

5.3.1 The Result of Hypothesis Testing

The study tested hypotheses in order to make point of view about the general result of the study and according to study sample, what is the final result of the hypothesis that is written in null way to hypothesis of no statistically significant impact of information technology on the efficiency of accounting inputs, accounting process, accounting outputs, difficulties. The following shows the results of main hypotheses and sub hypotheses:
Chapter – 5: Summary, Findings and Suggestions

Study results reject the first main hypothesis (H0), which states: There is no statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks. This result indicated that information technology in banks is very important to achieve efficiency of accounting inputs in the four banks in particular and in bank industry in Jordan in general.

Study results reject the second main hypothesis (H0), which states: There is no statistically significant impact of the use of information technology on the efficiency of accounting process in the Jordanian commercial banks. This result indicated that information technology is very important to achieve efficiency of accounting process in the four banks in particular and in bank industry in Jordan in general.

Study results reject the third main hypothesis (H0), which states: There is no statistically significant impact of information technology on the efficiency of output accounting in commercial banks of Jordan. This result indicated that information technology in banks is very important to achieve efficiency of output accounting in the four banks in particular and in banking industry in Jordan in general.

Study results reject the fourth main hypothesis (H0), which states: There is no difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks. This result indicated that information technology in banks is very important to achieve of accounting in the four banks in particular and in bank industry in Jordan in general.

Study results reject the first sub hypothesis (H0), which states: There is no statistically significant impact of the use of information technology to the relevance property. This result indicated that information technology is very important for relevance property in the four banks in particular and in bank industry in Jordan in general.

Study results reject the second sub hypothesis (H0), which states: There is no statistically significant impact of the use of information technology on the property reliability. This result indicated that information technology in banks is very important for property reliability in the four banks in particular and in bank industry in Jordan in general.

Study results reject the third sub hypothesis (H0), which states: There is no statistically significant impact of the use of information technology on the property comparability. This result indicated that information technology in banks is very
important for property comparability in the four banks in particular and in bank industry in Jordan in general.

Study results reject the fourth sub hypothesis (H0), which states: There is no statistically significant impact of the use of information technology to property consistency. This result indicated that information technology in banks is very important for property consistency in the four banks in particular and in bank industry in Jordan in general.

In general, all study hypotheses are rejected according to the study results, which mean that there is a statistically significant impact of information technology on accounting inputs, accounting process, accounting outputs, difficulties. Also all sub hypotheses are rejected according to the results of the study, which mean that there is a statistically significant impact of information technology on relevance, reliability, comparability and consistency as it shown in the next point, the alternative hypothesis.

5.3.2 The Alternative Hypotheses

The study results related to test null hypotheses show that these results reject the first main hypothesis, reject the second main hypothesis, reject the third main hypothesis, reject the fourth main hypothesis, and reject all sub hypotheses. Reject any hypothesis mean accept the alternative hypothesis which written in the form of proof to hypothesis of a statistically significant impact of information technology on the efficiency of accounting inputs, accounting process, accounting outputs, difficulties. The following results show the alternative hypothesis:

F value equal (540.852) and significant value is.000 which is less than $\alpha \leq 0.05$ at confidence internal equal 95%, which means there is a statistically significant impact of information technology on the efficiency of accounting inputs in the Jordanian commercial banks, which is the alternative hypothesis. This indicated that information technology have a positive relationship with efficiency of accounting inputs in the four banks in particular and in Jordanian commercial banks in general.

F value equal (718.003) and significant value is.000 which is less than $\alpha \leq 0.05$ at confidence internal equal 95%, which means there is a statistically significant impact of the use of information technology on the efficiency of accounting process in the Jordanian commercial banks, which is the alternative hypothesis. This indicated that

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information technology have a positive relationship with efficiency of accounting process in the four banks in particular and in Jordanian commercial banks in general.

F value equal (409.186) and significant value is .000 which is less than α ≤ 0.05 at confidence interval equal 95%, which means there is a statistically significant impact of information technology on the efficiency of output accounting in commercial banks of Jordan, which is the alternative hypothesis. This indicated that information technology have a positive relationship with efficiency of accounting outputs in the four banks in particular and in Jordanian commercial banks in general.

