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**An Assessment of the Impact of IT on Accounting Information
Systems: An Empirical Study of Listed Banks in Jordan**

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DEDICATION

I dedicate this work to king of Jordan.

Majesty King Abdullah.

I dedicate this work to my lovely father and mother. Abu Ghassan and Om Ghassan.

To my brothers and sister.

Ghassan, Adnan, Ahmad, Mahmoud, Radwan and Raida.

In addition, I dedicate this work to my best friend. Dr. Ahmed Dawoud Alrashed.

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Richard Branson says “his biggest motivation is to keep challenging himself. He treats life like one long university education, where he can learn more every day”.

I am extremely grateful to all who stood by me throughout my educational career. I am highly indebted to my late lovely Mum and Dad, whose prayer and good deeds have always brought joy, blessings, and happiness to me in all my endeavors. Indeed, they were good parents in all respects. I am sure I cannot repay the huge moral, financial, social, material and spiritual debt I owe my wider family. The assistance, support and encouragement of Dr. Ahmed Dawoud family are second to none in my life. My sincere appreciation and gratitude go to my brothers. I thank you all.

I know I cannot be who and where I am today, without my **Godfather** - Mr. Hussam Dyraniah, whom it pleases Almighty Allah to use for part of His work. Despite her commitments, she took special interest in me and shared my dreams. She consistently took pain to advise, encourage, and motivate me from my secondary school days up to this stage; my words of thank you do not convey well my deep emotional gratitude to you for single handedly sponsoring my university education; thus, laying the foundation for this Doctoral degree. Indeed, you deserve an honorary doctorate in selflessness and dedication to Humanity. May Allah in His infinite mercies continue to shower His blessings on you and your household.

Glossary of Terms

List of Acronym:

ABC: Activity Based Cost

ABM: Activity Based Management

ADSL: Asymmetric Digital Subscriber Line

ADSL: Asymmetric digital subscriber line

AIM: Application Implementation Theory

AIM: Applications Implementation Methodology

AIS: Accounting Information System

ANNOVA: Analysis of variance

ASE: Amman Stock Exchange

ATM: Automated Teller Machine

Bo: Constant

BLOM Bank: Banque du Liban et D'Outre Mer

CBJ: Central Bank of Jordan

CBoJ: Capital Bank of Jordan

CFO: Chief Financial Officer

CISA: Certified Information Systems Auditor

COBIT: Control Objectives for Information and Related Technologies

COSO: Committee of Sponsoring Organizations of the Treadway Commission

CPA: Certified Public Accountants

CPM: Corporate Performance Management

CPU: Central Processing Unit

CRISC: Certified in Risk and Information Systems Control

CSR: Corporate Social Responsibility

DBA: Database administrator

DF: Degree of Freedom

EPS: Earning Per Share

ERP: Enterprise Resource Planning

F in ANNOVA: Variation in Sample Means

FASB: Financial Accounting Standards Board

FIS: Fidelity Information Services

GAAP: Generally Accepted Accounting Principles

GCP: General Control Procedure

GDP: Gross Domestic Product

IBA: Integrated Business Applications

ICT: Information and Communication Technology

IFAC: International Federation of Accountants

IFRS: International Financial Reporting Standards

IS: Information System

ISACA: Information Systems Audit and Control Association

ISAM: Indexed sequential access method

ISDN: Integrated Services Digital Network

IT: Information Technology

JIB: Jordan Islamic Bank

JSC: Jordanian Securities Commission

LAN: Local Area Network

MAN: Metropolitan Area Network

MAS 90: Master Accounting Series

POS: Point of Sale Terminals

R Square: Proportion of Variation

R&D: Research and Development

RAM: Random Access Memory

ROA: Return on Assets

ROE: Return on Equity

ROI: Returns on Investment

SAP: System Application and Product

SE: Standard Mean

SIG: Relationship between two or more variables

SMEs: Small and Medium Enterprises

SMS: Short Messaging Services

SOX: Sarbanes-Oxley

SPSS: Statistical Package for Social Sciences

SQL: Structured Query Language

UTAUT: Unified theory of Acceptance and Use of Technology

VIF: Variance Inflationary Factor

WAN: Wide Area Network

X1: Hardware

X2: Databases

X3: Telecommunication networks

XBRL: eXtensible Business Reporting Language

ABSTRACT

The research theme is based on the impact of IT on the effectiveness of AIS that aims to define the effective performance management in the banks of Jordan. The research has been conducted on the banks in Jordan to know the functions of AIS and the impact of IT on AIS to turn the collected data into valuable and reliable information. The IT used in an organization determines the quality of the AIS for accounting purposes. AIS are capable of converting business data into valuable information for the purpose of decision making, cost reduction, and fulfilling legal reporting obligations.

This study investigated the impact of IT on banks listed on the Jordanian stock exchange, focusing on the hardware, software, and network aspects of IT to determine the qualitative characteristics of AIS that meet the requirements of accounting frameworks. It also determined whether the AIS can distinguish useful information for decision making and its impact on the internal control system that can be used to improve the business management decision making processes. Drawing on accounting theory, the particular qualitative characteristics it focused on are relevance, reliability, consistency, understandability, materiality, objectivity, and comparability of accounting information from IT-based AIS, and whether they provide a faithful representation of business data in AIS to enhance its quality for financial reporting that is consistent with accounting regulatory frameworks.

In order to conduct the research on the impact of IT on the effectiveness of AIS, the quantitative research methodology has been used. Consequently, using a quantitative survey research methodology it was hypothesized that IT has an effect on the relevance, reliability, consistency, understandability, materiality, objectivity, and comparability of AIS for the purpose of accounting. Mean, correlation, regression and ANOVA procedure were applied to the collected data to test the hypotheses of the study. Also measured were the separated functions of banking that need to be connected for accounting purposes, so IT-based AIS need to be capable of integration of business data through the hardware, software, and networks used, such that clients of the banks are satisfied

through effective implementation of services. This investigation has some limitations. In the first place, it was problematical to gauge the level of the authoritative adequacy of the organizations in the banks in Jordan with restricted subjectivity. The scholar depended on survey reactions to gauge the authoritative adequacy of the organizations under investigation. In addition, time was restricted. Maybe other information accumulation strategies, for example, auxiliary information examination and meetings or up close and personal correspondence would have been utilized and the objective populace would have been extended to incorporate more organizations.

The findings confirm the hypotheses about the impact of hardware, software, and networks on the quality AIS, and reveal a conceptual framework drawing on the variables of the tested hypotheses that enable an assessment of the impact of IT on the qualitative characteristics of AIS in terms of relevance, reliability, consistency, and comparability for accounting information. Thus, the research contributes knowledge about how IT has an impact on the quality of accounting information in terms of relevance, reliability, consistency, and comparability. The conceptual framework also enables practitioners to assess the use of IT for AIS and to what extent the use of IT in AIS produces significant cost saving, improves operational performance, and financial disclosure. Crucially, it enables assessment of the impact of IT-based AIS on the internal control systems that can be used to improve decision making and effectiveness of banks in Jordan.

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CHAPTER 1: INTRODUCTION

The IT used determines the quality of the AIS for accounting purposes. (AIS) are capable of converting critical sources of business data and turning it into valuable information for the purpose of decision making and fulfill legal obligations. IT-based accounting information is necessary to provide information about banks that is useful to present and potential equity investors and regulators.

This study investigates and evaluates the impact of IT on banks listed on the stock exchange in Jordan. The focus of the research is on investigating the impact of IT, namely hardware, software, and networks, on the qualitative characteristics of AIS that meet the requirements of existing accounting frameworks. Additionally, the research seeks to understand the impact of IT on the ability of the AIS to distinguish useful information and its impact on the internal control system that can be used to improve the decision-making processes. This study explains the impact of IT on the qualitative characteristics, fundamental qualities, relevance, and faithful representation of business data in AIS to enhance its quality for financial reporting that is consistent with accounting regulatory frameworks.

This chapter provides an introduction to the field of the study and hence to the concept of AIS. This chapter connects and analyses the concept of AIS with IT and its application across banks especially in Jordanian banking industry. For evaluating the scope of this study and analysis brief description of the background to the study along with a pertinent exploration of definition and concepts has been undertaken. Further, a research problem definition with a thorough analysis of various research objectives, scopes and questions has been outlined. There is a brief justification as to why the entire study has been undertaken along with scope for further research. So, this chapter has laid an outline for the entire study.

This brief description allows (AIS) includes Information and Technology systems that allow control and management of organizations' financial arrangements. AIS is used currently from a strategic viewpoint coupled with robust technology to help in decision making. Today's businesses, with-profit or non-profit oriented, needs to maintain an AIS. AIS makes use of data and financial information to converting it into valuable information within an integrative framework that is focused on a company's objectives. The outcome from AIS is to understand strategic priorities by analyzing from varied types of strategic designs for enhancing organizational performance. Benefits of leveraging AIS is in achieving stronger and efficient financial arrangement of the organization. AIS is considered as a subsystem of MIS. To regard accounting as a part of the information system, in 1966 AICPA defined the AIS as an information system and practice of general theories of information in the field of economic activities which is presented in qualitative form (Fifka, 2013). AIS is regarded as very important firm mechanisms that are critical for the efficiency of decisions and internal control of any organization across the world, but more so in Jordan especially, as if they are known to use the different available IT tools it improves companies' credibility. This study develops an understanding of AIS. In particular, IT and AIS perspectives provide a better understanding of financial reporting. It is therefore prudent to consider the veracity of the IT that is applied in the AIS so as to ensure that such IT is capable of producing the expected accounting information which is required in the standards of accounting (Kiser et al., 2015).

Part one of this chapter reviews multiple studies on IT drawn from IT development literature, including hardware, software, and networks. IT enables organizations to have effective intercommunication between the various departments through system interaction.

The first section discusses the development of IT; the second section explores the relationship between IT and conceptual framework of accounting, with a particular focus on reliability and faithful presentation and the international division of information on AIS. The third section discusses recent developments in AIS and the development approach to IT.

There is a shortage of research articles inquiring about the connection amongst AIS and profitability. At the point when the hunt was expanded to distributions relating profitability and IT, numerous examinations bolster the hypothesis that their legitimate utilize expanded firms' efficiency and, hence, had a conclusive impact on firms' performance. All things considered, there is an extensive literature on the connection between IT and efficiency. It examines the IT effect on organization's efficiency and have prompted the supposed profitability.

Jordan companies seek to take advantage of these advances. IT in business efficiency is demonstrated by the bank report distributed by Amman stock exchange of data advances in Banks in Jordan which affirm the low execution in these factors. (ASE, 2017).

As of late, profitability has been lower than that in whatever remains of the primary economies. It has exhibited that IT usage inferred in decline of work time and in this way a decline in expenses and have broken down the effect of interests in IT on the profitability of Jordanian firms and have discovered that in spite of the fact that the organizations in the example experienced some change in efficiency, this change was not fundamentally gotten from IT venture.

1.1 Research Background

AIS utilizes hypothesis and practice from the related field of MIS and software engineering and in addition from accounting, examining, different business disciplines including administration and advertising, and the orders of financial matters, brain research, humanism, reasoning, and history. The significance of AIS is indispensable, given the dependence of accounting and evaluating on electronic data frameworks. The accounting capacity inside associations was among the principal buyer of business registering. Accounting frameworks are an essential application in associations big and small. These accounting frameworks do not work in disengagement since data innovation assumes a pervasive part in all parts of organizations. For sure, leaders progressively get to accounting data frameworks specifically, bypassing accounting and MIS capacities, for motivations behind their own examinations and revealing. Inside these associations, data frameworks and advances are key for esteem and hazard administration, observe upgraded development in the working of answers for accounting and reviewing, and in addition information stores for all authoritative users. Information innovation, obviously, additionally conveys its own hazard to the hierarchical hazard scene and that hazard must be recognized, comprehended, and overseen.

An AIS allows the structure of businesses to make use of collecting, storing, managing, processing, retrieving and reporting of financial data. AIS information is used by consultants, business analysts, accountants, chief financial officers (CFOs), managers, regulators, auditors, tax agencies, and many other internal and external stakeholders. AIS allows company record keeping and financial transactions to be made easily processed and provided to stakeholders that are in need of such data in a secure and intact manner. AIS encompasses significant feature of internal control systems which processes financial information that feeds into the organizational, and strategic decision- making processes (Nicolaou, 2000; Qatawneh, 2012).

IT is a significant driver of AIS, which in the accounting context, refers to hardware, software, and networks (Hamdan, 2012). While empirical work has been done on AIS, there has yet to be an examination of the impact of IT on AIS. A major evaluation of the effectiveness of the AIS of the listed companies on the Tehran Stock Exchange focused on the extent to which AIS improve internal controls and the quality of financial reports (Sajady, et al., 2008). Similarly, the work of Banjar and Chang (2012) was concerned with how information content, accuracy, format, etc. measure the effectiveness of the AIS. More recent work either investigates and critical success factors (Hamden, 2012) and the impact of human factors on the AIS. (Dehghanzed, et al., 2011).

This study investigates and evaluates the impact of AIS in the listed banks in Jordan. It seeks to depict the fact that the most vital results which banks in Jordan rely or depend on the accounting systems is through ensuring that all the banking services of the banks are separately connected to each department, at the same ensuring that clients of the banks are well satisfied through effective implementation of the service with very minimal effect.

AIS is capable of converting valuable sources of data and turning them into valuable information for the purpose of decision making and also for fulfilling legal obligations. AIS has contributed to strategic success by interacting with various variables within the AIS. Therefore, AIS contributes to enhancing organization's performance by leveraging a stronger corporate culture as per changes in the environment. AIS provide an innovative framework for better bank's performance, reducing organizational and financial obstacles for having ease of accessing capital markets. AIS have tremendous capability for delivering external and internal reporting data along with financial statements that impact organization's performance. The several benefits arising from AIS can be concluded as internal controls, decision-making Process, performance evaluation, quality of accounting information and facilitating company's transactions. (Romney, 2013)

There are additionally a few attributes that decide the characteristics that make data profitable. Expenses versus-benefits: Once in a while data costs more to get extra data than the data is worth. Along these lines, money saving advantage considers give and general imperative on the measure of data. Understandability/Granularity/Aggregation: Many elements can add to the understandability of data, including client information, expertise, preparing, and inspiration. Additionally, data outline decisions, for example, its level of conglomeration (or granularity) will influence its understandability, henceforth, its helpfulness for controlling data respectability. For a few purposes, much accumulated data might be called for; while for different purposes, exceptionally definite data might be required. Consequently, fittingly custom-made levels of granularity/total can be empowering influences of data respectability. (Boockholdt, 1999).

An intermediary for the understandability of data is its similarity with user specified requirements. Unwavering quality: the data must be solid, you should have the capacity to depend on its being describing motivation to be (this is known, all the more formally, as representational devotion), also, on its being sensibly free from mistake and inclination (this is known, all the more formally, as impartiality). Moreover, for data to be solid, it should be valid if several distinctive people (or systems) set out to get the data from the information, they would all arrive at a similar conclusion - this is known, more formally, as obviousness. Variable, or not unbiased, or not representationally unwavering it cannot be. It must be acknowledged that total fulfillment and exactness tactical to accomplish. Data Currency is influenced by genuine world well as by data preparing delays) with a proportionate exactness. (Romney and Steinbart, 2017).

It is helpful to distinguish cash/opportuneness and data integrity. Representational reliability of data about elusive data is substantial. The idea of legitimacy implies that data speaks to connections as opposed to attributes of physical articles. In a general setting, conditions, standards or connections are legitimate if what they imply is valid. In a business setting, conditions, business tenets or connections are built up or endorsed by parties with the designated expert to do as such. Accordingly, exchanges are substantial if they were started and executed by work force or frameworks that have conceded the specialist to do as such and if endorsements are true and inside the extent of the expert conceded to the approver. For instance, if as far as possible allotted to a client accommodates to the organization's tenets and strategies used to set credit confines, the credit farthest point would be "legitimate." Thus, the idea of legitimacy incorporates components of both precision and approval. An approval procedure may in this manner require an examination of a singular thing, a connection between one thing and another thing, or a relationship between a thing and a business control, strategy or standard. Fulfillment: Accuracy independent from anyone else is deficient to pass on the full dimensionality of the prerequisites for authentic dependability which requires culmination of data in both space and time. Along these lines, there is a central exchange off between fulfillment and exactness since estimation and preparing restrictions of data preparing frameworks will avert 100% constant fulfillment, particularly for topic that progressions as often as possible. This, thusly, counteracts 100% exactness. In other words, each discourse of exactness is additionally an exchange of fulfillment, and bad habit versa. The measure of data is estimated by the lessening of obliviousness and vulnerability (Iskandar, 2015).

The effectiveness of organization can be defined as ways in which an organization is able to achieve its goals. For a bank, effectiveness can be reflected through multiple parameters that in turn lead to efficiency. Employees within a bank contribute to effectiveness, which arises for experience, skills, rank, motivation and other factors.

Some employees are able to contribute to greater levels of effectiveness compared to others that lead to organizational development with knowledge. Organizational effectiveness is a measure which allows organization in achieving their goals. Organizational effectiveness to the extent is what an organization produces output. Many parameters have been defined to measure organization's effectiveness as profits, growth, productivity, stability, turnover, and cohesion. An organization such as a bank places importance on productivity, efficiency, and quality as integral output variables. From system attributes stress arises on support functions that allow the achievement of these goals. Systems that support goal achievement within the organization are morale, employee satisfaction, and interpersonal skills. (Romney and Stainbart, 2013)

Jordan's financial and banking sector is a considered robust and mature industry. Resilience has been established in face of volatility that helped maintain steady economic growth. The Central Bank of Jordan (CBJ) has provided a major source of strength for banking sector for a pro-growth monetary stance from profits and deposits. The capital market segments have provided average performance as the Amman Stock Exchange (ASE) has been undergoing reform programs. Amongst banking's sector, the financial service industry has a history dating back to 1948 when headquarters of Arab Bank shifted to Amman from Jerusalem. In Jordan, banking services contribute to almost 18% of total GDP making it one of the largest economic sectors in the country. The region in the past had faced tremendous amounts of challenges from volatility in oil prices, regional volatility, slowing down of the GDP growth trends but banking sector continues to depict promising depicting stability attracting investors. Out of 25 total banks operative in the country, only 14 of them are listed on ASE led by Arab Bank, regional institutions as the Kuwait National Bank, Egyptian Arab Land Bank, National Bank of Abu Dhabi, along with Western multinationals as BLOM Bank, Standard Chartered Bank, and Citibank.

The automated accounting standard is framed by combining speculations and guidelines of data innovation, breaking down capacity, modules and structures or the like of existing accounting programming in light of fundamental hypotheses, essential capacity and fundamental systems of manual accounting. (Amman stock exchange annually report, 2017)

The automated accounting standard plays critical parts in performing accounting information handling and accounting data usage for institutionalized electronic data innovation, enhancing the accounting standard and quality, playing accounting capacity, advancing the innovative work of accounting hypothesis and technology. The computerized AIS could accelerate data process and conquer conventional human weaknesses. Use of programming bundle in AIS as mechanized accounting frameworks can enhance in association capacities in exactness, usability, dependability, opportuneness, substance, configuration and fulfillment consequently these variables framework comprises of different thing instrument to expand administration execution and information quality. Economy requires accounting frameworks that can incorporate different exchanges that happen in geologically scattered substances and keep up constancy of mapping when reports are created. Developments in data innovation have given intends to track all exchanges that happen in an endeavor. By guaranteeing that these are followed through the different levels progressively, the budgetary and administrative reports created will meet all the quality prerequisites. Data innovation and AIS are key elements for end of time and area impediments, enhanced and quick access to data, up to information data, along these lines it implies making AIS and programming setup by perceived organizations changes work strategies and gives an electronic base rather than paper. By create in thorough preparing projects to get the adequate learning in accounting data framework execution and the imperative of information quality administration can improve execution in the association consequently accounting programming by occurring in the new prudent condition can serves better budgetary data which more dependable, pertinence and tantamount. (Kieso et al., 2016)

The ASE was established in the year 11th of March, 1999 as a government-owned independent exchange regulated by JSC. It started operating with 228 listed companies along with market capitalization worth JD18bn. there are varied types of securities traded on the ASE as right issues, bond issues, stocks along with bond market products of Treasury bills and bonds. Pro- growth monetary policies by the CBJ had been instrumental in reducing interest rates and providing competitive move within the sector to support growth.