F value equal (35.384) and significant value is (.000) which is less than (α ≤ 0.05) at confidence interval equal 95%, which mean there is a difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks, which is the alternative hypothesis. This indicated that applying information technology in the four banks in particular and in Jordanian commercial banks in general have difficulties.

F value equal (362.564) and significant value is .000 which is less than α ≤ 0.05 at confidence interval equal 95%, which mean there is a statistically significant impact of the use of information technology to the relevance property, which is the alternative hypothesis. This indicated that information technology have a positive relationship with relevance property in the four banks in particular and in Jordanian commercial banks in general.

F value equal (375.544) and significant value is .000 which is less than α ≤ 0.05 at confidence interval equal 95%, which means there is a statistically significant impact of the use of information technology on the property reliability, which is the alternative hypothesis. This indicated that information technology have a positive relationship with property reliability in the four banks in particular and in Jordanian commercial banks in general.

F value equal (319.878) and significant value is.000 which is less than α ≤ 0.05 at confidence interval equal 95%, which mean there is a statistically significant impact of the use of information technology on the property comparability, which is the alternative hypothesis. This indicated that information technology have a positive relationship with property comparability in the four banks in particular and in Jordanian commercial banks in general.
F value equal (383.904) and significant value is 0.00 which is less than α≤ 0.05 at confidence internal equal 95%, which means there is a statistically significant impact of the use of information technology to property consistency, which is the alternative hypothesis. This indicated that information technology have a positive relationship with property consistency in the four banks in particular and in Jordanian commercial banks in general.

5.4 Conclusion

The present research is mainly intended to examine the impact of information technology on the efficiency of accounting in commercial banks of Jordan. In general, the study argues that there is a statistically significant impact of information technology on the efficiency of accounting inputs, accounting process, accounting outputs in the Jordanian commercial banks; the study also argues that there are difficulties in the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks, which is the alternative hypothesis. Also the study argues that there is a statistically significant impact of the use of information technology to the relevance, reliability, comparability and consistency.

The study reported that employees in Jordanian commercial banks have positive attitudes toward information technology, the employees agree that bank is using information technology in accountancy, and using a developed and appropriate accounting software for accounting operations. The employees in Jordanian banks also agree that bank is using a developed and appropriate data basis for accounting operations and for customers' size, and using developed and adequate technological tools that can efficiently perform the accounting operations.

The study indicated that employees in Jordanian commercial banks have positive attitudes toward efficiency of accounting variables, therefore, employee in Jordanian commercial banks have positive attitudes toward accounting inputs, the employee agree that accounting events are recorded by using information technology in accordance with the generally accepted accounting principles (GAAP), and accounting events can be recorded accurately by using the information technology, also the employee agree that specifying authorities elements are available for accounting data entry in light of using information technology, and ongoing
developments in the field of information technology is considered to enter financial data efficiently.

It is noted that with the increasing use of information technology in the world, many banks have worked to take advantage of electronic data processing, so that the information technology has become a part of the bank’s environment and especially the computers, and because they continue with impact of information technology on the various operations of the bank and address data, this encourage bank’s management to keep up with this developments.

The employees in Jordanian commercial banks believe that information technology used in accounting can cope with the diverse activities of the accounting events, and information technology helps in reducing the number of bank clients through allowing the client to insert some operations on his account electronically. The employees also believe that inserting information technology in the field of accounting to achieve a competitive advantage for banks, also the use of Information technology leads to improve the accounting services provided to customers and beneficiaries.

The study shows that employees in Jordanian commercial banks believe that they have positive attitudes toward accounting processes, the employee believe that client can make transfer between accounts electronically, and bank can complete the accounting operations quickly and accurately by using information technology in the field of accounting.

The employee agree that database used in the bank have a high capacity (storage, retrieval, deletion, display and printing), and the used computerized accounting software can easily, accurately and speedily accomplish operations. Also the use of Information technology in the field of accounting leads to the integration and interdependence between the accounting processes of data entry and even access to information, the employees agreed that computerized accounting system can deal with any changes in the internal policies of the bank.

According to the results of the study, employees in Jordanian commercial banks have positive attitudes toward relevance, they agree that information technology used in the field of accounting, contributes to provide quick feedback to help in making decisions optimally, and the employee believes that customers and beneficiaries can get the of accounting information through the Internet in a short time, also information
technology used in the field of accounting, contributes to provide quick feedback to help in making decisions optimally, and information technology provides the possibility to get accounting information quickly and timely.

The study reported that employee in Jordanian commercial banks have positive attitudes toward reliability, the employee agree that using information technology, accounting information is complying with the requirements of decision makers, and use of information technology leads to the lack of fake or false information. The employees in Jordanian banks believe that beneficiaries can rely on accounting information and trust it in light of the use of information technology. Also by using information technology the necessary protection for accounting information will be available.

Employees in Jordanian commercial banks have positive attitudes toward comparability, the study believes that measurement and disclosure mechanisms of accounting adopted by the bank on the internet, and measurement and disclosure policies related to currency exchange, also measurement and disclosure policies related to facilities granting.

The study also reported that employee in Jordanian commercial banks have positive attitudes toward consistency. The employees agreed that information technology helps on the stability measurement and disclosure policies relating to currencies exchange, and information technology helps in the stability measurement and disclosure policies relating to interest, also we can say that employees agreed that information technology helps on the stability measurement and disclosure policies relating to facilities granting, and information technology helps in the stability measurement and disclosure policies relating to warranties. In general, information technology helps in the stability of accounting policies in presenting accounting information.

Employees in Jordanian commercial banks have positive attitudes toward difficulties, the employees believe that there are many difficulties faced by banks, the employees believe that cost of investment in the information technology field of accounting is very high, and correlation of the evolution of information technology used in the development of human capabilities banks. The employees agree that one of difficulties is workers in the field of accounting do not have the necessary competence.
to use information technology and keep up with evolution, also unavailability of private financing using information technology in the field of accounting.

Employee in Jordanian commercial banks believe that from the difficulties faced by banks, is the high cost of the use of information technology in the field of accounting compared with usefulness, and not conviction the administration using sophisticated information technology in the field of accounting.

We conclude that information constitutes a strategic resource for modern banks, and must be provided with the required specifications in terms of accuracy, confidence, concentration, time, and banks have to use it in appropriate way, and this shows how the importance of information technology in the banking system, which is the task of providing this information to all administrative levels of the organization. The use of the system indicates the extent to which the beneficiaries are dependent on the output of information for the information systems in the performance of their duties, and measured the level of use through a number of times of use, and time spent in. Information technology in banks is designed to generate the outputs of the beneficiaries, the lack of use means no use of them in the making decisions and this means failure.

Using information technology in the four banks in particular and in Jordanian commercial banks in general reflect the extent of development in the banks, and various equipment owned by the information technology and other means, which aims to increase the quality of services offered to customers, in addition to achieving growth rates, in the works of the various bank, at the local and international level.

It has been shown that development and construction of a good information system in banks, is directly related to the development and growth of the work of these banks, it has become a need for information and analysis process using information technology software, in order to have basic requirements for survival and competition in the market, because banks are very active part of economy and affect many sectors that have great financial dealing with banks to finance production, trade, constructions, tourism, and many other investments.

Information technology have important role in all areas, where information systems are developed rapidly, and numerous applications in all administrative, accounting and financial levels in the banks, these systems have been used in the operational
levels and technically and strategy, information technology provides many advantages, through the availability of important information for all users in the bank. The information produced by the systems, which are a major source of the bank's resources on its various forms, it is the main reference for the financial decisions, whether the decisions of operation or investment or financing, as these decisions contribute to raising the bank's performance and achieve competitive advantage positively reflected in the market value of the bank.

5.5 Suggestions

5.5.1 Specific Suggestions

Banks that have been studied need to be more interested in information technology used by bank's, so it will be suitable for the purposes of the bank, through its compatibility with the operational and day to day operations, in order to make banking services easier for the bank's customers, thereby increasing efficiency.