Reduction in interest rates has allowed these banks to forward the benefits across to customers impacting growth within credit facilities offered by the banks. Several statistical factors have attributed to the growth and stability of these banks within the finance sector. SME lending has been greatly advanced by these banks by offering numerous products to small businesses. Several initiatives as internal and external structuring have been adopted across by banks in Jordan to ensure that they contribute positively towards economic growth and stability.

Performance driven strategies have been the key that has led growth in the banking sector. Each bank had been focused on internal strategizing such that they can focus on areas where they lack performance. The banks had immense capital capabilities to extend their services and products to various segments of customers as corporates, SMEs, retail and so on.

Managing such intensive information and converting them into data requires the inclusion of capable information systems. Amongst various contributors to performance AIS was found to one of the key contributors that could impact organization's performance. (Romney & others, 2016).

There is needed at times of global crisis continuous evaluation of performance such that goals regarding decision-making can be achieved successfully. Finance and economic reality of banks are the bottom lines of business that provides stability within the economic environment. During the recent global crisis, there had been no evaluation pertaining to the financial performance of banks that can impact their decision-making pertaining to a portfolio. (Abu Nassar, 2017).

Continuous financial evaluation in banks can reveal deeper information avoiding situation of greater financial collapse as has been experienced in the US. AIS can reveal high-quality information for managers and decision makers throwing open any possibility of resolving issues and challenges faced by banks. Reviewing such data and information can help attain greater profitability for banks by equipping managers with computerized accounting information that can meet demands of various departments. It enables administrative efficiency within the bank by contributing valuable information that can lead to the success of the bank. The background to the topic hence establishes to link AIS to bank's profitability and stock prices. Further application of AIS with enhancing and applying customer satisfaction in banks can be undertaken. Analysis pertaining to applying AIS and improving the competitive advantage of banks is studied or in improving customer's perception regarding the bank. The major function of any AIS for any organization is, therefore, to ensure that there is assigning of the qualitative value of not only an organization's past but also in its present as well as future economic actions. Client retention is another variable that can be impacted by accommodating AIS along with enhancing customer conversion. Overall, there are various benefits of AIS that have been discussed in literature review known to impact performance in banks. (Abd Alrazaj, 2014)

Amid the whole history of business, accounting display has been named the essential formal data framework, on which administration choices were based. It was uncommon reason (specially appointed) data framework that has been produced throughout the years to meet specific data needs. At the starting, AIS was a straightforward framework for recording budgetary execution of administration. Afterward, embracing figuring procedure has driven AIS to be seen physically, as a structure of accounts giving routine system to report consequence of preparing exchanges of business association. The presentation of data innovation has started a debated about fixated on the embodiment of accounting and how AIS is influenced by the utilization of another innovation.

Motorization of incompetent and routine accounting forms inside the accounting preparing model has come because of another innovation. The touchy development in data innovation and the longing of business associations to get aggressive advantage, have prompted seismic moves in the accounting preparing model and have set off the improvement of better approaches to process, store and convey accounting information. Data innovation has made the current AIS should be looked into in the light of new accounting preparing model. (Kieso et al., 2016)

The conventional accounting applied model has concentrated on substantial resources, for example, stock and settled resources (the benefits of industry transformation). All together for the new business associations to proceed with, another arrangement of data and a new calculated model are required. AIS needs amendment for the execution of learning associations and the new model ought to be ready to gauge new cost things of items, for example, R&D, scholarly resources and administrations.

Data innovation has presented another plan of action with various money related announcing dangers. Calculated model of AIS ought to be adjusted to reflect the new model in the budgetary proclamations. Worldwide rivalry, decentralization, and ascent of knowledge-based resources have changed the AIS accentuation from cost control to cost decrease and from vertical to level. Indeed, even one of accounting's generally treasured standards (to coordinate salary with consumption) is attempting to adapt. The main reason for this paper was to explore how data innovation has changed AIS and how this change varied by advancement level of data innovation. A reason was to evaluate effect of data innovation on basic plan variables of AIS. Lastly, the third design innovation was to show effect of data. (Alrabai, 2014).

1.2 Aims& Objectives of the Research

1.2.1 Aim of the Research

This study aims to assessment the impact of IT, specifically hardware, databases and networks, on the effectiveness of AIS of the banks in Jordan in terms of providing relevant, reliable, consistent, and comparable accounting information that is consistent with accounting frameworks.

The aim of this study is to evaluate the impact of IT in the listed banks in Jordan. It seeks to depict the fact that the most vital results which banks in Jordan rely or depend on the accounting information systems is through ensuring that all the banking services of the banks are separately connected to each department, at the same ensuring that clients of the banks are well satisfied through effective implementation of the service with very minimal effect.

1.2.2 Research Objectives

The research objectives cover the role of (IT) in the (AIS) as follows:

- To critically examine the impact of (IT) on the qualitative characteristics of (AIS), namely relevance, reliability, consistency, understandability, materiality, objectivity, and comparability for accounting information.
- To assess the use of (IT) in (AIS) produces significant cost saving, improves operational performance, and financial disclosure.
- To identify the impacts of AIS in banks in Jordan through the help of set standards.
- To measure the impact of IT on financial and accounting data processing in banks in Jordan.
- To effectively manage the accounting information and data of customers by using AIS in banks.
- To analyze the impact of AIS in order to minimizing the costs in banks in Jordan.

1.2.3 Research Questions

This study empirically investigates the following questions:

Q1. What are the major impacts of hardware, software and networks in the effective use of AIS?

Q2. Define the ethical approaches of the AIS in the banking system to make better decisions?

Q3. Explain the vital roles of IT in AIS in terms of security of all financial data?

Q4. What is the role of IT in AIS to manage the internal and external financial data?

1.2.4 Research Hypothesis

Following hypothesis shows that the banks in Jordan are highly impacted by the use of AIS in their working. It also states the importance of IT (hardware, software and networks) as a significant tool which is used by the banks in Jordan followed by efficiency in terms of technology advances.

H₁: IT has a significant impact on the qualitative characteristics of the AIS.

H₁: AIS in the banks of Jordan is influenced by the technological advancements.

H₁: The banks of Jordan use IT for their banking management and improving their financial performance.

1.3 Justification for the Research

The research is necessary to understand the role of AIS in banks in Jordan. Since there is the first time according to the researcher's knowledge of the Jordanian context, examining the extent to which IT, specifically hardware, software, and networks, has impacted the effectiveness of the AIS. IT enables organizations to have effective intercommunication between the various departments through system interaction.

There have been multiple studies in order to analyze impacts across banks around the world especially in the Middle-East area. Studies pertaining to the accommodation of information systems especially AIS has been done in Jordan.

Jordan has several competitive banks that operate in various countries; they need to be competitive in nature. Role and analysis of AIS for effecting efficiency and improving banks performance have led to rationalization and innovation.

The word gainfulness might be characterized as the capacity of an offered speculation to procure an arrival from its utilization. As the role of IT increases in organizations this research will address the need identified in the literature review to understand the role of AIS in banks in Jordan and what efficiency and effectiveness productivity is gained.

Productivity has been considered, as it were, as one of the principal criteria to judge the degree to

which administration has been effective in amplifying its benefits or limiting its losses, assuming any. The idea of benefit is identified with outright figures. It does not talk about the reason how it happens or the relationship of this figure with another.

These inquiries can be replied by a peep into the benefit of the IT element. A high benefit does not generally show a sound hierarchical effectiveness and a low gainfulness not generally an indication of authoritative affliction.

Accordingly, one might say that benefit is not the prime variable on which the operational effectiveness and money related productivity of an association can be thought about but rather the quality of the data and information.

1.4 Research Methodology

Research methodology, the inductive and deductive approach has been used to reach at the conclusion of the research. A combination of statistical analysis and thematic analysis was employed. The methodology assumes that there is no clear distinction between positivism and interpretive research philosophies. So, in this research methodology this is assumed that consequently, a combination of inductive and deductive logic was used to analyses the quantitative data collected.

1.4.1 Data Collection

Data collection is the systematic approach of collecting the information from various sources to find the answers and solutions with the help of analyzing the outcomes to the research data & information. It is of two types i.e., primary methods and secondary methods. ***In this research report, primary data collection method will be used.*** In primary data collection methods, the ***quantitative methods*** will be applied with the help of developing questionnaire, scientific calculations or statistical calculations and surveys.

Research strategies can be grouped in different ways, the most widely recognized refinements is amongst subjective and quantitative research techniques were initially created in the common sciences to characteristic phenomenon quantitatively. Subjective research techniques or qualitative techniques were created to enable researchers to explain social phenomenon. Cases of subjective techniques are inquired about contextual analysis research and ethnography. Subjective information sources incorporate perception and member perception (hands-on work), meetings and surveys, reports and messages, and the scientist's impressions and responses.

Hypotheses were generated by identifying theoretical issues arising from the literature review. The survey questionnaire method was used to collect the quantitative data for the hypotheses and secondary qualitative data sources were used to interpret the statistical data.

1.4.2 Research Design

Research design is the approach of assimilating the elements of study in the logical manner in order to address the problems of the research effectively. In this research report, *experimental research* design is implemented because it includes all factors that may affect on the results. In addition, it helps the researcher in identifying the effects of relationship between the variables.

1.4.3 Research philosophy

Research Philosophy, basically it is used in development of the knowledge and it is the belief that in what ways, data can be gathered, analyzed and used.

Different strategies being named objective versus subjective, as being worried about the revelation of general laws (nomothetic) as opposed to being worried about the uniqueness of every specific circumstance (idiographic), as went for forecast and control versus went for clarification and comprehension, as taking a pariah as opposed to taking an insider (emic) point of view, et cetera. Significant debate keeps on encompassing the utilization of these terms; in any case, a talk of these qualifications is past the extent of this segment.

1.5 Outline of the Thesis

Chapter 1: Introduction

It is the introduction to the entire study with relevant background analysis, research aims and research questions. Further justification and scope of the study are also included laying a concrete foundation for the entire study.

Chapter 2: Literature Review

It is the literature review which provides an overview of the concept of AIS and its current state of usage in Jordan, some of the most important previous studies related to the same subject matter by Local, Arab world, foreign studies in the field of IT and AIS.

Chapter 3: Conceptual Framework

Presents the conceptual framework to show the major variables of the research, dependent and independents variables with which the study concerned and the hypothesis relationships. Chapter three looks into the AIS through, the definition of AIS, the conceptual framework of accounting, qualitative characteristics of useful financial information according to IFRS issues, the main functions of the AIS, the definition of the AIS under IT, the relationship between accounting branches and the AIS.

Chapter 4: Research Methodology

Presents the research philosophy and research approach, as well as the most important statistical methods through which the data presented in this study was analyzed and the assumptions proved. This Chapter consists of the following, the research methodology, data analysis and the research procedures, the study assumptions examination and ethical considerations.

Chapter 5: Findings and Analysis

This chapter analyses in a detailed manner research outcome with those of literature review undertaken. The findings and analysis chapter highlight key details of results arrived at during analysis of the study.

Chapter 6: Discussion

This chapter relates the findings to the existing literature to discuss the contribution of the research and interpret the findings. For recommendation, certain key insights have been developed that might be undertaken for further integration of AIS concept. Recommendations that pertain to Jordan banks, which can reflect understanding regarding their operations, have been highlighted in this chapter.

Chapter 7: Conclusion

In the concluding chapter, aspects regarding scopes that have been covered in the study, the scope for further research with certain concluding remarks have been made. Most importantly some key aspects of understanding prevailing in studying the concept matter have been highlighted in the study.

1.6 Definition of Terms

For this study, the keywords are as words follow below:

Amman Stock Exchange (ASE): established in 1999 as a non-profit institution with administrative and financial autonomy. It is authorized to function as an exchange for the trading of securities. The exchange is governed by a seven-member board of directors. A chief executive officer oversees day-to-day operations and reports to the board. The ASE membership is comprised of Jordan's 62 brokerage firms.

The ASE is committed to the principles of fairness, transparency, efficiency, and liquidity. The exchange seeks to provide a strong and secure environment for its listed securities while protecting and guaranteeing the rights of its investors. To provide this transparent and efficient market, the ASE has implemented internationally recognized directives regarding market divisions and listing criteria (ASE website, 2014).

- **System:** This is defined by many authors, notably (Rom and Rohde, 2007); (Chae, et al., 2014) as a set of components and parts which overlap and are associated with each other according to a plan prepared in advance to achieve a goal or a set of common goals, these elements must be connected to each other, so that it seeks to achieve its objective or common objectives.
- **AIS:** A group of personnel and equipment, documents, and data that interact within the framework of a particular accounting, according to a set of policies and procedures for processing data reflective of economic events. This is in order to prepare information to meet the needs of different groups of beneficiaries and users, and this allows various decisions to be made (Gelinas and Sutton, 2002).
- The AIS is a system that collects, records, stores, and processes data to produce information for decision makers (Romney and Steinbart, 2012).

- **IT:** This refers to the tools, methods and knowledge used in the production of information, where they represent regular applications and available knowledge related to technical information this includes everything related to the components materials of computers, as well as the immaterial components of computers, databases, and networks and any other connected components that help build an information system (Wilkinson, et al., 2000).
- **Hardware and Software:** Hardware includes the tangible physical parts of the computers used in an information system, and covers input devices, operational equipment, output devices and storage devices. (Dehghanzade, et al., 2011).

Software means the many programs that work to control the computer and guide and support examples of software include Windows, UNIX and various accounting applications (Stallings, 2015).

- **Networks:** There are three types of communications networks: local area network, metropolitan area networks, and wide area networks.

Local area network: this is a group of computers that share the same concrete hardware components and use the same software, data, and information. They are confined to a limited area of no more than several hundred meters.

Wide area networks: This is a group of computers distributed over a wide area, generally the same area of a state.

Metropolitan area networks: This type of network operates according to the same business principles as sprawling networks, but is constrained by geographical limitations which mean it has a less capacity at the borders of the country (Romney and Steinbart, 2012); (Dull, et al., 2012).

1.7 Scope of the Research

The scope of this study is limited to the use of IT for AIS purposes by banks in Jordan. A sample of banks in Jordan was selected as detailed in the research methodology chapter. The purpose of this research is to examine the significant factors of IT on the AIS of listed banks in Jordan. Therefore, to achieving the research purpose, the scope of the research will include the important review of studies relating to AIS and IT impact with reference to relevant literature done in contexts in order to develop a conceptual framework to the understanding of the importance of IT on the AIS.

It is vital to feature the examination which found a positive relationship between AIS arrangement and SME methodology and execution measures. In the case, a roundabout connection amongst AIS and firms' execution by means of the differing systems that might be embraced by organizations. Much appreciated to interest in AIS, the extension for activity is extended, hence giving efficient in outings to and dealings with banks, the Administration, and so forth.

This study examines the impact of IT on the AIS of Listed banks in Jordan to what extent these systems are affected by the surrounding technological changes imposed by the international rush for benefiting from IT in increasing the effectiveness of the AIS in banks. The scope of this research is to evaluate manager's and employee's perspectives on the application of AIS. The success of the performance is determined by multifarious nature by taking inputs from customers, employees, manager, and other necessary stakeholders. As the impact from AIS is multifarious in nature, therefore affects needs to be evaluated against stakeholder's understanding.

Relevant AIS, MIS, M AIS, theories or applications will be reviewed to serve as the theoretical fundamental of the research, the AIS contributes to realizing the strategic goals of the high management which comprises all the departments of the establishment, the efficiency of the AIS is so important due to the impact of the A AIS on the operations of planning, implementation, and the establishment's performance control.

Role and analysis of AISs for effecting efficiency and improving banks performance have led

rationalize the resolution. Applying AIS in banks can be highly effective as against not incorporating it. It has been able to demonstrate positive social impact overall on the bank. This study will examine the extent to which use of IT in the AIS produces significant cost saving and improves operational performance. This study seeks to plug this significant gap (resolve this lack of understanding surrounding the interplay) between IT and the AIS by examining the impact of IT on the qualitative characteristics of the AIS. The major function of any AIS for any organization is, therefore, to ensure that there is assigning of the qualitative value of not only an organization's past but also in its present as well as future economic actions.

This study seeks to plug this significant gap; it will, for the first time according to the researcher's knowledge of the Jordanian context, examine the extent to which IT, specifically hardware, software, and networks, has impacted the effectiveness of the AIS. IT enables organizations to have effective intercommunication between the various departments through system interaction. There have been multiple studies in order to analyze impacts across banks around the world especially in the Middle-East area. Most important studies pertaining to the accommodation of information systems especially AIS has been done in Jordan.

This lessens firms' costs. Efficiency increments when these advancements are legitimately utilized. Seeing that a company's way of life is available to the presentation of new accounting data frameworks this will prompt a more all-encompassing perspective of it and make for more noteworthy adaptability and dynamism in hierarchical scan for enhanced outcomes. Regardless of a few creators who propose that the course of the reason impact relationship is just that organizations accomplish a superior when they can bear the cost of the usage of certain innovative advancements.

Others demonstrate that firm execution drops soon after the execution, taking quite a long while to understand the advantages from IT receptions. There are a few researches works, which, in the amplest sense, have contemplated connections between execution markers and IT, and how IT effects on firm execution accomplishing uncertain outcomes. There are things about which acquire a positive connection between interest in IT also, monetary benefit, money related productivity and esteem included. Other research appears that no unmistakable relationship exists between this sort of speculation and the execution pointers. Their writers contend that, at present, IT is promptly accessible and utilizing them gives no upper hand for accomplishing enhanced outcomes.

Essentially, they keep up that numerous organizations have put resources into IT; however, they do not prevail with regards to achieving the built-up execution objectives. In spite of the fact that exploration on the IT-execution proportion is richer in extensive estimated firms, the examination of the effect on littler estimated ones turns out to be especially critical in light of the fact that speculation in these innovations may give them an upper hand and the opportunity to position themselves to accomplish better outcomes since they are more adaptable and have better reaction capacity. In Jordan, in many areas, there is a summed-up assessment that utilizing data advancements has been unequivocal in extending the business advertise and in sparing business administration costs. Given that AIS are a fundamental part got from innovations when all is said in done, the primary issue is in the case of applying accounting data frameworks adds to firms' enhancing their outcomes. Consequently, in perspective of the shortage of concentrates regarding the matter, this article centers around breaking down whether there is any connection amongst monetary and budgetary gainfulness and the amount AIS are utilized as a part of bank and monetary administration in Jordan banks.

This study is important because of the subject it addresses, as the study is a critical examination of the impact of the use of IT on the AIS: An empirical study of listed banks in Jordan. AIS are a significant feature of internal control systems which processes financial information that feeds into

organization strategic decision-making process. It is a significant driver of AIS, which in the accounting context, refers to the hardware, software, and networks.

But of all the empirical work that has been done on the AIS, none has yet examined the impact of IT on AIS. Major evaluation of the effectiveness of AIS of listed companies on the Tehran Stock Exchange focused on the extent to which AIS improves internal controls and the quality of financial reports. Similarly, work was concerned with how IT content, accuracy, format, and so on measure the effectiveness of AIS. More recent work either investigates the impact of AIS development lifecycle on its effectiveness and critical success factors or examines the impact of human factors on the AIS.