Accounting inputs for banks are important. Therefore it should create a comprehensive system to deal with how bank can achieve balanced in banking industry accounts in efficiency way, which led to operation on competitiveness economy.

Accounting output should include many aspects like relevance property, reliability property, comparability property and consistency property, which are expected to improve the efficiency of annual financial results of these banks.

Banks should consider many points in the annual plans such as using software for accounting operations, taking in consideration that all accounting software are appropriate for banking industry accounting, and use of appropriate data basis for accounting operations, which suit to bank customers.

Banks should match between accounting processes of data entry and even access to information, and for that banks should design an information system harmonized with new technology, by making revision for this system specifically.

Increase attention to information technology indicators of success, by improve the degree of use of these systems in banks to raise the level of success of these systems, which support the banks in evolution.
Banks should focus on user satisfaction index related to information technology in banks. This will help to indicate employees impact on the development of work from the point of view of users, which will improve the level of the existence of users satisfaction of these systems by identifying and periodically to the extent of their conviction and satisfaction with the accounting information system in general, and measure the level of this dissatisfaction, in order to meet the desires and needs of the system reflected in a positive way.

Information technology in banking industry should carefully be planned and designed, installed, managed and improved in order to meet changing demands. Banks showed develop information technology by emphasizing five basic phases including: planning, analysis, design, implementation, and support, in order to match between information system and accountant performance.

Banks need to create and design of an information technology in the banking system, the provision of public service staff needs information in a timely fashion, and assists in the establishment of administrative processes, and through the provision of computer hardware which help meet the information needs of the system.

Banks should pay attention to the training for employees, especially for whom responsible of information technology system, which help in development and keeping up with all that is new.

Banks need to know the problems and constraints that adversely affect the application of information technology in the banking system.

Banks should work on using information technology at the same level of technology and update it annually, those banks can have in the case of merger for example, integration and full of knowledge between employees and system applied in each bank.

5.5.2 General Suggestions

Jordanian banks should ensure more information system development and use in core of any plan they establish, bank's internal policies and should focus on efficient use of information technology.

Attention should be paid by Jordanian commercial banks for top management to use information technology to perform multiple planning functions and control, which
will help in decision-making process. Thus banks would be able to perform more effectively as the decision-making and planning processes need information, and this information can be provided by an effective information system.

Jordanian banks should take into consideration what information technology contributes in reducing costs by reducing the cost of the use of books and documents and also reducing the number of staff in the field of accounting. Bank can thus be more dependence on information technology.

The main goal of use of information system software should be to rectify mistakes quickly and easily, this can help save time and more efficiency.

Jordanian universities that teach financial and accounting management should apply a training program for the students in information technology practically, and this training should be in the banks, so that students can get sufficient experience in the use of information technology programs.

Jordanian banks need more orientation towards the fields and use all tools of comprehensive banking, e-banking within the scope of non-price competition as this has a positive advantages for either banks or clients.

Banking industry need to develop performance measures and the development of rules of information technology systems in enterprises, this need to segregation of duties between people working in the use of information technology tools environment.

When applying, supervise and corresponding process on information technology system use in banks, we need to pay attention to conduct a timely correction of errors, if any, tools, and modify and make sure of the validity of the amendment.

Government should encourage use of information technology application in banking sector, because it has many accounting effects, both on the economic unit level or at the national level, for the economic unit will be for information technology impact on the applicable banking systems are considered as models for the development and implementation of comprehensive quality leads applied to the operating speed and precision and quality in addition to its minimization cost TQM, and for the national level, it has many of the accounting effects, both on the value-added or national income and national spending.
5.6 Future Research Directions

The study focuses on the impact of information technology on the Accounting efficiency in the Jordanian commercial banks. The researcher has selected four banks which include the Housing Bank for Trade & Finance, Arab Bank PIC, Bank of Jordan PLCB, and Cairo Amman Bank. Thus, a wide scope is available for further research in respect of banking sector of Jordan. Further research can be conducted on multinational bank such as Arab Bank which large has a number of branches over all Middle East region and some countries of the world.