In the light of the development of IT, considering the efficiency of the AIS has become more important as the importance of IT in the field of accounting was evident in recent years. The role that the AIS play in providing accurate, simple, proper, reliable and quality information that contributes to the success of the control and planning operations and evaluation of the performance capacity of the various units in various organizations. The AIS are considered the backbone between the management information systems in an establishment through the financial and non-financial information they provide epitomizing the actions and operations taking place in the establishment and the resulting data of some of the establishment's minor systems and information that helps in making different decisions in the establishment.

From here came the importance of this study that explores the impact of the use of IT on the AIS and identifies the main problems accompanying the use of IT and affecting the efficiency of the AIS; a successful AIS is based on a set of distinguishing rules and features emanating from the nature of the establishment's activities and functions. Most critical aspect of the study is to recognize organizational efficiency factors which can be impacted from incorporation of AIS. It has to be determined beforehand the predominant factors within banks, which will form variables for the study.

Banks performance or efficiency can be determined by means of understanding its prices in the stock market, profitability, revenues, customer satisfaction, and employee commitment and so on. All these factors can be directly is connected with AIS as it makes available several information which is readily accessible by these stakeholders. Stakeholders whether internal or external need to access information that is communicated within the organization, possible with AIS, for taking performance related to their areas. Each and every stakeholder has their predisposition to meet within the organization such that their performance can add up to the final performance related to efficiency within the organization. Accounting information reflects health of the organization and certain crucial criteria regarding purchase, invoice, decision- making and many other areas are incorporated. Therefore, from the first step of the organization performance where multiple things are purchased for catering to final customers is recorded. All documentation regarding purchase to transformation of goods till delivery of final services is incorporated. These documented transcripts form the primary inputs for the AIS generated report as there are reference numbers added to each and all information provided. In case internal stakeholders or users make use of such information then they can easily retrieve given codes for the transaction and analyses all possible impacts generated from the particular transaction.

They can also easily evaluate their own performances based on the comments provided from the AIS. Therefore, it is highly critical that AIS incorporates all vital procedures and transactions related to the organization and reflect the same in their systems combining them with other valuable information.

The role of AIS is to harness all possible inputs gained from the gained and then provide valuable analysis related to the same. It is highly critical and can include vital information that can act in favor of determining choices for critical situations. Such system should be able to provide the organization's management with the relevant information that can enable it to effectively perform the speed, accuracy, control, and planning functions in a timely manner and ensure that there is easy retrieval of stored information whenever it is required. As AIS has capabilities to reveal crucial accounting related information, same can be used for generating more information related to the banks or organization.

For example, for an investor in the stock market, price of share or its Earnings (EPS) can reflect profitability in case that investor was supposed to invest in that share. Similarly, other critical information is achieved from AIS that can highly benefit growth and sustainability of organization.

1.8 Limitations of Study

This investigation has some limitations. In the first place, it was problematical to gauge the level of the authoritative adequacy of the organizations in the banks in Jordan with restricted subjectivity. The scholar depended on survey reactions to gauge the authoritative adequacy of the organizations under investigation. In addition, time was restricted. Maybe other information accumulation strategies, for example, auxiliary information examination and meetings or up close and personal correspondence would have been utilized and the objective Populace would have been extended to incorporate more organizations.

1.9 Key Theoretical Assumptions

This study develops an understanding of AIS. IT and AIS perspectives provide a better understanding of financial reporting. It is therefore prudent to consider the veracity of the IT that is applied in the AIS so as to ensure that such IT is capable of producing the expected accounting information which is required in the standards of accounting.

This study explains, predict, and understanding the critical examination of the impact IT on the qualitative characteristics, fundamental qualities, relevance and faithful representation, enhancing qualities for financial reporting. Providing information about the reporting entity that is useful to present and potential equity investors, and other users.

1.10 Conclusion

This study examines the impact IT on AIS in banks in Jordan. It seeks to plug the significant gap between IT and accounting system; it will, for the first time in the context of Jordan, examine the extent to which IT specifically networks, software, and hardware affect the quality of information from AIS. (Gallego & Ortas, 2017).

A system should be able to provide the organization's management with the relevant information that can enable it to effectively perform the speed, accuracy, control, and planning functions in a timely manner and ensure that there is the easy retrieval of stored information whenever it is required. This study will be new thinking of how we can look to accounting system through IT, to develop new model for accounting department requirements of IT tools such as hardware, software, and networks.

This chapter discussed briefly various theories developed by the scholars regarding system integration that has been developed by various scholars. On this basis, this literature review section will aim at expounding on various research works that have been conducted regarding the impact of IT on the AIS among various banks listed in Jordan (Marquis and Qian, 2013).

This study seeks to contribute to the academic knowledge of the relationship between IT and the AIS. This study aimed to examine the impact of IT on the AIS; for this study, we distributed questionnaires to banks representing the study population. Primary data collection questionnaires will be conducted for this research.

For this study researcher distributed 140 questionnaires to 14 banks representing the study population (all of the banks listed on the Amman Stock exchange on 31 December 2017). The questionnaire questions covered all of the variables, both dependent and independent.

The importance of this study arises from the need to recognize the implementation of IT in the AIS as the greatest development in the world of business; this will be achieved by considering the variables that will be impacted by IT such as reliability, faithful presentation, operational performance, and cost reduction. To achieve the objectives of this research a questionnaire will be designed and distributed to the Banks in Jordan listed on the Amman Stock Exchange. This research will analyze the output data to discover if IT has a positive impact on the AIS. The statistical analysis will show whether IT has a positive impact on AIS and that IT has a significant statistical relationship with the AIS, AIS development, cost reduction for bank AISs, the aspect of improving AISs, and the operational performance.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The extant literature is critically analyses to reveal that there is a need for a conceptual framework capable of assessing the impact of IT on the qualitative characteristics of AIS. AIS need to provide relevant, reliable, consistent, and comparable accounting information. The extant literature does not specifically examine the hardware, software, and network aspects of IT that have an impact on the quality of accounting information in terms of relevance, reliability, consistency, understandability, materiality, objectivity, and comparability of AIS for the purpose of accounting that is consistent with regulatory accounting frameworks. This study is based on prior certain research on accounting framework and IT. Existing studies provide the foundation for progress in any discipline. This section of the study the literature review takes into consideration various literature sources as journals, books, internet sources, and websites to define the scope of further work required in the field.

This Chapter is divided and subdivided into various sections, where various definitions and researches have been highlighted that underpin the study. In the view of application of IT and AIS across banks, some major studies have been done and undertaken by various researchers that need to be reviewed. This review is integral as development in IT especially in the domain of AIS has provided several benefits to banks and its operations.

In Jordan, technological proliferation had remained behind for quite some time until recently; a need was felt to integrate the IT to provide greater customer benefits. With government in Sultanate of Oman deciding to opening up its economy to foreign bankers and investors, scope of competition and challenges increased immensely. With rising competition many banks of Jordanian origin were forced to shut down or adapt to new changes that had become the necessity at that time. Therefore, a need was felt whereby, AIS had to be integrated. It formed the basis of all IT applications that were applied across banks in neighboring countries.

2.2 Theoretical Overview

AIS is a tool use in the field of IT which helps in managing and controlling financial aspects of firms. Advancement in technologies is one of the major viewpoints of this tool. In the case of banks in Jordan, the market is highly competitive and uncertain. This is the reason why there is a strict need of improving the IT, IS and information needs in terms of working of the bank.

2.2.1 Impact of IT on AIS

In the words of Kanakriyah (2017), (AIS) is a helping hand for the managers of banks of Jordan. This helps them to manage better performance in the banks of Jordan. The IT has a big impact on the AIS to be effective at the management of all internal and external financial data in the banks of Jordan. As the information is the key source to manage the secure transactions and decision making of authorized people in banking field. Using the advance IT in the AIS has its own impact in providing the right and appropriate information to external parties and managers in banks of Jordan. Apart from that the AIS provides a broad range of benefits to users to decision making and seeking the possibilities to improve the ability of decision making. AIS are developed in accordance to various theories prevalent for the purpose of smooth and uninterrupted performance. In the current scope of literature review, theories that have been used are Accounting Theory, Agency Theory, Stakeholders Theory, Contingency Theory and Unified theory of Acceptance and Use of Technology (UTAUT) are considered. Below is mentioned a descriptive analysis of the various theories of AIS. The contingency theory is the best example of the importance and the impact on AIS in banks of Jordan.

In the views of Ali, Bakar & Omar (2016), there are four key success factors for the (AIS) that make the organizational performance better. These factors are information quality, service quality, data quality, and system quality that play the vital role in the enhancement of better performance. Overall, the AIS is the computer-based system that is designed to collect, store and process the data related to accounting and financial data. It helps the banks in Jordan to be good the ability of decision

making. The main use of AIS is to develop a traceable IT solution for the Jordanian Commercial banks. The significant point of the impact of use of AIS in Jordanian commercial banks is to measure the performance of financial and non-financial data. The author supports the above article by describing the information and significant about the impact of IT on AIS in the banks of Jordan. It suggests that AIS should be flexible according to the technology and environment of the banks. This theory helps the banks to effectively manage the structure of banks and procedures to be flexible to always be ready to adapt changes.

Albashabsheh et al. 2018 has favored this article by describing the importance of AIS on banks of Jordan as the author believes that the AIS is important to reduce the cost in banks of Jordan. The author states that in order to implement the internal control system, AIS is the key factor to do so. AIS has the qualitative characteristic that helps the banks to maintain the internal control system. The *positive aspect* of the above article is that the system is totally automated and there are no human interventions are involved and it is not affected by the raining or sea. Apart from that, the *negative aspect* of AIS is that it is very expensive and costly to implement and there is no room for the creativity for developing the AIS.

2.2.2 Accounting Theory

In the opinion of Deegan (2013), Accounting has existed since the fifteenth century as a discipline. From that point forward, the concept has developed considerably. Accounting is an advancing subject, and it must adjust to better approaches to cater for regulatory and organizational purposes, working together to innovate and address gaps that are found in the system. For instance, associations, for example, the International Accounting Standards Board makes and amends pragmatic utilizations of accounting, and experts, for example, CPAs enable organizations to explore and set up new accounting models. Accounting is an arrangement of suspicions and philosophies utilized as a part of the examination and use of money related detailing standards.

This is further continued by Warsono (2017) by stating that investigation of accounting includes an

audit of both the verifiable establishments of accounting hones, and in addition the manner by which accounting requirements are changed and added to the administrative structure that represents money related articulations and budgetary revelations. Many studies of accounting are bound by the calculated structure of accounting. This structure is given by the Financial Accounting Standards Board and attempts to plot and build up the key targets of budgetary detailing by organizations, both open and private. Further, accounting hypothesis can be thought of as the accounting thinking that assesses and guides accounting practices, as administrative guidelines advance, additionally innovate new accounting practices and systems.

Smieliauskas et al. (2017) has explained the AIS as equation based in nature, accounting is more subjective in that it is a guide for viable accounting and budgetary detailing. The most vital part of accounting concepts is convenience, which, in the corporate world, implies that every single money-related proclamation ought to give vital data that can be utilized to inform business decisions. This additionally implies accounting is deliberately adaptable with the goal that it can give successful money related data, notwithstanding within the lawful condition changes.

Notwithstanding value, accounting hypothesis expresses that all accounting data ought to be pertinent, solid, practically identical and reliable, what this basically implies is that every single budget related explanation should be precise and adhere to the proper accounting rules (IFRS) Adherence to IFRS enables the readiness of budgetary proclamations to be both predictable and practically identical to an organization's past financials, and in addition the financials of different organizations. Accounting principles requires that all accounting and money related experts work fewer than four suspicions. The primary supposition expresses that a business is separate from its proprietors. The second avows the conviction that an organization will proceed to exist and not go bankrupt. The third expects that every single monetary articulation is set up with monetary sums and not with different unit generation. All money related articulations must be set up on a month to month or yearly premise.

There exist several theories of accounting that are used and applied as developed by international conventions. Companies need no less than a simple comprehension of accounting speculations and standards. Understanding accounting books and what different accounting reports speak to enables companies to decide if the business is meeting its objectives and adhering correctly to monetary accounting. These fundamental accounting speculations are the establishment for understanding an organization's money related course and creating procedures for long term achievement.

2.2.3 Use of IT in AIS

In the opinion of Dandago & Rufai (2014) Every firm requires an effective and efficient system of information in order to be ahead in terms of market competition. This is the reason IT is used in order to enhance the efficiency of the banking services. The banks in Jordan are highly influenced by the use of IT in terms of banking services. IT has been able to change the fundamental activities of the banks in Jordan through the use of technology advancements in banking and transaction. The journal has made the use of diffusion theory in order to develop an understanding of IT in relation to banking services at Jordan. The Innovation Diffusion Theory describes the value of innovation and technology in the success of any firm in the competitive market. These practices help the banks in Jordan to be more ahead with the technology and grow rapidly in terms of market value and financial stability of the banks. This theory describes the importance of IT in terms of innovation of the banking services. In the case of Jordan there are many banks including the commercial and domestic banks which have now inherited the information technology as a practice in their work. Adams & Ivanov (2015) argued that socio-technology system theory of information technology acceptance is more important theory in terms of applying IT and AIS into banking services. This theory promotes the use of technology in order to analyze the stakeholders of the banks. There were several issues analyzed during the stakeholders' analysis which led to the development of new technological advancements in the banking services.

2.2.4 AIS Theory

According to Qatawneh & Qtaish (2015), AIS theory concepts and underlying assumptions involve critical theoretical paradigm analysing incentive-based problems, conflicts of interests, and ways that controls models. AIS can be defined as being computer-based systems that are capable of not only increasing but also enhancing the corporation in a particular organization. In the management of any organization and the implementation of any internal control system for such an organization the role of AIS is very vital. It needs to be noted that in any AIS environment, the qualities that are associated with the adaptation of internal controls highly affects the management and operations of an organization thus influencing its control systems. This argument has been continued by Al-Hawary & Alwan (2016) The major function of AIS for any organization is therefore to ensure that there is assigning of the qualitative value of not only an organization's past but also in its present as well as future economic actions. Through the use of the AIS computerized accounting system, there is production of financial statements for the banks such as the income statement, cash flow, and even the balance sheet. In further argument, Shaikh & Karjaluoto (2015) said that AIS can be deemed as a tool when well incorporated in IT can help an organization to effectively manage and control business aspects associated to the economic and financial areas of an organization. The significant advance in the use of technology in the contemporary world has greatly widened the possibility of not only generating but also using of accounting information for strategic viewpoint. It is important to note that the use of AIS is quite essential to all organizations regardless of whether such organizations are for profit or not for profit. It is important to note that AIS is an integration of related components which are put together as one in collection of information, ordinary data, and raw data which are ultimately turned or transformed into financial data for the objective of reporting to the organization's decision makers. Based on the views of Serrano et al. (2016), it was ascertained that accounting is usually identified through three major components which are the language of the business, IS, and the source of the financial information. Information is an important and valuable

resource in AIS because it provides all organizations with an opportunity for not only taking actions but also taking relevant actions which ensures that such organizations are capable of fulfilling the legal obligations which are required. Tarhinet al. (2015) also agrees that accounting literature asserts strategic success and is regarded as being an outcome associated with proper AIS design. Msaadeh (2013) has also argues on the above by stating that there has been recent realization by most of the Jordanian legislators that transforming of the Jordanian banking sector from the “manual information systems” into the “computerized information systems” has now become an urgent issue for the banking sector. This is attributed to the fact changing information systems from manual into computerized systems will promote them to effectively fit into this IT.

Mohamed et al. (2014) developed an understanding of the importance of IT in terms of AIS through the help of an example stating that the use of electronic data by Banks in Jordan makes it possible for such banks to books. It was also ascertained that “*Article (92) of Banks in Jordan Law under section (d)*” exempted Banks in Jordan that use computers as well as other forms of modern technological devices in the organization of their financial operations that is based from the organization of books as stipulated for in the “*Effective Trade Law*”.

On the other hand, Yoo et al. (2015) explained that there are various forms and techniques that are used in the evaluation of computerized information systems as well as their potential for utilization in Jordan. Various studies carried out were of the view that there was different significance in the characteristics associated with “computerized AIS” which can truly be expressed through both qualitative and quantitative measurements, and therefore the success of their application is usually subject to the appropriate selection of system components that includes among others the programs, devices, database, as well as workers who are highly qualified (Bawaneh, 2014).

Kasemsap (2015) has concluded that this is significant for the present study, since it examines the very technological components of AIS – IT, hardware, and networks. For the accounting systems to be deemed as being both efficient and effective, then their speed of processing as well as their

accuracy of changing processing financial data into accounting information should be quite fast in order to provide an organization's management with the relevant accounting information on a timely manner. In addition to that, such a system should be able to provide the organization's management with the relevant information that can enable it to effectively perform the speed, accuracy, control, and planning functions in a timely manner and ensure that there is easy retrieval of stored information whenever it is required. Josi et al. (2017) describes the use of IT is indeed the bedrock for both national and global development to ensure that courageous and bold initiatives are devised so as to address numerous socio- economic issues affecting the society which include among others skilled human resources, reliable infrastructure, as well as other issues involved in capacity building. As a result, many of the banks have now put in place updated modern computers that have the capability of aiding them to not only attain communication but also multimedia connections on the internet, intranet, extranet.

2.2.5 Stakeholder- AIS Concept

In the words of Hamden (2012), organizational performance is critical for internal stakeholders as they need to understand progress related to the company. Their performance is critically reflected through the organization's performance, it allows them to understand the direction in which company is progressing. It is a crucial component that determines strong relationship or association-ship with the organization. Shareholders and directors of the banks can understand returns that their portfolios invested can generate. They remain invested and committed with the organization, attending every meeting or participating in day-to-day procedures. In other words, bank's performance can be influential in determining a shareholder or directors' commitment towards the organization. In case any type of fraud or negative accounting procedure is detected, they might decide on leaving the organization or changing their preferences. AIS indirectly affect decision making capacity of shareholders and directors in regards to the company. Haijjaet et al. (2014) states that a bank which implements decision making is able to develop commitment of its shareholders

and directors more compared to banks that has not accommodated AIS. AIS have become the basic procedure or capability allowing shareholders or head of the organization to take crucial decision pertaining to the organization through integration. Developments or implementation of new systems or inclusion of new products or services is decided across in these meetings. Determining performance as profitability or losses of the banks, heads of the organization are able to determine progress of the organization along with its competitive position. (Qatawneh, 2013).

This concept is further analyzed by Jensen (2017) by stating that external stakeholders include another integral part of the organization, which needs to understand performance of the organization. External stakeholders for institutions like banks provide integral functionality as ratings of the bank, attracts investors, provides review for the institution and performs various other integral functions. It becomes integral that external stakeholders are able to understand performance relative to the bank such that they can provide positive review and feedback regarding the same. In order to understand regarding the bank's performance, information and data has to be represented in appropriate manner for value maximization. This information has to be evaluated effectively, easily within a short time period. All these types of effectiveness are rendered by AIS as it has capability to comprehend information presenting them in an attractive format. Usability of information is critical and allows better understanding hence better grading compared to other institutes that does not accommodate such information systems. External users of information for listed banks in Jordan are immensely large in number; hence it is crucial that banks represent such information in a better manner. Banks that include AIS have been able to attract large investors with better ratings. External users of information cannot toy around with the relevance of financial reporting neither stock market performances. Assimilating understanding of relevance of AIS to that of organizational effectiveness was found to be strong.

Several literatures in the area depict a strong coherence of AIS with those of equity valuation, earnings, share prices which reflect financial reporting in the current world scenario. In the opinion

of Romney (2016) while managing organization's performance and applying internal control AIS has a critical process to reflect upon. Internal control is most integral aspect for AIS in organization's requirements to be able to control and communicate vital information. Internal Control is a procedure that accommodates evaluation of financial statements and reports as per standards provided by the organization. The process of internal control is reflected by means of valuable and authentic accounting information. With such valuable information it becomes possible to determine future for the organization as well as raise finances which are crucial to business expansion. Tantalo & Priem (2016) stated that the information that is obtained has to be communicated across to purchase, installation, decision-making, using information that is beneficial to the process of decision-making. Therefore, such information allows organizations in facilitating their transactions in an effective manner. It can be derived that several reasons contribute towards effectiveness of AIS. However, AIS can affect increased costs impact on the budget and spending in organizations. In case of competition and economic conditions, there are pressures regarding cost of information. Stakeholders of the organization need access to information for performing their jobs. Organization has to develop information systems for supporting decision making systems, knowledge management, communication and any other has to adopt accounting information as the key. IT has advanced transparency within the financial sector driving business operations, structures, strategies, performance and ownership. The forces have been driving social and economic impacts across organizational effectiveness. Gradually developing and emergent informational technology led to enhance efficiency to cut down costs in the industry. Banks can achieve competitive advantage for developing efficiency, adopting internally AIS for market coordination as well as linkages with financial markets and global commodity.

Managers and researchers have high relevance for AIS for creation of gap between practice and FIS researchers. In order that internal control is adapted and efficient management for an organization is implemented AIS has to be accommodated. Benefits associated with AIS are numerous as

decision-making, installation; purchase exceeds the cost factor associated with it. An organization can easily adopt AIS as banks in Jordan for getting benefits from it. Organizational effectiveness has a positive correlation with AIS that can be understood while application of them across banks. Organizations especially banks across Jordan that has adopted AIS strategy varies with their design drawn for supporting the selected strategy. Specific designs are selected to ensure management is capable of enhancing organizational performance for facilitating such strategy. (Neely et al, 2015)

2.3 Impacts of AIS in banks of Jordan

According to the Ali, Bakar & Omar (2016), the key success factors of the effective AIS are service quality, data quality, information quality, and system quality. These factors play the vital role in the successful measurement of financial and non-financial data. The above factors also help the organization to improve the performance of the commercial banks in Jordan. Most of the banks in Jordan have now embarked on the use of IT based banking services and products like the use of internet banking, ATMs, Point of Sale Terminals (POS), mobile banking solutions, human resources solutions, and even computerized “financial accounting and reporting”. The liberalization of the banking licenses let to the development of new generations of banks in Jordan and this implies that they had to compete for customers.

The main purpose of the AIS in commercial banks of Jordan is to build a traceable IT revolution to gain the feasibility in the management of the information data in the banks of Jordan. There are AIS people who are the users in the system and help various departments of the banks to work together. Also, there are some professionals who need to use the AIS. These professionals are managers, consultants, accountants, auditors, chief financial, and business analyst. The Al-Okaily & Rahman (2017) has also favored the above article by stating that the web-trust principles are vital for gain the effective performance of (AIS) in the commercial banks in Jordan. There are the acceptances of the web-trust principles are the most influenced on the effectiveness of (AIS) in the commercial banks of Jordan. In the comparison to web-trust principle the online privacy principles are the least trustable as

they are not good at measurements of performance of organization. There are several aspects of the AIS including both positive and negative. The positive aspects of the above article are that there is a link between AIS use and performance in Commercial banks in Jordan. It helps the banks to measure the performance better at every level of organizational structure. The negative aspect of above article is that there should be a proper training for the ASI system to be efficient at managing the ASI system. However, the main aim of ASI is to maintain the financial and non-financial data in the commercial banks of Jordan.

2.3.1 Impact of IT on Financial and Accounting data processing in Banks in Jordan

In the words of (Mohammed, Al-Hosban & Thnaibat, 2018), there are many risks of input of the AIS on the administrative control, accounting and financial control and internal control too. The author states that during the time of building the security system, technical manager of AIS should be aware of all kinds of risk in the process of system. There should be a risk analysis included in the process of development of AIS in the banks of Jordan. This will help the commercial banks to manage the operations activities effectively.

The Jenkins et al. (2017) has claimed that, the money related suspicion guideline considers whether the estimation of the currency will stay stable. This is critical for organizations that work in a worldwide domain or for arranging assembling and stock control. On the off chance that currency systems are relied upon to vacillate, companies may choose to increment or reduction generation or the buy of provisions as indicated by the projection. Currency that does not purchase as much in multiyear windsup expanding potential overall revenues.

Despite the fact that the use of personal computers has already had a significant impact on the manner in which businesses operate, it is prudent to note that their significant impact cannot be effectively felt both outside and inside an organization until such personal computers become intimately interconnected (Jenkins et al., 2017). Most of the studies depict that in order for the banks listed on the Jordanian Stock exchange to attain an effective and successful communication, then

there is need for banks to ensure that all their computers are well connected to the Internet using various networks like the Local Area Networks or LANs or even using the Wide Area Networks or WANs (Fathi & ElBannan, 2017). One of the great advantages of the above article is that there is the discussion of the risk analyzation of process of development of AIS for the smooth operations of banking system in Jordan. The risk analyzation process enhances the ability to corporate with the activities of banks in Jordan.

The limitation of development of AIS for the effective management of financial activity of the banks in Jordan is complex to control. Control of the internal and external activities of management of financial and accounting performance can be complex in the initial phase.

2.3.2 Effective management of accounting information and customer's data through AIS

In the view of Ganyam & Ivungu (2019), AIS play a significant role in the day-to-day operations in the banks of Jordan and other financial organizations. This includes the operations related to accounting and financial activities in the banks of Jordan. Generally, AIS represents a wide range of sources including equipment's and persons. These sources help the banks of Jordan in collection of financial data to get the information that is needed for the decision makers at a certain period of time. The key benefit of having AIS in the financial corporation like banks is that it helps the banks to provide the external and internal reporting data, trend analysis and financial statements that impact on the performance of organizations like banks in Jordan. Hazaa & Jogdand (2020) has supported this statement by stating that AIS is the important instrument that most of the business rely on to conduct the operations in the business. The author stated that there should be the availability of GCP (General Control Procedure). The key benefit of the GCP is to secure the AIS of the banks in Jordan. This also encourages the management department of banks in Jordan maintain a good level of General Control Procedure in AIS in the banks. The positive aspect of the above article is that AIS helps the banks to collect the data and information for the decision makers at a certain period of time. It also helps the banks to providing the external and internal data to manage the performance of the

organization. The negative aspect of above article is that there is limited remote access of AIS and designing, implanting and maintaining internal system in complex task in the development of AIS.

2.3.3 Analyzing the impact of AIS to minimizing the costs in banks of Jordan

According to Albashabsheh et al. (2018), accounting information system supports the economy and help to make the economic decisions. This affects the communities' wealth and supports the welfare and interests of individuals. The AIS shares a close relationship with the administrative process and includes different functions and tasks such as it contributes in the business value chain and the business to achieve the great performance level. Apart from that, in AIS the qualitative characteristic can be well managed by having the good system of internal control. The IT has a huge impact on the sustainable (AIS) as there are several benefits of having the good impact of IT. The managing task of the information in the banks of Jordan becomes manageable. Hazaa & Jogdand (2020) has support the above statement by describing the importance of GCP (General Control Procedure). The key benefit of having the GCP in the banks helps to secure the AIS and function it smoothly. There are several factors of the above statement including positive and negative factors. The positive factors are AIS help the company to make the right economic decisions and the negative impact of the impact of AIS is to managing every aspect of the AIS can be complex for the banks.

2.3.4 Impact of theories to resolve the problems of Information technology

There have been discussions about several theories that help to resolve the problems of Information Technology in the development of AIS. One of the important theories to resolve the problems of IT is diffusion theory. diffusion theory helps the AIS to find a way that can easily resolve the problems of information technologies in development of AIS. The diffusion system describes the paths and solutions to resolve the problems in AIS such as data management and analytics, budget, cloud computing, digital transformation, etc. Another important theory to resolve the problems of (IT) is contingency theory. The contingent theory describes the contingent actions over a situation by the

manager and leaders. This theory helps the banks to take some contingent action in the situation of problems. The accounting theory helps the banks to solve the problems by defining the set of framework, assumptions, and methodologies to solve some certain problems.

2.3.5 Relation of theories in Banks of Jordan

Every theory has significant role in the successful operation management in the banks of Jordan. The accounting theory helps the banks to study the financial statement by some set of methodologies. Apart from that, the contingency theory helps the banks to be prepared to take contingent actions during the time of contingent situation.

However, the diffusion theory helps the banks to find new ideas and ways to achieve those ideas. These are the theories that make the operations to function smoothly.

2.3.6 Qualitative characteristics of AIS

The AIS has a significant role in the better decision making of banks. They help the execution of operation in banks successfully. There are several qualitative characteristics of the AIS which include the **relevance** that helps to make a difference in decision-making, **reliability** that helps the banks to get the factual and verifiable information, **comparability** helps the banks to effectively compare the different entities, and **consistency** helps to ease the flow of information. Agency theory has its own relevance in the impact of IT on AISs in banks of Jordan. It helps the banks to resolve the issues and queries in the development of AIS. Apart from that, the above theories are quite relatable to the AIS and the proper development of system. These theories help the banks to operate and manage the organization performance. Accounting principles and assumptions such as cost, matching, materiality, conservatism, monetary. both practical and theory-based is built on some accounting assumptions and principles. There are some accounting equations that support these too. And these accounting principles are built on a few assumptions that we call accounting concepts.

Cost Principle. The cost standard hypothesis records resources in the books as every advantage is procured. Resources can be hardware or genuine property. These advantages can be devalued

after some time contingent upon what they are. Some resources, for example, land, might be deteriorated for whatever length of time those 30 years, while different resources that should be every now and again supplanted, for example, PCs, may be devalued for just three years. Deterioration relies upon the benefit class and IRS rules. (Penman & Zhang, 2017)

Matching. The coordinating standard of accounting keeps an exchange as a unit, which means it represents all costs related with a particular income. The costs are accounted for in an indistinguishable period from the income created. For instance, a business commission might be paid in February for items sold in January. The cost in the coordinating guideline hypothesis represents the commission in January, not February when it is paid. In the event that you are utilizing the coordinating guideline, be steady with month to month recording costs related with incomes and do not extend costs. (Kesio, 2016)

Materiality. Banks can become involved with tallying pending financial exchanges previously recorded. The materiality hypothesis ensures a business just records money related arrangements that are finished. This keeps an entrepreneur from getting an incorrect conviction that all is well with the business finances and accounting when considering pending contracts that may not work out as expected. Nonmonetary exchanges can be noted in reports yet excluded in real information and money related points of interest.

Conservatism. Existing and potential liabilities can dramatically affect the financials of an organization. The conservatism hypothesis factors in all liabilities regardless of whether they have not completely been figured out. This moderate approach enables a business to get ready for potential liabilities and keep up satisfactory income to pay the obligation. This is most usually utilized when sellers send supplies on 30-, 60-or 90-day credit.

Monetary. The money related suspicion guideline considers whether the estimation of the currency will stay stable. This is critical for organizations that work in a worldwide domain or for arranging assembling and stock control. On the off chance that currency systems are relied upon

to vacillate, companies may choose to increment or reduction generation or the buy of provisions as indicated by the projection. Currency that does not purchase as much in multiyear winds up expanding potential overall revenues.

Some authors indicated that in order to bring the banking services in proximity or close to the clients and also guarantee the opportunity for them to use them at any given time, then there is need for the banking institutions listed on the stock exchange in Jordan to use the online and real time systems (Komala, 2017). This was attributed to the fact that the use of online banking services by such institutions makes it easier for the banking services to become not only closer but also familiar to the customers (Yassin, 2017). IT has made it possible for the listed banks in Jordan to install the most modernized computer connectivity which have ultimately helped them to easily attain enhanced data communication, information and document access, and thus provision of the most “modern banking day” services to the clients (Arunet al., 2017).

As result of that, the number of customers patronizing such banks has greatly increased. Through the use of IT, managers as well as staff of the listed Banks in Jordan are now in a better position of not only searching but also gathering data from numerous source type, effectively analyze them, then ultimately choose the ones which are relevant and ensure that they are organized in a manner which can permit them make effective decisions which have been based on the data (Al Share, 2017). It is a true assertion that the deployment of IT in the AISs has led to a basically improvement of the banks that have listed on the stock exchange in Jordan.

IT has had a significant impact on the AIS of the listed banks in Jordan. This can clearly be evidenced through the substantial budget that such institutions have allocated the IT departments (Ntimet et al., 2017). This has seen such banks offering flexible and smooth ways of operating thousands of bank accounts in any of the respective branches regardless of where such banks or even the accounts are domiciled (Banalzwaa & Abdullah, 2017). The use of IT has also made it possible for banks to offer their customers with the electronic based instructions as opposed to the

paper-based transactions. The AIS have been used widely by many organizations in order to both automate as well as integrate their business operations (AlAdhamet al., 2017). On the other hand, it was ascertained that the major reasons as to why banks listed on the stock exchange in Jordan embraced the use of technology in the AISs was so that they can enhance their efficiency as well as increase their competitiveness (Amin & Aslam, 2017).

It is noted that globalization has resulted in intense competition among various banks across the world. This is the main reason as to why the world is now actually referred to as being the “global village” that has turned both markets as well as economies in a manner that is alike. The increase in the demand for IT in the banking industry become quite imminent and unavoidable the world offers and Jordan was no exception (Arunet al., 2017). Invariably, the future is now known to lie heavily in the use of Information and Communications Technology (ICT) banking services and systems.

Based on the liberations which were made (Al-Zoubi, 2017), it was ascertained that some of the significant challenges that were confronting the aspect of e-banking in Jordan were classified into three major types namely poor sight, physical disability, illiteracy and ageing. On the other hand, the “operational constraints” that were known to affect the banks listed on the stock exchange in Jordan included among others the insecurity of the funds which had been transferred, the standardization of the channels, and fraud. The technical constraints were known to be founded on the absence of supporting infrastructures like erratic electricity supplies, the lack of encryption on the Short Messaging Services (SMS), and interdependence (Alshhadat & Stenka, 2017). It was further asserted that some of the problems which can have a significant impact on the adoption of IT by the Banks in Jordan in their AIS were both behavioral and psychological. These included among others the issues of security, consumer awareness, resistance to change, accessibility to the computers, the costs associated with adopting IT tools into the banks, security, and even preference for services which were personalized (Tallaet et al., 2017).

The issue of IT has indeed had a significant impact on the manner in which listed banks in operations carry on with their AIS (Hwang et al., 2017). This is quite true since it is through the use of IT that the bank processes can be automated, controlled, and information effectively produced through the use of computer systems, software, telecommunications, and even the ancillary IT tools such as the debit cards as well as the Automated Teller Machines (Le et al., 2017). The use of IT in the banking systems of listed banks in Jordan has greatly revolutionized the manner in which banking services are provided to their customers (Loumiotiet al., 2017). This is quite true since it is true that communication technology in which the physical devices as well as the software which links numerous computer hardware elements are effectively made to transfer the data from one part to the other one.

According to some of the studies which were carried out with the aim of ascertaining the impact of automation on the banking services that were offered by the banks listed on the stock exchange, it was realized that the use of electronic banking by the financial institutions had greatly enhanced the services of most of the banks to the clients (Salim & Iskandar, 2017). However, it is prudent to note that the study was actually restricted towards the nerve centers of Jordan and only concentrated on a small number of banks. Upon carrying out a comparative analysis among the new and old banks, it was discovered that indeed, there was an enormous variation especially in the rate at which such institutions adopted or embraced automated services (Fiechter & Novotny-Farkas, 2017). An investigation carried out to ascertain how IT was applied in the banks in Jordan indicated that the use of IT had indeed become the bank born of service delivery in most of the banks listed on the Amman stock exchange.

It was discovered that the banks in Jordan listed on the stock exchange have actually performed better in regard to the use of IT systems and investment profiles as opposed to the rest of the country's sectors (Wouters & Sandholzer, 2017). Indeed, it was ascertained that the banks which had been listed on the Jordanian stock exchange tended to have highly invested in the use of IT,

had employed well skilled IT personnel, and had even more installed based for the WANs, LANs, and even PCs which had a better linkage and relation to the internet as opposed to other sectors of the country's economy. According to the study that was carried out (Periaet et. al., 2017), it was ascertained that while most of the banks across the world had at least the use of one personal computer per one employee, the banks in Jordan were strongly lagging behind in this issue (Qasimet et. al., 2017).

The significant impact that was made by IT in the AIS of listed banks in Jordan were reflected on the ability of the banks to associate well with all the IT aspects such as all types of computers, the communication equipment, and the software which was ultimately used in the creation, storage, transmission, interpretation, and manipulation of information through various forms such as the voice conversations, business data, multimedia presentations, still images, and even the motion pictures (Asongu & Biekpe, 2017). The impact of IT has also been effectively depicted in the ability of the banks to use the "computerized database management systems" or DBMS as well as the "Management Information Systems". An investigation of the impact of IT on the listed banks in Jordan and more so on their AIS indicated that it was prudent for banking institutions in Jordan to become IT compliant so as to have enhanced performances as well as long lasting client relationships (Resatogluet et al., 2017).

According to the studies which were executed with an aim of ascertaining the impact of IT and more so the use of ATMs on the profitability of the banks, cost savings, and even enhanced service provision for clients, it was discovered that the investing of banks in the use of ATMs by their clients highly reduced the costs of bank transactions, the number of staff that served the customers, and even led to a reduction in the number of the bank's branches (Alawaqleh & Al-Sohaimat, 2017).

It was revealed that investments made in the ATMs by banks listed in the Jordanian stock exchange highly increased the value associated with the deposit accounts which were actually cheaper in the aspects of the cost of funds as opposed to the other sources of income such as borrowing of funds from other institutions thus leading to the reduction of the general costs of funds. This is a clear indicator that indeed, there was a significant impact of IT in the profitability of the banks listed on the Jordanian stock exchange (Al-dalahmehet et al., 2017).

One of the studies carried out on the impact of IT on the AIS of listed banks in Jordan indicated that for such banks to effectively reap the benefits associated with embracing the use of IT, then there was need for them to carry out more orientation and campaigns to the clients (Maditheti & Gomes, 2017).

This was quite essential since not only will it help the banks to create awareness among its customers but it will also ensure that they frequently patronize their facilities. It was further noted that the emergence of IT in the accounting sector is an innovative and beneficial system since most of the entities across the world are greatly supported by their respective AISs especially in the effective management of their operations. This is quite true since accounting is indeed a critical factor for any business entity since through only the touching of an IT button on the keyboard, the accuracy and speed of banking transactions is greatly enhanced (Perkovich et al., 2017). This is quite beneficial since not only does it enhance the flexibility of such information but it also ensures that such information is kept safe.

The use of IT is quite beneficial for the operations of listed banks in Jordan because the application

of both computers as well as other relevant equipment in order to store, transmit, retrieve, and even manipulate banking data is now done at lightening speeds (Al-Hawary & Al-Hamwan, 2017). The use of the AIS by banking institutions listed on the stock exchange in Jordan implies that a set of “interrelated subsystems” can effectively work together in order to not only collect and process but to also store, change, transform, and even distribute such information that can be used for the purposes of planning, making decisions, and general control in the banking institutions. Through IT, AIS in the banks can effectively generate reliable and viable data that can be used for decision making processes in the banking sector (Price & Lankton, 2017).

From some of the available studies, it was indicated that over the past few years, organizations across the world have highly invested in the use of IT and information systems (Jones et al., 2017). This is significantly attributed to the fact that the investments in the use of information systems will highly enable such organizations to not only cut on costs but to also compete effectively and strategically. The use of IT has enabled organizations across the world, the listed banks in Jordan included to effectively apply the use of both computing as well as communication technology to execute their business operations effectively in the wake of emerging markets as well as a strengthening international economy (Al-Enaziet et al., 2017).