The study covers only commercial banks in Jordan, in Jordan and Islamic countries there are two kinds of bank related to financial operation i.e. which is Islamic Banks and commercial banks. Further, research can be conducted on Islamic Banks, especially at this time when Jordan have about four Islamic banks, which provide there financial services to customers according to Islamic principles, and its worth to examine if there is any statistically significant impact of the use of information technology on the efficiency thereat.

Further, research can be conducted on the impact of the use of information technology on the efficiency from bank’S customers’ point view; or we can examine customer satisfaction about using information technology on banks, because this help to design information technology that met the need of customers and employees who use this system at the same time.

Summary

The fifth and the final chapter is devoted to a critical examination of the interpretation in order to draw logical conclusions. The outcome has its bearing on the hypothesis which is tested positive or negative. Based on the conclusions, the recommendations have been more. A pragmatic practical and long-range view has been taken for fixation of the negative aspects emerging through this study and the corrective suggestions have been made to overcome them accordingly.
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https://www.google.jo/search?q=information+technology+in+banks

on ing_in&article_id=article_1173385201144 Accessed: 15/10/2010


Association of Banks of Jordan (ABJ)


Appendix
APPENDIX

QUESTIONNAIRE

Dear Respondent

Greetings:

The researcher is conducting a study entitled "The Impact of Information Technology on the Accounting Efficiency of Commercial Banks in Jordan – A Case Study of Selected Jordanian Commercial Banks’", as a complementing the requirements for obtaining the (PHD) of commerce / accounting.

So, I hope that you will cooperate by answering all attached paragraphs of the questionnaire, by placing (×) signal in the right place for every paragraph according to the degree of your agreement with the content of the paragraph from your point of view. Note that the information will be obtained will be treated confidentially and will only be used for the purposes of scientific research.

Thank you for your cooperation...

Researcher
Feras Izzat Kasasbeh
First Part – the demographic characteristics of the study sample:

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Diploma</th>
<th>Bachelor</th>
<th>M.A.</th>
<th>PhD</th>
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<td>Major</td>
<td>Accountant</td>
<td>Business Management</td>
<td>Finance</td>
<td>Other</td>
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<tr>
<td>Experience</td>
<td>Less than 5 years</td>
<td>6-10 years</td>
<td>11-15 years</td>
<td>16 years and more</td>
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<td>Job Title</td>
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<td>Manager assistant</td>
<td>Head of Department</td>
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<tr>
<td>Professional Certificate</td>
<td>CPA</td>
<td>JCPA</td>
<td>CMA</td>
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Second Part:

This part is specialized on using information technology in the banks:

<table>
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<tr>
<th>No.</th>
<th>Contents of the paragraph (factors)</th>
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<tr>
<td>1</td>
<td>The bank is using information technology in accountancy</td>
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<td>2</td>
<td>The bank is using a developed and appropriate accounting software for accounting operations</td>
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<td>3</td>
<td>The bank is using a developed and appropriate data basis for accounting operations and for customers’ size.</td>
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<td>4</td>
<td>The bank is using a developed and adequate technological tools can efficiently perform the accounting operations</td>
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<td>5</td>
<td>There are an efficient employees in the bank can deal with the computerized accounting system</td>
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<td>6</td>
<td>The infrastructure of the bank being able to use information technology and keep up with the ongoing developments in the field of computerized accounting</td>
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<td>7</td>
<td>The bank’s internal policies help to use information technology efficiently</td>
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</table>
### Third parts

1- The impact of information technology on the efficiency of the accounting inputs:

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<tr>
<td>Accounting events can be recorded quickly by using the information technology</td>
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<tr>
<td>Accounting events can be recorded accurately by using the information technology</td>
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<tr>
<td>Using information technology in the field of accounting leads to reduce the routine procedures when recording accounting events</td>
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<td>Mistakes can be treated quickly and easily if they occur when inserting the accounting data by information technology</td>
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<tr>
<td>Information technology contributes in reducing costs by reducing the cost of the use of books and documents, and reducing the number of staff in the field of accounting</td>
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<td>Computerized accounting helps in accommodating a large number of bank dealers and in the covered activities</td>
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<td>Information technology used in accounting can cope with the diverse activities of the accounting events</td>
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<td>Accounting events are recorded by using information technology in accordance with the generally accepted accounting principles (GAAP)</td>
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<td>Information technology helps in reducing the number of bank clients through allowing the client to insert some operations on his account electronically</td>
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<td>Inserting information technology in the field of accounting to achieve a competitive advantage for banks</td>
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<td>The use of Information technology leads to improve the accounting services provided to customers and beneficiaries</td>
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2- The impact of information technology on the efficiency of the accounting processes:

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<th>Contents of the paragraph (factors)</th>
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<th>Strongly Disagree</th>
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<tr>
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<td>The bank can complete the accounting operations quickly and accurately by using information technology in the field of accounting</td>
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<td>2</td>
<td>Database used in the bank have a high capacity (storage, retrieval, deletion, display and printing)</td>
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<tr>
<td>3</td>
<td>The used computerized accounting software can easily, accuracy and speed accomplish operations</td>
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<td>4</td>
<td>The use of Information technology in the field of accounting leads to the integration and interdependence between the accounting processes of data entry and even access to information</td>
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<td>5</td>
<td>The computerized accounting system can deal with any changes in the internal policies of the bank</td>
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<td>6</td>
<td>Using information technology in the field of accounting leads to efficiently tapping the recorded data</td>
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<td>7</td>
<td>Used information technology helps in treating the computerized accounting operations and summarizing them quickly and accurately.</td>
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<td>8</td>
<td>Used information technology helps in analyzing accounting operations and in issuing the reports with high efficiency.</td>
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<td>Used information technology helps in processing all different accounting operations with high efficiency.</td>
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<td>The bank is using a set of control procedures to ensure the integrity of electronic data and electronic operation to detect errors when occur.</td>
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<td>Information technology used in the Bank can efficiently process all operations pertaining to customer accounts.</td>
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<td>Information technology used in bank can efficiently process all of transactions involving loans and amendments.</td>
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<td>Information technology used in bank can efficiently process all operations pertaining to the benefits quickly and efficiently.</td>
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<td>Information technology used in bank can efficiently and quickly process all bank transactions involving letters of credit.</td>
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<td>Information technology used in bank can efficiently and quickly process all operations pertaining to e-commerce quickly and efficiently.</td>
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<td>Accounting data is processed by using information technology according to the adopted accounting policies by the Bank.</td>
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<td>Accounting data is processed by using information technology according to the International financial reporting standard (IFRS).</td>
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<td>The client can make transfer between accounts electronically.</td>
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<td>The use of Information technology in the field of accounting leads to not overlap and conflict between the goals and procedures of accounting.</td>
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</table>

3- The impact of information technology on the efficiency of the accounting outputs (accounting information), it will be measured through the qualitative characteristics of accounting information, which are (relevance, reliability, comparability and consistency):
(3-1) The impact of information technology on relevance characteristic:

<table>
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<th>No.</th>
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<tbody>
<tr>
<td>1</td>
<td>accounting information are delivered in a short time by using information technology</td>
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<td>2</td>
<td>The bank can complete most of the accounting procedures for the client electronically in a short time</td>
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<td>3</td>
<td>The bank can use the information technology to provide the desired information to the beneficiaries and to exclude the secondary information</td>
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<td>4</td>
<td>Extracted reports by using information technology are appropriate to the needs of the bank</td>
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<td>5</td>
<td>To e-accounting system responds the bank customer service in a short time</td>
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<td>6</td>
<td>Customers and beneficiaries can get the of accounting information through the Internet in a short time</td>
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<td>7</td>
<td>Information technology used in the field of accounting, contributes to provide quick feedback to help in making decisions optimally</td>
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<td>8</td>
<td>Information technology provides the possibility to get accounting information quickly and timely</td>
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<td>9</td>
<td>Accounting information which provided by the bank are always correct</td>
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<td>10</td>
<td>Accounting information provided by the bank under the Information technology is enough to beneficiaries</td>
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(3-2) The impact of information technology on reliability characteristic:

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<th>Contents of the paragraph (factors)</th>
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<tr>
<td>Information technology used in the field of accounting contributes in expressing the accounting information required truthfully</td>
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<td>Accounting information is characterized with enough objectivity by using information technology</td>
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<td>By using information technology, the accounting information characterized with neutrality and impartiality</td>
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<td>The use of information technology leads to the lack of fake or false information.</td>
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<td>The beneficiaries can rely on accounting information and trust it in light of the use of information technology</td>
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<td>By using information technology the necessary protection for accounting information will be available</td>
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<td>Computerized accounting measurement methods (neutrality)</td>
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<td>Bank accounting procedures using information technology (neutrality)</td>
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<td>Bank's accounting policies are using information technology neutrality</td>
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<td>By using information technology, accounting information is complying with the requirements of decision makers</td>
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(3-3) The impact of information technology on comparability characteristic:

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<th>Strongly Disagree</th>
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<tbody>
<tr>
<td>1</td>
<td>By using information technology in the field of accounting, bank provides a comparable accounting information with other banks and with the same bank for prior periods through:</td>
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<td>2</td>
<td>Measurement and disclosure policies related to loans</td>
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<td>3</td>
<td>Measurement and disclosure policies related to the customers accounts</td>
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<td>Measurement and disclosure policies related to interest</td>
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<td>5</td>
<td>Measurement and disclosure policies related to documentary credits</td>
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<td>Measurement and disclosure policies related to facilities granting</td>
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<td>8</td>
<td>Measurement and disclosure policies related to warranties</td>
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<td>9</td>
<td>Measurement and disclosure mechanisms of accounting adopted by the bank through ATMs</td>
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<td>10</td>
<td>Measurement and disclosure mechanisms of accounting adopted by the bank on the internet</td>
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<td>11</td>
<td>Compatibility of the accounting policies adopted by the Bank with the technological development</td>
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</table>
(3-4) The impact of information technology on consistency characteristic:

<table>
<thead>
<tr>
<th>Contents of the paragraph (factors)</th>
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<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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</thead>
<tbody>
<tr>
<td>Information technology helps on the stability measurement and disclosure policies relating to the customers accounts</td>
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<td>Information technology helps on the stability measurement and disclosure policies relating to documentary credits</td>
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<td>Information technology helps on the stability measurement and disclosure policies relating to loans</td>
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<td>Information technology helps on the stability measurement and disclosure policies relating to currencies exchange</td>
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<td>Information technology helps on the stability measurement and disclosure policies relating to interest</td>
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<td>Information technology helps on the stability measurement and disclosure policies relating to (facilities granting)</td>
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<td>Information technology helps on the stability measurement and disclosure policies relating to warranties</td>
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<td>Information technology helps on the stability of accounting policies in presenting accounting information</td>
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<td>Information technology helps on the stability of accounting policies and keep pace with the ongoing developments</td>
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4- Difficulties limit the application of information technology to improve the efficiency of accounting in the Jordanian commercial banks.

<table>
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<tr>
<th>No.</th>
<th>Contents of the paragraph (factors)</th>
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<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The cost of investment in the information technology field of accounting is very high.</td>
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<td>Correlation the evolution of accounting information systems used in the development of human capabilities banks.</td>
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<td>3</td>
<td>Workers in the field of accounting do not have the necessary competence to use information technology and keep up with evolution.</td>
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<td>4</td>
<td>Unavailability of private financing using information technology in the field of accounting.</td>
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<td>5</td>
<td>Resistance bankers to use sophisticated information technology in the field of accounting.</td>
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<td>6</td>
<td>The high cost of the use of information technology in the field of accounting compared with usefulness.</td>
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<td>7</td>
<td>Not conviction the administration using sophisticated information technology in the field of accounting.</td>
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</tbody>
</table>

If there is anything else that you would like to tell us, please use the space provided below.

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Thank you for your cooperation