It was ultimately ascertained that the use of IT and IS exists mainly to aid organizations to accomplish or attain its set goals and objectives. AIS is tasked with the responsibility of taking raw facts which are subsequently manipulated, compiled, and then finally integrated into meaningful information that can be used by managers of an organization for decision making processes (Petrescu et al., 2017).

Information systems providing guidance to the employees of an organization to better equip them with the relevant knowledge and skills that can make them effectively accomplish the set organizational goals. Indeed, the use of IT in the listed banks in Jordan has a significant impact on all the organizational levels of the bank such as on the finance and accounting departments and even

in the human resources and marketing departments (Hosseini et al., 2017). It is quite important for managers of the banks listed on the Amman stock exchange to effectively evaluate the performance of the use of IT and information systems in the banking sector. This is especially important in both the accounting and finance departments of banks because they have a significant impact on the profitability and even returns of such organizations.

It was quite evident from the numerous studies that the advent as well as development of IT and globalization in the contemporary world has been forced to use as well as apply the use of IT and information systems so as they can not only survive but also compete and excel in their respective fields (Ganguli & Guha Deb, 2017). Indeed, there is an “undeniable need” for the information system practices in the Jordanian workplace so that they can enable their managers to both promote the application of IT and permit them to acquire as well as retain any forms of competitive that they may be having (Agunget et al., 2017).

Based on the studies which were carried out, it was ascertained that it was important for managers at the listed banks in Jordan to effectively identify how effective the use of IT and systems were in their institutions and also ascertain how they can both shape and promote the employees’ capabilities and aid them in the achievement on the organizational goals and objectives (Agunget et al., 2017). Ascertaining the extent to which the employees of the listed banks in Jordan used the IT tools in their AIS was quite important in order to ascertain its impacts (Zutteret et al., 2017).

It was further ascertained that there were different kinds of IT tools in the actual world and it is therefore prudent to note all of them make use of software, hardware, and human resources in order to transform all the data resources into vital information products. It is prudent to note that while some individuals use manual information systems, others on the other hand are known to use simple tools like paper and pencils or even machines such as calculators (Francis, 2017).

It is quite apparent that the use of IT has indeed had a significant impact on the banks in Jordan listed on the stock exchange in that they have become an important part and parcel component for any

successful banking institution to embrace in order to succeed (Stiglitz, 2017). It was noted that the use of IT included the use of numerous resources such as hardware which includes the media and machines, the software which comprise of procedures and programs, and people which include users and specialists in order to carry out the inputs, processing, outputs, control, and storage activities which ultimately convert such data resources into viable information products (Momani, 2017). It is actually through the use of IT that banks listed on the Jordanian stock exchange can effectively make use of numerous systems which include among others the Transaction Processing systems, the management information systems, the decision support systems, the executive support systems, the knowledge-based information systems, the office automation systems, and the electronic information systems (Khan& Islam, 2017).

It is prudent to note that even though information about the implementation of the AISs has been researched comprehensively, present literature depicts that there is slight evidence regarding AIS and the performance measures (Al-Hawary & Al-Smeran, 2017). Indeed, the use of IT on the AIS is capable of having a positive impact on the listed banks in Jordan due to numerous reasons. Apart from the fact that it can help such banks to better adapt to an ever-dynamic environment, it can also help them to have high degrees of competitiveness and smoother flow of information (Wilson &Veuger, 2017). IT enables organizations to have effective intercommunication between the various departments through system interaction. It was also noted that the successful and effectively integration of the AIS in the Banks in Jordan that are listed on the stock exchange are highly depended on the how well the other factors are effectively implemented in order to facilitate their operations (Lugmayr & Grueblbauer, 2017).

It was revealed that banks listed on the Jordanian stock exchange were capable of achieving higher performances especially when they were capable of implementing some specific technological developments such as IT tools. It was a genuine observation that indeed, the use of IT had a significant impact on the value of the banks both as businesses and as organizations (Alrabba&

Ahmad, 2017). The use of IT enables effective flow of reliable and viable information which is quite crucial in the AIS and in the general success of the organizations, or banks in this aspect. It is important to note that even though the use of IT in AIS does increase the efficiency, performance, and profitability of the banks which are listed on the Jordanian stock exchange, it is also important to note that IT has made a significant impact on the accounting banks listed on the Jordanian stock exchange (Dunne et al., 2017). This is attributed to the fact that it can be used to both develop and computerize systems so that they can effectively track as well as record the financial transactions in the organization.

There is need to ensure that there is an evaluation of the computer-based information systems which are used in the Islamic banks in Jordan. This is quite useful because it will enable such banks to not only upgrade their uses but also expand their own influences so that they can easily achieve the “strategic competitive advantages” that are quite definite for any banking institution (Daoud&Triki, 2013). This is quite true because the uses of computerized systems forms the organizational and technological basis for more advances as well as smart information systems to become integrated with the substantive needs of most of the Banks in Jordan (Hassan et al., 2016). Indeed, there are numerous reasons as to why most of the banks in Jordan have started to develop their AISs as well as ensure that their investments in electronic communications as well as technology are enhanced (Mohamed et al., 2014).

It is worthy to note that uses of accounting systems by some of the listed banks in Jordan have represented the engines which have driven the potential for development and ensured that there is provision of high-quality banking services that have significant influence not only on the process of decision making in such banks but also at investor and managerial services as well as requesters of banking services (Masa'dehet et al., 2015). It is essential for all and sundry to become aware that the use of IT specifically in e-commerce has added significant challenges on all banks as well as on their systems of accounting to be specific. For some of the banks in Jordan, the issue of AISs has

been regarded as being the backbone of the information systems in most of the banks. This is attributed to the fact that AISs are known to present accounting systems that are capable of summarizing the operations and events which happened in the bank thus providing both reasonable and rational results that can enable them to make organizational decisions effectively.

Accounting information systems are widely used by numerous organizations across the world to both automate and integrate their respective business operations (Rawashdeh, 2015). The major aim as to why some of the listed banks in Jordan adopt the use of Accounting Information systems is that they want to not only enhance their business efficiency but they also want to enhance their competitiveness. One of the qualitative characteristics that is associated with any specific Accounting Information System is that it should be effectively maintained based on the internal control system of a specific organization.

It is quite apparent that the use of AIS in banks in Jordan is of great significance and importance because it helps in the preparation of quality accounting information for numerous users within and outside such organizations. It thus can be ascertained that the application of IT indeed has a significant impact on the general operations of Banks that have been listed on the Jordanian Stock Exchange. It is therefore important for such institutions or organizations to effectively comprehend the role which is played by technology in their respective organizations and also understand the role that it plays on their organizational processes (Tarhinet et al., 2015). The present research seeks to indicate that an accounting system that is well supported by an effective IT, hardware and network system is indeed a basic requirement of an organization's top management especially in the contemporary business conditions. That apart, it is vital for banking institutions in Jordan to become aware that the quality of any accounting information is highly dependent on the integrity of not only its AISs but also on its relation or association with other relevant business areas. The use of Integrated Business Applications or IBA is quite essential on the AIS in Jordan because it aids in the addition of value to such business enterprises.

The application or use of the “accounting data processing” that has been well supported through relevant IT is quite beneficial for listed banks in Jordan because it results in the minimization of accounting costs and production of information. It is also quite beneficial for such firms because it not only leads to saving of energy and time but it also results in an increased confidence in the accounting information that is being used by such firms by their relevant stakeholders (Abdallah, 2014). Historically, the use of AISs is normally viewed and ascertained through the development of IT. In that perspective, it is not strange to note that some of the survey results across the world are known to depict that some of the organizations change or alter their AISs such as in the cost accounting field in order to respond to the development of new information and communication technologies as well as changes in the environment. It is prudent to note that similar changes have also occurred in the managerial accounting field as well. It is no secret that that some of the “empirical survey results” in Jordan depict that some of the certified accountants high connect the use of IT with the numerous changes and tasks that are associated with managerial accounts (Alrabei, 2014). This is attributed to the fact that among other features, the use of IT has been ranked as being the most significant and key feature of the several changes in the role played by managerial accountants. The use of new accounting software is also one of the key essential features of the changes that are noted in the roles played by managerial accountants in Jordan.

One of the important reasons that proves that the use of IT has indeed had a significant impact on the AISs of the listed banks in Jordan is obviously the fact that the use of the traditional or conventional accounting systems in most of the banking institutions in Jordan which includes input, processing of data, as well as output have now been altered because the prevalence of IT. The first progress in the use of online technology coupled with the World Wide Web or application during the past decade has been the significant reason behind both e-business and e-commerce in Jordan (Al-Duwaila& Abdullah, 2017). It is due to this that it can be ascertained that the use of electronic accounting systems of the banks listed in Jordan is also behind the use and application of both

internet and electronic business concepts. In that respect, accounting in such institutions can now be recognized as being accounting via the virtual office which is also termed as “paperless accounting”. IT has therefore made the listed banks in Jordan to operate as virtual offices in which business operations are sped up. Through paperless accounting, there is both electronic input as well as output and thus there is no requirement for report and document printout. However, it is prudent to note that even though most of the contemporary business transactions and operations are processed, documented, and even reported in a paperless manner, the use of paperless accounting has not actually been effectively utilized on a global perspective (Khedmatgozaret et al., 2014). It is apparent that the use of “integrated business applications” by organizations has significantly contributed to the new modern approach that is used in accounting.

IT has had a tremendous impact on AISs because it has led to the changing of the conventional sources of numerous documents such as cheques, invoices, and purchase orders have been replaced by the use of emails and other accounting evidence that are electronic in nature. There are numerous basic requisites that are required in paperless accounting and these include among others:

- Entering of data ought to be in form of “electronic inputs”
- All the accounting records in the organization should be deemed as being “electronic records” in accordance with the laid down accounting principles, standards, and prerequisites.
- There should be integration of some accounting records parts to make it possible for fast transfer of data (Haijaet et al., 2014).
- Accounting information in banking institutions should be in electronic manner so as to ensure that there is up-to-date delivery of information to users in a reliable manner.

2.4 Contingency -AIS

It can be saying that AIS that are adopted across listed banks in Jordan needs to be designed as per decision-making needs within the organizations. The design of the AIS has been found to be the most integral factor that contributes towards successful implementation. Once a suitable design has been selected and information system has been applied within the framework, then it will be able to provide valuable information to varied type of stakeholders within the organization. Successful organization has well designed AIS designed suited to their needs. AIS have to consider the environmental uncertainty with financial and internal factors for determining needs for the organization. Contingency theory is used to evaluate the effectiveness of AIS within organizations, which further makes use of designing framework to match needs for the organization. There are a number of complex AIS available in the market and most effective ones are those that have capabilities to match needs of the organization. More the suitability to the organization greater is the capability of the system to deliver output or efficiency related factors. Some key and integral concepts encapsulating AIS has been discussed as given below.

(Hamden, 2012) in his article, the impact of AIS development life cycle on its Effectiveness and critical success factors. The journal studied the impact of AIS development life cycle on its effectiveness and critical success factors, the aim of this analysis is to research the impact of data register development Lifecycle on its effectiveness and important success ingredients. Balanced record wanted to assess the accounting system effectiveness. The cardboard enclosed all the compulsory requisites for the AIS. The size included materiality, reliability, responsiveness and understanding. This study is predicated on Oracle Applications Implementation Methodology (AIM) for identifying the accounting data system Life Cycle Phases, to look at the relationships among the Accounting data Systems effectiveness and demanding success factors that belong to the wide unfold of Oracle application's usage by the Jordanian companies, and the name of Oracle corporation collectively of the foremost renowned suppliers for the code solutions everywhere the

globe by mistreating the oracle applications Implementation Methodology, additional correct results are expected to be made due to the elaborate definitions of the AIS life cycle stages, and also the detailed definitions of the decisive success elements in every section. (Francis, 2017). The balanced record book chosen by this study as a tool to gauge the AIS effectiveness, during this regards a balanced record book designed by this survey to include a measurement for general options desired by accounting data systems' users in producing field, this technique expected to be seldom enforced within the Middle East to gauge the AIS effectiveness.

The balanced scorecards sometimes designed to be put through for specific companies or entities, this study aimed to style a balanced record book to be used for quite one firm within a same field as a general tool, taking into thought, every firm strategy and aims, by turning over a facility to weigh every perspective and measure enclosed within the balanced scorecard in line with every firm's perspective. It is worth noting that this study distinguished between the planned training and just in time training, that's due to the consequence for each kind expected to be unlike granting to the accounting information system life cycle stages.

Reviewing many studies during 1985 to the 2014, more than one has been conducted on the issue of AIS. Ahmad (2013) evaluated several works of prominent authors. One evaluation was of Al-Qudah, (2011) study conducted to investigate the impact of AISs on the effectiveness of internal control in Jordanian commercial companies. The study concluded that the AIS have an impact on the effectiveness of accounting controls in Jordanian companies; specifically, the AIS helps generate accurate, up-to-date, comprehensive and comparable data. Moreover, the AIS has a positive effect on the effectiveness of managerial control in Jordanian companies in the sense that the data produced by the AIS helps decision makers in the accounting sector or department to reach or to make operational and strategic decisions.

(Kalboneh, 2015) conducted a study about Ecommerce which held the view that the E- commerce is one of the many reasons that the rates or ratios of trading are rising to many companies, E-commerce could help in the growth of the internal trade and external interaction as well. There is an impact of meeting the requirements of E-commerce on the usage of E- commerce and there is an impact of the security on the web on the increased usage of E- commerce.

Choe (1996) study highlights the importance of the relationships between the performance of AIS and the result showed that the use of AIS influence on the performance of the company. Study results that indicated that there is relationship between the size of the company and the AIS application and there is a significant relationship between the ability for the stuff and the AIS. Joseph (2012) identified the owners as the most major users of the AIS, which enabled them to assess the operations of the banks in Jordan. According to this study, networks, technology and information has made AIS an important tool in dealing with intricacy all the days with all the competitors, the research concludes that AIS plays an important role in the operations of management. The AIS can give support of controlling, performance and strategic planning for the banks in Nigeria and even in Jordanian, AIS will lead to better decision for the decision makers, the AIS output will guide the managers to quality decisions, successful of the AIS will be direct to the efficient performance.

Asongu and Biekpe (2017) analysed the integration of the subsystems is critical for the banks sector especially for the AIS, this study focused of the critical investment of the AIS (Asongu. 2017). Grande et al., (2011) study aimed to investigate the impact of AIS on the performance measures in Spain. The study measures relationship between the AIS by the small sized enterprises in Spain. This study provided value added in AIS literature given of works dealing with relationship between the applications and AIS and productivity indicators in small companies in Spain, the result found in this study indicated that there was a strong impact between the AIS and this companies and will support the company of the critical decisions. This study was based on empirical evidence.

According to Banker, et al., (2002), this study focused on the limit offices of an international accounting companies that made large IT investments, especially in auditing software and other knowledge sharing models, IT investment is critical variable for the managers, managers need to understand the potential advantages resulting from this kind of investment of IT.

Alramahi et al. (2014). The study result showed significant indication of productivity gains following IT applications, in this research quantitative and qualitative information are analyzed to assess the change in productivity according to investment of IT.

Stefanović and Novičević, (2012) discussed the flexibly designed cost of the AIS on reliability support to modern companies on Belgrade, according to this study the most prominent trend has been move the focus from determining product costs by using standard cost model, the AIS played important role of pricing the various products, this study focus of the importance of conditions for internal and external complexity, a flexibility cost accounting information system can respond to the different information requirements.

James (2013) argues IT concepts and applications of costing such as activity-based cost (ABC) and activity-based management (ABM) could guide the company to reduce the cost by identify each driver for each activity called cost driver. Ahmad and Zawaideh (2013) investigated the impact of expert systems on the usefulness of AIS for effectiveness firm performance. This study showed that there was significant impact of the expert systems implementation on the firm's performance on the advantages of the AIS, expensive systems could be the most challenges for many organizations to applying, this study discussed the relationship between the AIS and productivity and the relationship between the AIS and helpful regardless of their cost, type of business and the cost issues, finally mentioned the advantages and disadvantages of using the expert group.

Al-Zoubi (2017) study considers the hypothesis that represents the comparison between AIS and issue of the implementation cost. According to this, the AIS helps the companies in improving productivity, protection of data, and reduction of cost, but there are a lot of problem and formulations, which happened. Khan, Zaman, Khan and Islam (2017) in their study analysed various patented information that are used to arrive at a comprehensive AIS (Khan, 2017). Haddad, Sbeiti and Qasim (2017) article analyses accounting legislation, corporate governance codes and disclosure in Jordan which need to be considered for smooth functioning of AIS (Haddad, 2017). The use of expert system for many establishments could improve the financial state and improve its financial management decision. Al-Saeed, et al., (2012), studied the impact of control objectives. Jones, Reilly, Cox and Cole (2017) analyses gender making a difference by investigating consumer purchasing behavior and attitudes toward corporate social responsibility policies (Jones, et.al., 2017). IT on the information criteria and IT resources, importance study arises of IT practices on the Banks in Jordan, this study examined the effect of IT to be considered faithful presentation, data was collected by questionnaire which were distributed to all banks in Jordan, the study indicated that there is a significant relationship between IT and the reliability for information, efficiency, effectiveness, reliability and integrity.

Ayad and Ghazi (2017) article analysed Human Resources Information Systems and their Impact on Competitive Advantage by understanding impact of AIS (Ayad, 2017). In particular, the literature review will evaluate on the extensive research that have been conducted on the impact of IT with a special respect to AIS among the listed banks in Jordan such as bank of Jordan, Capital Bank, Cairo Amman Bank, Jordan Kuwait Bank, Invest Bank, Arab Jordan Investment Bank, Jordan Ahli Bank and The Housing Bank of Trade & Finance (Rahman, 2016). To be precise, this literature review section will majorly focus on deliberating on the previously conducted research work on the research topic. Therefore, it will delve much deeper into the issue of contention by focusing on the related subjects brought about by other researchers in their work. Furthermore, there is knowledge on the issues of IT and AIS in order to have a concrete understanding of its application amongst banks in Jordan (Obeidat, Masa'deh, 2016). To achieve this, I have extensively surveyed books, scholarly articles and other relevant resources. By going through various scholarly articles on the impact of IT on AIS, I have developed a better understanding of the subject matter that need to be deliberated and expounded in this paper. Therefore, I aim at critically evaluating and appreciating every article to establish their similarities and the manner in which the respective research has been expounded. Alrabei (2013) asserts that AIS are prevalent in Jordanian Islamic Banks. It is further articulated that AIS has played a significant role in the provision of appropriate information regarding substances that are available at the right course of time. Cameron and Sosik (2016) identify the corporate law encapsulating regulations for AIS to be followed effectively. Alternatively, the article defines the accounting information system as a computer based that increase and enhances work in any given organization. As such AIS plays an instrumental role in the management as well as implementation of various internal control mechanism in any organization.

Kaabachi, (2017) paper analysed marketing functions as connected to banks in Jordan; However, it is asserted that in any given environment where the Accounting Information System is deployed, qualities attributed to internal control adaptation have significant impact on the operations and the management of an organization. For this reason, it has been made clear that the primary functions of an Accounting Information System in any given organization is to uphold the qualitative work of an organization and also provide a roadmap for future economic actions to be undertaken by an organization. Through the deployment of Accounting Information System, a financial institution such as the bank will have the capacity to produce financial statements such as cash flow, income statement and balance sheet for a given stipulated period of time.

However, Bawaneh (2014) points out that Accounting Information System can be an appropriate tool when it is correctly interlinked with IT systems in a bank such that it helps in the effective management and control of banks financial and economic operations. Homayoun, Rezaee and Ahmadi (2015) analyses corporate social responsibilities that has to be accounted for within framework for AIS (Homayoun, 2015). This is further alluded to the fact that the proliferation of technology has increased the adoption and incorporation of IT in the operation platform of various organizations such as banks. However, it is imperative to note that the use of Accounting Information System plays a significant role in the daily operations of any organization regardless of whether is for the purposes of profit making or non-profit making organization. Hamdan, (2012) analysed the impact of AIS development life cycle on its effectiveness and critical success factors Essentially, AIS entails an integration of various related components assembled together for the purpose of collecting ordinary data, information and other significant raw data that can be transformed for various objective reasons deemed appropriate by an organization.

Banalzwaa (2017) study the mediating Effect of Intellectual Capital on the Relationships between IT for Human Resource, for Marketing Communication on Performance of Banking Sector in UAE, basing on the available extensive literature that has been documented, it is clear that accounting is defined by aspects such as information system, source of financial information and the language adopted by the business. Bawaneh (2014) in his article analysed Information security for organizations and AIS a Jordan banking sector case. In this essence, information is a crucial resource when it comes to the AIS because it provides an organization with the ideal opportunity to take actions aimed at ensuring that an organization is on the right path of meeting all its significant obligations for normal operations. Evans, Perrault and Jones (2017) analyses managers' Moral Obligation of Fairness to (All) Shareholders: Does Information Asymmetry Benefit Privileged Investors at Other Shareholders' Expense (Evan, et al., 2017).

Therefore, success is dictated by the established association regarding the design of the Accounting Information System. It is vital to acknowledge that listed banks in Jordan have been at the forefront of deploying the use of AIS to interlink their banking services and the operation of departments aimed at boosting efficiency. analyses IT capability and firm performance Besides, these have played a major role in the satisfaction of customers by being able to meet their needs effectively within a short timeframe and with minimal efforts. (Krishan, 2017)

Going the proliferation of technology globally, accounting is a significant discipline that has also conformed to the need to embrace technological change through the Accounting Information Systems. analyses enhancing Loan Quality through Transparency. However, there is need for the financial and banking sector to expand its development with regard to information systems that are integrated in the accounting Information Systems. This is majorly due to the assertion that Accounting Information System has the potential of helping any given organization to keep in line with the emerging development. Further, this ensures that there is maximum benefit accrued to an organization with regard to the services, facilities and the resultant advantages due to the emergence of technology and its use to enhance the delivery of services to customers.

Darus and Yusoff (2014) evaluates the importance of ownership monitoring and firm resources on corporate social responsibility (CSR) of financial institutions. The use of IT has had a significant impact on numerous fields across the world. In essence, the use of IT in the contemporary world has now altered the way or manner in which tasks are executed. Among some of the fields that have been greatly affected by the use of IT is the accounting sector. The use of IT has had a significant impact on the AIS. The aim of this research study is thus to critically examine the impact of IT on the AIS in Jordan. The world witnessed a revolution in IT between the last years of the previous century and the beginning of the present century (Chae et al., 2014). There is an increased awareness of the role strategic IT installations play in the AIS, particularly in terms of giving its facilities a competitive advantage (Hamdan, 2012).

Sajady et al., (2008) conducted a major evaluation of the effectiveness of the AISs of listed companies on the Tehran Stock Exchange focusing on the extent to which AISs improved internal controls and the quality of financial reports. The work of Chae et al. (2014) was concerned with how information content, accuracy, format, etc. can measure the effectiveness of AISs. Recent work either investigates the impact of the AIS development lifecycle on its effectiveness and critical success factors, or the impact of the human factor on the AIS (Dehghanzade, et al., 2011).

There has been only limited research on the effectiveness of IT for the AIS. AISs are built using IT, which is composed of hardware, software and networks. It is postulated that it is particularly necessary to determine the effectiveness of these components in terms of accounting conceptual framework concepts, such as relevance, faithful presentation, applicability and implementation in the listed banks in Jordan (Ghasemi, et al., 2011). This study seeks to tackle the significant and key gap by examining the effectiveness of the components of IT for the AIS. The expected outcome is that a better understanding of hardware, software and networks and there, impact on the effectiveness of the AIS will be achieved, by applying the accounting conceptual framework (Nicolaou, 2000).

2.5 Behavioral – AIS

It can be asserted that the use of IT has a great impact on the use of AIS of listed banks in Jordan. For instance, through cloud computing, the accounting fields in banking institutions have experienced numerous changes. The use of cloud computing has made it possible for banks in Jordan to only pay for the computer resources which have been delivered on a network. This trend is also known to greatly influence the development of most of the AIS in Jordan (Tarhiniet et al., 2016). Cloud computing is quite advantageous in the procurement of both software and hardware for banking institutions. This has led to a significant decrease in the development and maintenance of most of the AIS of most Banks in Jordan that have been listed in the stock exchange. That apart, the use of IT makes it easy for information to become available to relevant parties since the use of the internet implies that such information can be accessed from any place at any time.

It is important to note that the influence of IT on the accounting systems in banks in Jordan that have been listed on the stock exchange have not only been represented through technological innovations but rather through the influence that has been created on different users (Mohamed et al., 2014). In that accord, it is prudent to stress the fact that organizations across the world use the internet and other IT tools for disclosure of not only their financial information but also for other forms of business information as well. IT use has thus had a wide impact on the AIS because it has led to a change in the manner in which such organizations do their financial reporting. From the point of view of most accountants in Jordan, the use of IT plays a significant role in the gathering as well as analysis of information thus easily helping them to accomplish or complete their specific legal obligations (Tarhini, et al., 2016).

It is important to note that even though there are numerous advantages that are associated with the use of IT in the AIS of the listed banks in Jordan, it is also important to note that IT also has some risks that should not just be wished or diminished easily in the air (Tarhinet et al., 2016). This implies that even though IT is known to contribute to almost all the components of the accounting processes, firms should take utmost care in ensuring that their internal control systems, especially their IT environments are well secured to avoid it encountering risks.

In order to successfully carry out different tasks as well as make some of the rational business decisions in banking firms in Jordan, it is important to have quality information. This is quite true since in the modern world information is has become highly recognized as being a vital economic resource and indeed one of the most crucial assets for any given organization. This is quite true since companies which integrate IT strategies successfully with their appropriate business strategies normally do so through placing strong emphasis on information itself as opposed to technology (Bisheret et al., 2014). This is attributed to the fact that they highly belief that the actual “carrier of value” as well as the major source of having competitive advantage is through having essential information. This is quite true since information is capable of providing financial organizations such as listed banks in Jordan with an opportunity to not only deliver essential services to their customers but also to make good decisions, attain competitive advantages, and also enhance its general operations. There have been a variety of research efforts that have been carried out with an aim of evaluating the quality of information as well as the quality of information systems. As a result of that, numerous models on both information as well as information systems have been developed. One such example is the “Shannon’s Model of Communication” that was developed in 1948.

AIS that has effectively been supported by IT is capable of generating a wide or broad range of information within a short period of time. However, it is also important to note that the reliability of information is often omitted even though the use of reliable information normally keeps the confidence in the use of AIS (Aburub, 2015). That apart, it is important to note that most of the “secondary accounting qualities” are neutrality and comparability. This implies that only neutral information that does not have favoritism is capable of contributing to the business decisions of an organization. On the other hand, “comparable accounting information” aids users to easily detect any differences and similarities in not only the financial position but also the business performance of such organizations (Al Shobaki & Naser, 2016). It is prudent to note that the measurement of most accounting information quality is highly dependent on the measurements of the quality of AIS quality. This is attributed to the fact that accounting information is indeed an accounting output of innovation systems. It is also important to note that the quality of most accounting information is highly depended on the AIS quality as well as other “non- AIS” which can include both the statistic and operative information systems. As a result, a “quality accounting system” is one which is capable of meeting the needs of both its internal and external users.

The uses of AIS is quite beneficial because of the role that it plays in supporting numerous business decisions in the listed banks in Jordan. On the other hand, it is important for all sundry to note that the widespread application or use of IT in the listed banks in Jordan greatly enhances their accounting functions thus making them to become not only efficient but also effective in supplementing of accounting related information (Haijaet et al., 2015). It is important to note that computer-based accounting systems such as the AIS helps users to make more accurate reporting and also process large amounts of organizational transactions. It also results in production of more meaningful reporting that is used for analysis. However, even though numerous benefits have been attributed to the use of AIS, it was ascertained that small as well as medium enterprises or SMEs have been known to lag behind on the use of AIS, accounting information is important for business entities in Jordan because it enables them to manage any short-range issues. This is because it provides organizational managers with relevant information that can both support the control as well as monitoring of functions in different critical department such as costing, expenditure, cash flow.

The financial job of any accounting information system in any organization is for the responsible management of organizational financial assets which includes among others inventory, feedback, and other assets that can be used in the organization of Returns on Investment (ROI) as well as the total value for the shares (Abdallah, 2014). The AIS for an organization such as a bank are tasked with the responsibility of testing the cash flow and the assets of the bank and accessing of its external information. It can thus truly be asserted that both the financial and AIS in an organization are the ones that can effectively store a company's financial assets and even provide it with "long term forecasts". Through the use of IT, listed banks in Jordan are able to not only collect and record but they are also capable of storing and handling data in order to provide important information to the bank's decision makers using either advanced technology or even simple systems.

AIS is also capable of facilitating long range strategic planning for most of the business firms which are running in an environment that is highly dynamic and competitive. Due to the advent in the use of IT or I.T the use of IT related solutions that are aimed at supporting both the collection as well as the communication of essential accounting information ought to be given utmost; priority as part and parcel of initiatives that are aimed at extending the production and competitiveness of the organization. In the contemporary world, the use of IT plans an integrated as well as intensive role in the manner in which most of the accounting information are executed (Joshi et al., 2017). The importance that is associated to the use of IT to listed banks in Jordan has been regarded as being the most effective way of enhancing most if the accounting functions in such organizations. The appropriate or effective use of IT in listed banks in Jordan has a significant impact on them because it helps in ensuring that there is accurate and timely accounting reports as well as other essential financial information for the managers of an organization regarding to the impacts or effects of their decision making process as well as the business operations results on the performance of the firm (Al-Duwaila& Abdullah, 2017).

2.6 Characteristics of Accounting Information system

IT used to determine the quality of the AIS for accounting purposes. Since AIS are expected to process critical sources of business data and into valuable information for the purpose of decision making and fulfill legal obligations, it is prudent that they reflect sound accounting principles. Drawing on existing literature, in these sub-section seven principles are set out that need to be reflected in IT-based AIS. IT-based accounting information is necessary to provide information about banks that is useful to present and potential equity investors and regulators.

Before making a critical examination on how the use of IT has an impact on the AIS of some of the listed banks in Jordan, it is prudent to ascertain some of the key characteristics of such accounting information. This is because so as accounting information system is capable of attaining the set goals, then it is important for it to have some of the basic properties named below:

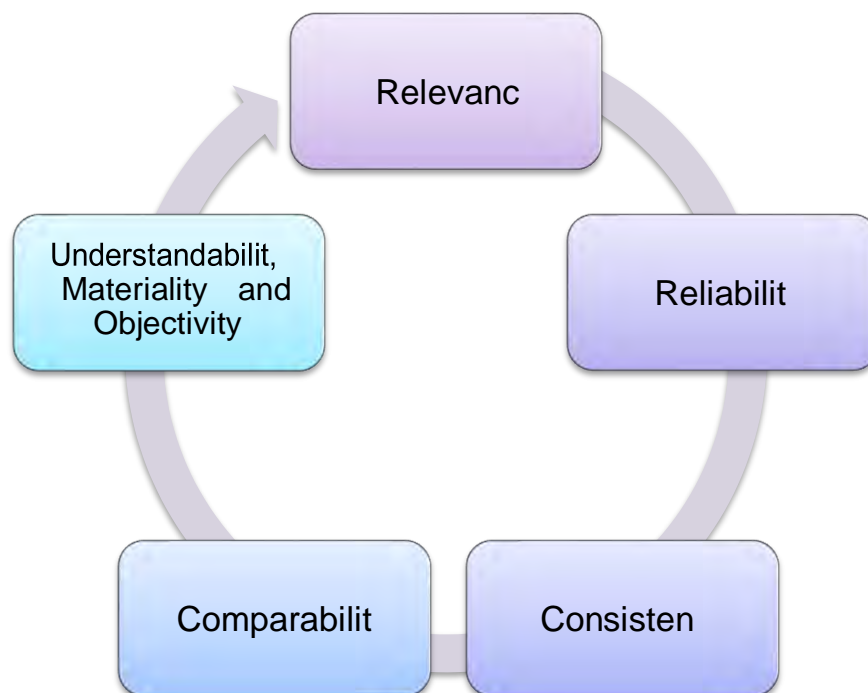


Figure 1: Characteristics of Accounting Information System (Romney, 2013)

2.6.1 Relevance- AIS

According to Richardson and Zmud (2001) study the value relevance of IT investments, the strategic role for IT in an industry, the study investigated the provision of support for the addition of value of capturing in nature an industry related to competitive of IT among the companies, IT pays off only when the investment of IT applications is well targeted, comprehensive and complete. Ahmed (2013) discussed the Islamic banking growth, role of IT in cost optimization and operational excellence. The purpose of this survey is to determine the purpose of knowledge technology in the development of Islamic banking. The purpose of knowledge technology in enhancing the progress of several industries has dominated many topics. For the monotheism banking system, change is that the key thrust. This translation is based on swift developments in IT. The key proposal focuses on important success components that are; price optimization and functional excellence, that measured by share of retention of monotheism banking client base, increasing the employee's experience of the rising IT and enhancing availability of modern engineering and managing competition among typical and monotheism banking establishments. These success factors square measure broad. Nevertheless, this study acknowledges the probability of availability of additional components that square measure equally vital. This work uses an informative approach supported many case studies. Technology and monotheism banking may be a new relationship that has received restricted study. Thus, analysis emphasizes on the need for alpha analysis, which will shed additional lightweight on this growing issue. Besides, the realm lacks main developed themes. This disqualifies the probability of moving forward to conduct single and additional comprehensive anthropological analysis. So, this study concludes the technology plays a fundamental character within the evolution of the monotheism banking system and enhancing its competitiveness, however, the implementation of this technology is featured by varied hurdles that don't seem to be gifted within the typical banking industry.

Ali Alrabei in the article. The Impact of Accounting Information System on the Islam Banks of Jordan analyses an Empirical Study asset that Accounting Information System are prevalent in Jordanian Islamic Banks. (Alrabei. Mahmud, 2014).

It is further articulated that AIS has played a significant role in the provision of appropriate information regarding substances that are available at the right course of time. Alternatively, the article defines the Accounting Information System a computer-based platform that increases and enhances work in any given organization. As such, AIS plays an instrumental role in the management as well as implementation of various internal control mechanisms in any organization. However, it is asserted that in any given environment where the Accounting Information System is deployed, qualities attributed to internal control adaptation have significant impact on the operations and the management of an organization. For this reason, it has been made clear that the primary functions of an Accounting Information System in any given organization is to uphold the qualitative work of an organization and also provide a roadmap for future economic actions to be undertaken by an organization. Through the deployment of Accounting Information System, a financial institution such as the bank will have the capacity to produce financial statements such as cash flow, income statement and balance sheet for a given stipulated period of time.

However, Bawaneh (2014) points out that AIS can be an appropriate tool when it is correctly interlinked with IT Systems in a bank such that it helps in the effective management and control of banks financial and economic operations. This is further alluded to the fact that the proliferation of technology has increased the adoption and incorporation of IT in the operation platform of various organizations such as banks. However, it is imperative to note that the use of Accounting Information System plays a significant role in the daily operations of any organization regardless of whether is for the purposes of profit making or non-profit making organization. Essentially, AIS entails an integration of various related components assembled together for the purpose of collecting ordinary data, information and other significant raw data that can be transformed for various

objective reasons deemed appropriate by an organization. Basing on the available extensive literature that has been documented, it is clear that accounting is defined by aspects such as information system, source of financial information and the language adopted by the business. In this essence, information is a crucial resource when it comes to the AIS because it provides an organization with the ideal opportunity to take actions aimed at ensuring that an organization is on the right path of meeting all its significant obligations for normal operations. Therefore, success is dictated by the established association regarding the design of the Accounting Information System. It is vital to acknowledge that listed banks in Jordan have been at the forefront of deploying the use of AIS to interlink their banking services and the operation of departments aimed at boosting efficiency (Krishan, 2017). Besides, these have played a major role in the satisfaction of customers by being able to meet their needs effectively within a short timeframe and with minimal efforts. Going the proliferation of technology globally, accounting is a significant discipline that has also conformed to the need to embrace technological change through the AIS.

However, there is need for the financial and banking sector to expand its development with regard to information systems that are integrated in the accounting Information Systems. This is majorly due to the assertion that Accounting Information System has the potential of helping any given organization to keep in line with the emerging development. Further, this ensure that there is maximum benefit accrued to an organization with regard to the services, facilities and the resultant advantages due to the emergence of technology and its use to enhance the delivery of services to customers.

The adoption of AIS among most Islamic banks in Jordan is deemed to provide appropriate information that can be deployed for decision making purposes as well as executing control and appraisal. Despite this, it has been articulated that the AIS deployed in Banks in Jordan should be effectively developed in line with appropriate IT standards to ensure and safeguard the security of the information resources under contention. For the last ten years, wide technological and economic

changes up to including accounting have been witnessed globally. Such developments have necessitated the need to adopt AIS especially amongst the banks in Jordan (Uyar, Gungormus, &Kuzey, 2017).

Even though IT has led to significant and rapid changes in contemporary environment of conducting businesses, it is asserted that the banking sector should be highly responsive to such changes considering that there is intense competition among various elements in the banking sector both internationally and locally.

2.6.2 Reliability-AIS

It is imperative to note that IT has led to significant development in the contemporary business environment, especially the banking sector that is characterized by rapid development. Basing on this assertion, it is articulated that it is necessary for the banking sector to expand broadly with regard to this by developing the folds of its information systems with respect to the accounting information system. This will hugely help to adjust to massive development being witnessed, thus leading to the realization of optimum benefit that will be provided by technology due to the improved services provided by the financial banks to their clients. On a similar note, it is asserted that deployment of IT in the accounting information system also has an impact of upgrading the foreign competitiveness of the banks in Jordan. Correspondingly, it is imperative to note that the AIS in Jordan's Islamic banks in this phase of technological development boldly represent a crucial pillar tasked with the responsibility of providing crucial information that can be utilized for the purpose of making decisions (Susanto, 2017). Besides, the stored information can also be used for the purposes of performance appraisal and controlling the routine operations of a financial institution. This is attributed to the assertion that AIS have the capacity of holding crucial information utilized by Islamic banks. For this reason, IT should be seamlessly incorporated with the AIS to ensure that they meet the required threshold to maintain and uphold efficiency (Susanto, 2017). It is for this reason that many researchers have deliberated their efforts towards evaluating the impact of AIS on banks in Jordan with a special respect to IT. This has been achieved specifically by evaluating aspects such as reliability, simplicity, flexibility, and quality as indicated by Noble & Smith (2015). Therefore, in Jordan, much emphasis has been channeled towards the use of IT to boost the efficiency and the effectiveness of AIS. This is attributed to the reason that IT has an impact of making the AIS to function and operate optimally by providing the crucial information for decision making, thus helping most listed Banks in Jordan to adjust to the stiff competitiveness in the industry. This also facilitates widespread use of AIS on various IT platforms.

2.6.3 Consistency-AIS

Appropriateness for any accounting information to effectively give the benefits which are desired, it is important to ensure that it is quite appropriate for the purpose that it has been designed for (Haddad et al., 2014). Consistency is an integral factor that is a basic characteristic of AIS. That apart, it is prudent for all and sundry to note that appropriateness is indeed an essential requirement in any information which is utilized in the assessment of the administrative policies of an organization. Credibility of accounting information ought to comprise of a “degree of possibility” of objectivity or verification that is based on enough evidence of proof as well as one which is free from any form of bias.

Accuracy failure of any organization to present accurate and concise accounting information that causes lack of verification for such information due to mistakes in discrepancies between information that has been processed for use by the administrative team can make it to become inaccurate and thus un-useful for any organization (Mohamed et al., 2014).

Timing is quite a crucial component that leads in success in any decision-making process for any organization. This is attributed to the fact that any accounting information will stop being beneficial if decision makers in an organization do not have appropriate time or even when they delay in delivering such information. Comprehension and Absorptions important to put in mind the fact that most of the accounting information that is available in the administrative decisions is known to be highly based on the length of absorption by the management team of such information. This helps such information to be simplified, understandable, and meaningful without necessarily resorting to data that is quite detailed.

Importance or Vitality is a genuine fact that accounting information is capable of performing its set role only if it has the relevant characteristics which is mainly being the major source of vital information that can be intervened in not only the formulation but also in the entire decision-making process (Bawaneh, 2014). Neglecting the importance associated with accounting information

implies that a problem will quite definitely occur. Fulfillment standards both in IT and in the AIS are highly based on the quality and quantity of information as well as the extents of absorption by an organization's management team members in accounting information. This is done with an aim of ensuring that there is satisfaction of their own needs for information and that benefit are given which may be greater than the costs which are associated with preparation.

2.6.4 Comparability-AIS

The application or utilization of AIS has been very much bolstered through significant IT is very useful for recorded banks in Jordan since it brings about the minimization of accounting expenses and generation of data. It is additionally very helpful for such firms since it not just prompts sparing of vitality and time yet it likewise brings about an expanded trust in the accounting data that is being utilized by such firms by their important partners. The utilization of accounting data frameworks is ordinarily seen and discovered through the improvement of data innovation. In that viewpoint, it is not bizarre to take note of that a portion of the study comes about over the world are known to delineate that a portion of the associations change or adjust their accounting data frameworks, for example, in the cost accounting field with a specific end goal to react to the advancement of new data and correspondence advances and changes in the earth. It is judicious to take note of that comparative changes have likewise happened in the administrative accounting field also. It's a well-known fact that that a portion of the "observational review comes about" in Jordan portray that a portion of the ensured accountants high associate the utilization of data technology.

The utilization of accounting data is very gainful due to the part that it plays in supporting various business choices in the recorded banks in Jordan. Then again, it is imperative for all sundry to take note of that the across-the-board application or utilization of data innovation in the recorded banks in Jordan extraordinarily upgrades their accounting capacities along these lines making them to end up plainly proficient as well as viable in supplementing of accounting related data. Note that PC based accounting frameworks, for example, the AIS encourages clients to influence more exact

announcing and furthermore to process a lot of hierarchical exchanges. It likewise brings about creation of more important detailing that is utilized for examination. In any case, despite the fact that various advantages have been credited to the utilization of AIS, it was learned that little and additionally medium undertakings or SMEs have been known to fall behind on the utilization of Accounting Information frameworks. That, accounting data is imperative for business substances in Jordan since it empowers them to deal with any short-range issues. This is on account of it gives hierarchical directors pertinent data that can both help the control and also checking of capacities in various basic office, for example, costing, use, income.

The money related employment of any accounting data framework in any association is for the capable administration of hierarchical monetary resources which incorporates among others stock, criticism, and different resources that can be utilized as a part of the association of Returns on Investment (ROI) and in addition the aggregate an incentive for the offers (Cascino &Gassen, 2015). The accounting data frameworks for an association, for example, a bank is entrusted with the duty of testing the income and the advantages of the bank and getting to of its outer data. It would thus be able to genuinely be stated that both the monetary and accounting data frameworks in an association are the ones that can adequately store an organization's money related resources and even furnish it with "long haul conjectures". Using data innovation, recorded banks in Jordan can gather and record as well as equipped for putting away and dealing with information keeping in mind the end goal to give essential data to the bank's chiefs utilizing either propelled innovation or even basic frameworks.

2.6.5 Understandability, Materiality and Objectivity

It is prudent to note that for the past years, most of the organizations across the world have significantly invested in the use of information systems or IS and indeed, it is believed widely that such investments in the area of information systems will greatly help such firms to not only cut costs but also become effective and compete strategically (Bader et al., 2017). An AIS refers to the application of computing as well as communication technology or IT so that firms are capable of facing the emerging markets and thus effectively strengthen the global economy. Information systems basically exist with an aim of helping organizations effectively accomplish or attain their objectives. As a result, an accounting information system should have the capability of taking raw facts which are also known as data, manipulate them, compile them, and finally integrate them into meaningful resources that are meaningful for managers or operators.

AIS used in Jordanian organizations such as banks, capable of providing guidance to the employees of the organization so that they can be better assisted in the accomplishment or completion of their set goals or objectives. The use of Information Systems indeed has a significant impact on all organizational levels such as on the strategic, tactical, and operational levels (Komala, 2017). On the other hand, it is also important to note that IS also having a significant impact on all the organization's functional areas such as in manufacturing and production, in human resources, in finance and accounting, and even in finance and accounting.

2.7 Evaluation of IT on Accounting Information System

It is quite essential to carry out an evaluation on the impact of IT on the AIS on listed banks in Jordan because it will provide essential information that will be utilized by an organizations customers, employees, and managers for the general benefits of such an organization. Such information is especially quite important and beneficial in both the accounting and finance functional areas of financial organizations such as banks since such functions are capable of affecting both the returns and the profits of such organizations (Almahamid, 2014). It is quite important for this research study to uncover all the types of the computerized information systems as well as the IT that is used in the Jordanian banking sector. This is attributed to the fact that the day-to-day operations of such banks is highly depended to a larger extent on the availability, integrity, accuracy, and reliability of information which is the key target of almost all the computerized information systems in the world.

It is crucial to note that the advent as well as the development of information systems coupled with globalizations have forced most of the Jordanian organizations as well as others in the world to employ and apply the use of information systems so that to not only survive but also compete and excel in the contemporary competitive world (Karim et al., 2015). In fact, there has been undeniable and remarkable need for the use of information system practices across the Jordanian workplace so that it can enable organizational managers to easily and effectively promote the application of information systems thus allowing their respective firms to acquire and ultimately retain the elusive competitive advantage in the world.

2.8 Components of IT

The effective use of IT will quite ultimately have a significant impact on the use or application of AIS on the listed banks in Jordan because it will aid in promotion and shaping of employee capabilities and also help in the achievement of organizational objectives and goals. There are numerous forms of information systems that exist in the actual world but one common thing about all of them is that they all use people resources, software, and hardware in order to convert the data resources into vital information products that can be used by organizations (Shobaki & Naser, 2016). While some of them are just simple manual information systems in which individuals are known to use tools like pencils, paper even machines such as typewriters and calculators. Others include the use of computer-based information systems that heavily depend on various computer-based systems in order to achieve information processing actions. The use of information systems in the contemporary world has now become a crucial component that guarantees the success operations of not only business firms but also other organizations across the world (Naser & Al Shobaki, 2016). As a result, they are known to comprise of a vital field of both business administration as well as management.

An information system comprises of various resources which include among hardware (media and machines), software comprising of programs and processes, as well as people who are users or specialists who perform the input, process, outputting, storing, and control activities which convert the data resources into the required information products (Altheebbeh & Sulaiman, 2016). At first, there is collection of data which is ultimately converted into suitable processing form for input. The data is then manipulated and consequently converted into information through processing. The information can then be stored for future use or even communicated to the relevant users through output in the laid down processing procedures.

Software is an integral asset when it comes to the accounting information system and the deployment of IT in a business organization. In particular, it is a set of procedures and programs that are associated with the adopted accounting information system. Some of the commonly used software in the whole accounting process at business level includes audit software, accounting software, graphic software, word processing software and electronic data interchange. (Romney, 2016)

This is an application that is deployed in running routine business operations to process and record all the conducted accounting transactions within a defined operational module such as accounts receivable, accounts payable, and trial balance. In this essence, it forms part and parcel of an accounting information system that may be deployed in a business entity to run its routine business operations. However, there are three main commercial accounting system software that are deployed by organizations (Simkin et al., 2014). Despite this, when it comes to the case where such software is used in large companies, trusted programming entities are usually contacted to provide the necessary needed requisite technical advice. Some of the available commercial accounting information system includes backbone system, turnkey systems, and vendor supported systems. On this basis, it is important to note that turnkey systems are majorly tested and finished systems that are ready for implementation in a given business process. They include systems such as Oracle, SAP and Enterprise Resource Planning (ERP) systems. Furthermore, backbone systems majorly entail basic system structures for building the business accounting operations. In this regard, it should be noted that the primary logic is usually preprogrammed whereby the vendor will be required to design an appropriate interface suiting the client needs of a given business organization. On the other hand, vendor-supported systems are usually customized systems. In this case, a given software vendor has the mandate to maintain and implement the system on behalf of the client.

There are various available packages of auditing software that can be utilized by auditors. In this essence, computer technologies can as well be deployed to enhance the provision of digital audit trials that can be adopted and utilized by the auditors (Groomer & Murthy, 2018). It is a computerized program that is deployed in the entire process of creating word documents. Besides this, it also facilitates the editing of the created textual data that can also be printed and stored. In most cases, accountants and other employees within a business organization use the word processing software in the entire communication process. For instance, they use the word processing software when it comes to aspects such as preparing memos, billings, reports and financial statements.

It is an interactive computer program that is utilized by business entities for analysis and organization of a given form of data at the business level in a tabular form. Presently, the most popular spreadsheets that can be deployed in the whole accounting process are SPSS and Excel. In particular, this can be either virtually or any task that may be requiring computations. In this regard, the end-off period financial statements by a company can be prepared and exported to the spreadsheet and thereafter be presented graphically as per the direction of the board of director in a given business entity. This kind of software are utilized in the whole process of creating charts and photos from a given data input in order to promote and facilitate a better understanding of a particular given topic under consideration. For this reason, it is usually adopted and incorporated in the whole aspect of financial reporting.

It is an intercompany platform where the exchange of computer-based business information is processed in an adopted standard format. For this reason, it is an endeavor within an organization whereby two or even more entities are engaged. In most cases, there are no human intermediaries in the whole aspect of approving or authorizing transactions in a given electronic data interchange environment (Groomer & Murthy, 2018). IT is also deployed in the whole aspect of accounting to enhance security. This is attributed to the assertion that the use of passwords and identifications helps in the provision of strong controls when it comes to the whole aspect of accessing a given set

of confidential information related to a particular given business organization. Therefore, instead of using paper lying and binders, security is majorly enhanced by the deployment of appropriate computer programs. In this essence, by using an appropriate program application, a given set of accounting information can be encrypted to prevent it being accessed by unauthorized malicious individuals, thus enhancing their security in as far as routine business operations by a business entity in the market is concerned. For instance, by deploying the use of proper IT, a misplaced or stolen laptop computer can be tracked using the installed security software that may be put in place by the respective business entity. It should be noted that the Internet provides a wide range of information that can be deployed by a given business entity with respect of the routine accounting processes. In this regard, vital documents can be shared; research conducted and in some instances company tax return filed online thus enhancing routine operations. Alternatively, point-of-sale system can as well be deployed in environments such as department stores and malls. In this regard, the internet can be leveraged to help in the whole process of payment procedures executed by customers through connection to the respective credit card and financial bank in the real-time. Alternatively, the use of barcodes plays a significant role in helping organizations to improve the aspect of sales transactions by specifically updating the respective inventory records automatically.

Cloud web-hosting one of the latest phenomena in AIS. In this case, instead of a business entity installing programs to its computers and saving business accounting information and data there, a business entity can adopt an approach where a specifically given program will reside on a server situated in a completely different location. Besides this, the cloud technology also utilizes internet to save voluminous documents and information online, therefore helping a business entity to save costs in as far as purchasing hardware and software components is concerned (Brandas, et al., 2015). Instead, a business entity will only be required to sign up with a given cloud provider to use its space and infrastructure for saving and storing data. Such an approach will enhance the whole process of accessing the stored information since a business entity will have the capacity to access the stored volumes of information any time and from any location so long as there is internet connection. Furthermore, cloud technology will also play a big role when it comes to securing the business' accounting information since it will only be accessed by the authorized individuals within the ranking of a business organization.

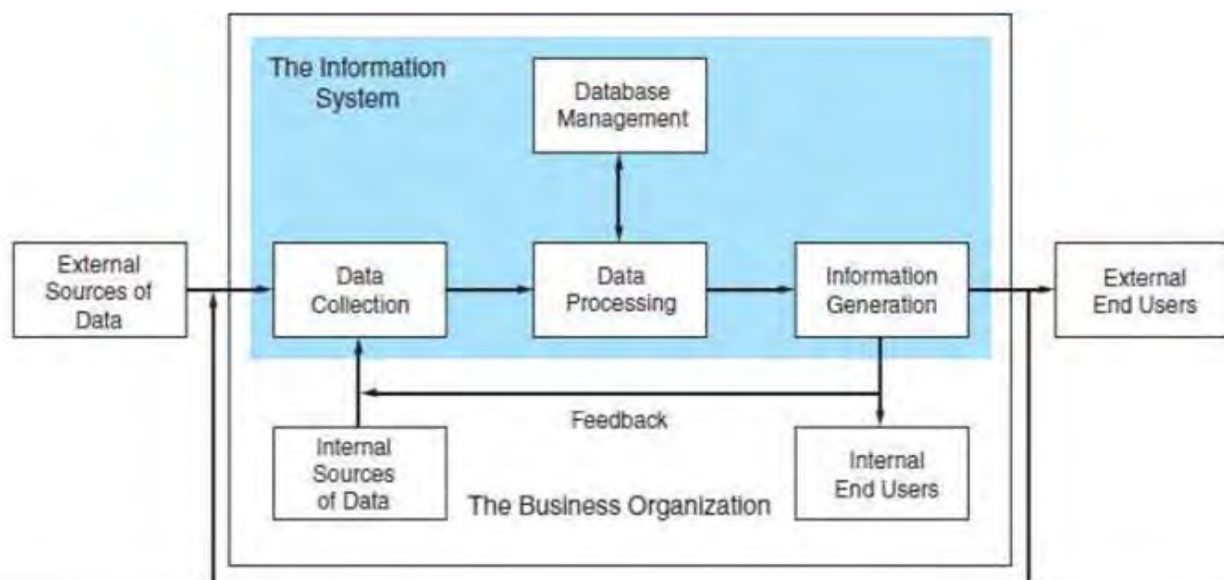


Figure 2: General Model of an Accounting Information System (Dull et al., 2012)

It is important to note that the first operational stage in an AIS is the process of collecting data. In this case, the primary objective of an organization will be to ensure that valid data is entered in AIS that is free from possible errors. In particular, this stage serves to promote efficiency and relevancy of an accounting information system. It is for this reason that it is required that the AIS adopted by an organization should have the capacity to capture only data that is relevant to an organization, considering that the collected data may be sourced from both internal or even external sources. Upon completion of the data collection process, its relevant data will be stored in a defined database by a business organization, the facilitating it to be processed into the required information that can be utilized by a business enterprise for various decision-making process. Ordinarily, the tasks undertaken during the data processing processes greatly various basing on the simplicity or complexity of an organization under consideration. This is because there are cases whereby aspects such as statistical techniques, algorithms, summarization procedures and sales forecasting are incorporated in the whole process of accounting. At this stage, the information that will be generated will further be forwarded to other relevant external end users as well as internal end users. In this regard, external end users of the AIS generated by an organization will entail users such as investors, stockholders, creditors, customers, suppliers and the regulatory agencies. On the flip side, internal end users of the generated accounting information in a business organization will entail individuals at all level of organization's management. After all this processes, the feedback will then be sent back to the business entity for the appropriate decision to be made based on the established feedback on the state of an organization in the market.

2.9 Important of Accounting Information System

Internet, networks, hardware, databases, software and other relevant digital devices have greatly redefined the whole aspect on how business entities carry out their operations in the market. In this regard, it is postulated that IT has played a major vital role in advancement and improvement of the accounting system operations. Given that the whole process of accounting is centered on business information, improvements in these areas will have an impact of positively impacting the operations and functions carried out by the accounting department in a business organization.

According to Simkin, Norman & Rose (2014), it is important to note that organizations can deploy the use of multiple IT infrastructures in their respective accounting information system. This is because such approaches will ensure that the relevant accounting information is kept superlatively from other sets of data, thus helping to safeguard the integrity of the adopted AIS. Besides this, it is imperative to note that by instituting an AIS in place, an organization will have the liberty to quickly post relevant transactions to their respective accounts, thus facilitating the whole process of internal control as well as edit checks that can be implemented at an organizational level for the sake of preventing and detecting errors, as well as facilitating the preparation of other vital reports concerning the routine market operations by the organization. For this reason, it is significant to note that there are various accounting packages in the market that can be adopted by various business organizations depending on their business needs. For instance, a simple accounting package can be the one that contains module such as Peachtree and QuickBooks. However, there are instances where database systems may as well be deployed to enhance efficiency. In this case, their deployment can help a specific given business entity to reduce information redundancies and inefficiencies, thus promoting daily business operation in the respective market. This is alluded to the fact that relational database system may be configured to depart from other relevant accounting equation methods deployed when it comes to organizing data such as the enterprise resource planning. This is because such systems have the capabilities of capturing both non-financial data as well as the financial data,

before proceeding to store them in an identified data warehouse. However, its main advantage is that it has the capability of recognizing the business, thus implying that it is not restricted to specific accounting events executed in a business enterprise. Instead, it holistically works towards supporting the maximum reduction and elimination of operating inefficiencies as well as reduction of the emerging data redundancies during routine business operations. (Wikinson, et al., 2000)

Primarily, for any AIS to be objective, it should meet the expectations for cost benefit principle. This is attributed to the assertion that financial information is not offered to the respective organizations free of charge. Instead, there are instances where organizations spend millions for the sake of organizing and gathering the desired financial information to facilitate in the whole process of assembling the intended financial statements. Under this provision, the adopted mechanism should be efficient in such a manner that the cost incurred in the whole process of providing financial information in a business entity should not overweight the resultant benefit accrued to the users of such kind of information. For this reason, whenever a firm has the plans of improving its IT system, it is important to strictly consider and adhere to the provision of the cost-benefit principle. Furthermore, another key objective is the protection of the assets of a business entity with the role reason of ensuring that data is reliable and there is minimization of potential wastes as well as the possibility of fraud or even theft. Such an approach will ensure that the business entity is in control of every aspect regarding its routine operations in the market. Alternatively, a business enterprise should also consider harmonizing its human and organizational factor. This will ensure that the organization has the capacity to accommodate growth in terms of routine transactions as well as organizational changes.

Primarily, (Dull, 2011) states that the whole process of accounting begins with the analysis of transactions. In this regard, the transactions that are made in an organization are analyzed to determine their net effect on a given accounting equation utilizing source documents such as checks, invoices, and orders. Besides this, the process of accounting also involves the recording of the resultant effect caused by a particular undertaken transaction. In this regard, the undertaken transaction is usually recorded by making entries in journals, thus helping to track down transactions that may be undertaken in both simple and complex business transactions. Primarily, journals usually provide a systematic and chronological record of all the transactions undertaken in a given business entity over a specified period of time. This is because they clearly show the date when the transaction was carried out as well as the specific amount that was involved in the whole process. Furthermore, accounting also entails summarization of the resultant effects of a given transaction. This is attributed to the assertion that once a transaction is recorded and analyzed, it will be appropriate to classify and even group all the similar items together for simple comparison. However, this is usually accomplished by adhering to the laid down accounting procedures when it comes to making entries in journals. For this reason, all the accounts will be maintained in a ledger for easy determination of the balance of each account maintained by the business. Besides this, accounting process also involves the preparation of reports and financial statements. Even though manual systems may be used when undertaking such functions, some business organizations have increasingly been deploying the use of computers and other information technologies to facilitate routine operations with as far as the accounting process is concerned. This is because a provision such as the accounting information system has the capability of enabling the business to undertake many business transactions within the shortest time possible. Therefore, this implies that by accomplishing the use of accounting information system as well as IT, a business will increase its efficiency when it comes to conducting its routine operations in the market.

It is important to note that the accounting information is primarily used by the relevant decision makers when it comes to making crucial economic decisions as well as taking actions that may have far reaching consequences on the prevailing economic activities undertaken by an organization in the entire course of its routine operations in the market. However, introduction of IT has an impact of facilitating to a larger extend the whole process of communication. In this essence, such an approach can play a big role in helping an organization to significantly increase business productivity as well as improving the decision-making process at all levels of the business. In this case, channels of communication such as routers, emails, servers, internal company billboards and chat services can be deployed by the company to help in the whole process of facilitating communication within a company. Furthermore, it is important to note that the utilization of various avenues of computer-based communication systems can help the company in the whole process of disseminating critical and routine business information in efficient and speedy manner, thus boosting its operations in the market. Alternatively, IT equipment can also be deployed when it comes to sending the prepared status report by the business that may be required by the respective executives. Such an approach may play a significant role in the whole process of updating employees regarding various critical business projects, thus helping the business entity to connect with customers and other relevant business partners in the long run.

2.10 Users of Accounting Information System

Utilization and deployment of IT in the whole accounting process has an impact of helping the respective business organization to remain competitive in the market and in some instances to edge out its competitors. This is attributed to the assertion that IT can be utilized in the whole process of making improved as well as new products in the market, thus helping the respective company to distance its market operations and product design from that of its existing competitors in the market. In this essence, deployment of IT has an impact of reducing costs in the entire business processes undertaken by the company. Therefore, this can help the respective organization to increase its productivity as well as reduction for the need of employee overhead. Furthermore, it is imperative to note that the deployment of IT in as far as the accounting information system is concerned can help a business entity to consolidate its market base, thus helping the business organization to avoid instances where customers may switch to other products or platforms in the market.

Despite this, it is vital to note that the deployment of IT can also help the business too greatly incurred costs when undertaking its accounting processes. This is attributed to the assertion that redundant tasks within a business entity can be centralized with the deployment of IT. For this reason, economic efficiencies can then be realized by the business when it comes to the case of high-cost functions that will be incorporated in the online environment created by the business. Furthermore, business organizations can as well offer various email support services to their existing pool of customers at a lower cost when compared to live customer support costs that may be exorbitant in as far as running routine business operations is concerned. On this basis, it is imperative to note that the aspect of cost saving can be leveraged through aspects such as remote work options, outsourcing opportunities and low-cost options for communication when executing business processes.

Deployment of IT has an impact of upholding the technological advancement in as far as business equipment used to process accounting information is concerned. In this regard, presence of equipment such as scanners, printers, computers, faxes and other innovative equipment in a business entity can give it a competitive advantage when compared to those business organizations that may not be having such kind of equipment in place. For this reason, it is vital to note that in the present times, equipment utilized in the whole accounting process can be acquired by a business organization at reasonable and affordable prices. For instance, the proliferation of technology has led to nearly all business organizations to deploy the use of computers when it comes to executing their routine business processes.

Moreover, there was found a solid connection between the authoritative elements (administration responsibility, hierarchical culture and authoritative structure) on the nature of accounting data framework and how AIS impact on the nature of accounting data. Besides he distinguishes a noteworthy impact of AIS application on the nature of budgetary reports. While an organization endeavor to expand its gainfulness thus, the accounting data framework will be critical components to achieving this objective. Likewise, they characterize the part of good accounting data framework in expanding the organization benefit target. From other hand, they found a noteworthy part of AIS on in basic leadership. It was inspected how applying AIS upgrades the administration productivity and diminished the cost of control to accomplishing firm's objectives. Test the effect of AIS on inner reviewers in Turkey; he uncovered the significance part of accounting data frameworks in organizations through empower all levels of administration to get to exhaustive data that goes into the arranging and controlling of exercises inside business associations. What's more, AIS give high caliber of data to inner and outer clients and normally cover six principles viewpoints: individuals, methods, information, programming, data innovation foundation, and inner controls. Alnajjar (2016), explore the effect of accounting data frameworks on the administration execution and authoritative execution. The outcome identify that the accounting data frameworks fundamentally

affect the administration execution and hierarchical execution. Through applying accounting data frameworks, the get data will be more valuable, for basic leadership keeping in mind the end goal to accomplishing the organization's objectives and destinations, which increment the organization execution.

AIS are basic means for associations' viable administration, for basic leadership and controlling exercises, likewise AIS is exceptionally viable instrument for controlling and organizing the exercises of an association. Also, AIS think about a genuine factor to deliver high caliber of accounting data. A similar outcome accomplished that affirms there is noteworthy connection between accounting data and vital choices, while the utilizing of AIS enhanced the organizations profitability, from other hand find the principle factors that directors need to enhance the accounting frameworks which thusly enhance the nature of accounting data required to advance the esteem chain of business associations (plainly characterized obligations and experts, particular work strategies, inward controls, enlist representatives who have the equipped capabilities, preparing what's more, high caliber of accounting frameworks). Moreover, Almbaidin (2014) accomplished to vital certainty about the part of accounting data framework in enhancing the adequacy in Banks in Jordan. From other hand it was identified there is no connection between accounting data framework and arranging, controlling, and basic leadership in Inns. A similar outcome accomplished by applying AIS does not confirmation enhance the execution in organizations, likewise there is no any connection between utilizing AIS in enhancing the organization's execution, uncovered a positive connection amongst AIS and execution measures.

Likewise utilizing IT didn't give upper hand to accomplishing come about. It was uncovered accounting data frameworks (AIS) which is a piece of data frameworks (IS) are settle on simple the basic leadership process inside associations and ought to be changed to an organization's condition, necessities, and structure. Estimating the connection between the utilization of the AIS and how enhanced execution markers and efficiency, additionally they find apposite connection between factor. It was found a solid connection between the accounting data frameworks, in a way that will be contributed in raising the organization productivity.

Al-Fayoumi, Abuzayed & Alexander (2010) opines that integration of IT in the accounting information system has an impact of improving the whole aspect of efficiency. In this case, efficiency denotes a situation where a business organization will be able to get the best and appropriate results with the use and deployment of very limited resources. For this reason, the incorporation of IT in the respective AIS can help a respective organization to improve its efficiency by streamlining all the work flow and workplace operations though collaborative and shared storages that are enhanced by such kind of arrangement. In particular, it will enable the personnel to go ahead and enhance their performance at workplace within the shortest possible timeframe. Furthermore, it is important to note that IT can as well be deployed to automatic most workplace operations. Furthermore, its incorporation in the whole process of accounting can help to simplifying and make easier to perform data analysis and storage operations at work place such that they can be retrieved and utilized in future by an organization by the designated individuals. Additionally, other significant technological infrastructures can be deployed to answer inquiries from the customers, thus helping an organization to build a good relationship with its customers. Furthermore, efficiency in an organization by deployment of IT can be enhanced when a business organization goes a notch higher to contact its customers though approaches such as real-time chat sessions, email and telephone routing system.

2.11 Impact of IT on Accounting Information System

IT is epitomized by speed. In this regard, an organization can increase the speed in which it conducts its transactions by deploying the use of technology. Therefore, an organization will be able to execute multiple calculations within the shortest time possible once it deploys the use of IT in all its routine business operations (Schwalbe, 2015). In this essence, the performance of routine accounting processes in a business entity will also be greatly enhanced, thus boosting the public perception with regard to service delivery to customers.

Incorporation of IT in core accounting processes in an organization plays a major role in the performance of complex accounting computations. Given that the whole aspect of accounting is usually detailed, accuracy when it comes to recording and reporting is essential (Oliveira & Martins, 2011). Therefore, a business enterprise will be able to meet this threshold once it incorporates IT in all its routine business operations, thus minimizing the possibilities of mathematical errors in as far as computation of the company's financial records is concerned.

Given that there will be improved accuracy and speed in the entire process of processing a given set of accounting information; it will be easy for an organization to generate the relevant financial reports to the designated external as well as internal users. In this essence, the internal users of a company's financial reports can be those individuals who scrutinize yearly reports to ascertain the condition of the assets and liabilities belonging to a particular given entity. On the other hand, internal users can entail the management who will benefit from the generated financial reports that will be used when making essential decisions in as far as running a business organization is concerned. Besides this, deployment of IT in the whole accounting process helps organizations to simplify its routine tasks and operations, thus enabling the respective managers and employees to access the required set of information within a specified timeframe.

The deployed accounting systems should be flexible in such a way that they have the capacity to adapt to various changes in as far business operations and practices are concerned. For this reason, it is vital to note that IT is associated with the creation of the much-needed flexibility in the accounting process (Laudon & Laudon, 2016). This is because it can accommodate various changes because the incorporated systems have the capabilities of being upgraded when there is an increase in the number of transactions conducted by a business entity during its routine market operations.

Adenike and Michael (2016) assert that the incorporation of IT in the whole process of accounting has an impact of reducing the reliance of a business on papers. This is because a business entity can utilize the use of electronic documents and envelopes, thus significantly reducing the consumption of papers in the entire process of accounting. This will further trickle down by reducing the cost incurred by the business organization in the whole process of packaging its accounting information (Diatmika, Irianto & Baridwan, 2016). This may also help in the conservation of the environment since there will be minimal cutting of trees to make papers consumed in the preparation of accounting and financial reports.

Basing on the presented assertions, it is very clear that the proliferation and advancement of IT has greatly boosted the performance of AIS deployed by different business entities to help in the running of routine business operations of an organization. This is because it has facilitated computerization of entire accounting process, thus helping the respective business entities to improve their performance and efficiency. Alternatively, it has also played a major role in simplifying business transactions. Furthermore, business entities have been presented with an opportunity to grow and improve their market operations because IT has greatly reduced the costs incurred by business entities when running their routine operations. (Dull et al., 2012)

AIS has greatly contributed to the efficient flow of information in the business entity, thus enhancing the decision-making process by the management. For this reason, it has greatly contributed to the ability of a business enterprise to meet the adopted business objectives, thus boosting survival of a business in the respective market of operation. Therefore, even though IT has greatly improved accounting process, they cannot replace the accounting information system. (Grabski, 2011).

2.12 IT-AIS of Banks

Listed banks in Jordan include Arab Bank, Housing and trading Bank, Jordan Bank, Islamic Bank, Cairo Amman Bank, Etihad Bank, AJI Bank, Commercial Jordan Bank, Jordan Kuwait Bank, Investment Bank, ABC Bank, and Société General Bank (ASE,2017). To be precise, this literature review section will majorly focus on deliberating on the previously conducted research work on the research topic. Therefore, it will delve much deeper into the issue of contention by focusing on the related subjects brought about by other researchers in their work. Furthermore, I have enriched my knowledge on the issues of IT and AIS to have a concrete understanding of its application amongst banks in Jordan (Masadeh et al., 2016).

To achieve this, I have extensively surveyed books, scholarly articles and other relevant resources. By going through various scholarly articles on the impact of IT on AIS, I have developed a better understanding of the subject matter that need to be deliberated and expounded, Intellectual Capital, Innovation and Firm Performance of Pharmaceuticals: A Study of the London Stock Exchange. (Amin, 2017). Therefore, the aim is critically evaluating and appreciating every article to establish their similarities and the manner in which the respective research has been expounded. Certain literatures regarding the listed banks in Jordan have been discussed here.

IT is capable of having a significant impact on their AIS. This is attributed to the fact that it helps such organizations to attain competitive advantages. The achievement and development of competitive advantages is indeed one of the strategic goals that are sought after by most banks in

Jordan especially in light of the contemporary competitive challenges. That apart, technology has resulted in a continuous “technological innovation” and also fierce competition between various components of the banking sector. As a result, this has led to the emanating of accelerated development and growth in the industry of banking.

The uses of IT has indeed has a significant impact on the listed banks in Jordan and more so on its AIS because it has led to the development of new types of banking products and services which include among other credit cards, e-banking, Automated Teller Machines (ATMs) and even online banking (Hakim, 2015). It is prudent for all and sundry to note that the effective functioning of such products in the AIS of an organization require effective IT hardware and software. This will quite ultimately result in organized relationships between the IT tools and the AIS that are applied on provision of quality banking services as well as the strategies that are put in place in ensuring that there is success in the banking services and products of commercial banks as a whole. This is because accounting systems do not just focus on the accounting aspects alone but also on the timely provision of financial and material data which is required by relevant decision makers in the banks. One of the significant impacts that IT has caused on the AIS is that due to the rapid developments in technology, the emerging of large organizations and working in environments which are dynamic, this has made many of the financial institutions in Jordan to maximally utilize IT (Rawashdeh, 2015). It can thus truly be asserted that the effectiveness of any given accounting information system for any bank that has been listed on the stock exchange is basically based on both the technological and technical means that represent efficient information systems. On the other hand, the use of IT helps in the achievement of competitive advantages for banks listed on the stock exchange. This is because it was ascertained that there was indeed a significant relationship between the use of IT as well as the effectiveness of a bank’s information system. However, it is quite unfortunate that there exist no major studies that have been carried out regarding the effectiveness of the AIS in the banks that have been listed in the stock exchange in Jordan (Naser&

Shobaki, 2016). In addition to that, it was ascertained that there were few studies that had been carried out regarding the impact of IT as well as competitive advantage of the banks. This could probably imply that there could be even a bigger and positive impact between the two.

2.13 The Banking Industry in Jordan

An evaluation of the computerized systems which are used in most of the Jordanian Commercial banks which were listed in the Amman Stock Exchange or ASE indicated that IT had a significant impact on the AIS in Jordan. IT use has a significant impact on AIS of the banks that were listed on the Amman Stock Exchange (Alrjoubet et al., 2014). This is because information technologies that were used as security and control tools for information were found in large and high degree in most of the Jordanian Commercial Banks. These information technologies guarantee security and control for processing of data transfer both inside and outside the financial institutions through protection of their data from computer piracy and spying thus creating benefits for the banks.

Through IT, banks listed on the Amman stock exchange are capable of developing effective AIS that play an effective role in ensuring that decision makers are provided with essential or suitable information that can aid them each well informed and effective administrative decision (Khedmatgozaret et al., 2014). The presence of well securing IT software makes the accounting information to rationalize and support economic decisions that have a great impact on the wealth and even resources of the communities thus having an impact on the welfare of all individuals in the organization. It is important to note that AIS of banking institutions in Jordan are also related closely to the numerous administrative processes since it is also deemed as one of the effective systems that helps in the satisfaction of all the requirements by the management of an organization. This helps in enhancement of performance levels that help in the achievement of targets and helps in resolving any emerging issues and provision of vital information that could be used by appropriate decision makers that support both the continuity and performance of the financial institutions (Haleem & Raisal, 2016). Through IT tools and appropriate software, the AIS of the listed banks in

Jordan are capable playing a significant role in the provision of an organization's integrated view so that it can effectively align its capabilities with the available resources as well as functionalities.

1. **Bank of Jordan** is the second largest financial institute based out of Amman. The bank offers latest credit card and internet banking facilities with over 100 branches in Jordan alone. There are teller machines of the bank in various parts of Middle East with branches in other countries as well. The bank is listed on Amman Stock Exchange ASE Weighted Index. The bank is a public shareholding that offers corporate banking, consumer banking, SME banking, leasing and investment banking.
2. **Capital Bank of Jordan (CBoJ)** is a private sector bank in Jordan and Iraq, which was established as Export & Finance Bank. The bank has corporate as well as retail products in its banking divisions. However, the bank is especially concentrated in corporate banking and majorly SME lending.
3. **Cairo Amman Bank** is a service sector bank in Jordan and Palestine with head office based in Amman. The bank has several branches almost 84 in number in Jordan. It is a member of Jo net ATM network in Jordan.
4. **Jordan Kuwait Bank** is a public shareholding bank that was established in the year 1976. It has now transformed and emerged to be a leading Jordan bank with large number of domestic networks as well as international branches. The bank is highly profitable with limited number of employees on its roles 947. The bank offers financial services as well as banking services to its users all over the country and extends it to other countries as well.
5. **Invest Bank** had been established as a public shareholding companies in 1975 in the Emirates of Sharjah. It is highly efficient bank with employees that makes it one of the leading banks in UAE area. It has several types of accounts and deposits to meet customer needs for diversified type of investors.

6. **Arab Jordan Investment Bank** is a bank providing corporate, retail and investment banking services. The bank had traditional banking as well as financial products till recently it incorporated some of leading international products and features in its portfolio.
7. **Jordan Ahli Bank** is a Jordanian financial institution established in 1955 with its headquarters in Amman. It is the sixth public shareholding company dealing in banking and financial products. Earlier it primarily used to deal with financial products but recently it caters to some banking related products as well.
8. **The Housing Bank of Trade & Finance** is a public banking and finance in Jordan. The Company was first in the trade to introduce finance products in the market. Primary feature of this company was to cater to housing and infrastructure-based developments till recently some more products has been included to increase customer portfolio, catering to large number of products.
9. **The Jordan Islamic Bank (JIB)** is a bank in Jordan, which has signed agreement for guaranteeing industrial services and finance along with Jordan Loan Guarantee Company (JLGC) for ensuring finance to small and medium scale economic projects. JIB comprises of police friends' Training Course in northern governorates for its employees.
10. **Bank al Etihad** was earlier called the Union Bank. It was set up in the year 1978 as a Jordan based banking services and financial institution. It is a public shareholding company that has a paid-up capital of JDs 125 million.
11. **ABC Bank** was established in the year 1990 as being a Jordanian public shareholding bank. It has membership with Bank ABC Group, which comprises of one of the largest Arab international banks. Its head office is located in the Kingdom of Bahrain along with branches and offices located across five continents of the world.
12. **Jordan Commercial Bank** has corporate, investment and retail clients along with highly customized competitively priced financial solutions. The Bank is committed towards

offering of tailored world-class products and services, which can meet its stakeholders, customers and personnel needs.

13. Société General Bank is a part of Société Générale de Banque au Libanon group. It is a part of international network of Société Générale that operates across 77 countries in the world.

14. Arab Bank the biggest bank of Jordan provides to its clients varied range financial products along with services for individuals, corporations along with other financial institutions. The bank offers numerous products with services which include Consumer Banking, Corporate Banking, and Institutional Banking with Treasury Services.

Influx of a number of international banks in Jordan has rendered immense competitiveness amongst these banks. Banks in Jordan though contributed to major economic and structural growth within the economy but were lagging far behind in their performance when compared to international banks. Performance of these banks that were based out of Jordan had been incomparable with high level of shift in customers. Moreover, international banks had all processes technologically driven. International banks had installed varied types of technological and information systems driven by robust background. They came with highly accommodative technologies that could rapidly depict performance of the bank as per industry environment. International banks also had capabilities in terms of driving customer sales and employee systems. Systems installed across these banks were such that they could render customer as well as employee satisfaction. This led to their profitability whereas other banks within Jordan did not have any information driven systems. Capability for AIS to enable decision making or making financial reporting effective, reliable and competent provides competitiveness. Once banks in Jordan are competitive, they can reflect the same through their stock market growth. For the purpose of this study banks that are listed in the Jordan Stock Exchange are selected. It becomes easier to understand stocks that are performing in a positive manner in the stock market compared to companies that are not listed in the stock market. Stock market reflects a

company's capability or competence to remain listed or attract vested interests of public. Most of the banks across Jordan have been able to expand themselves through competence and get listed in stock market and attract valuable sets of investors. It is also integral to be listed in the stock market; a firm discloses all relevant financial reports and analysis based on accepted accounting standards.

The Sultanate of Jordan follows stringent accounting and financial disclosure norms. While the IFRS (International Financial Reporting Standards) was being adopted across the globe, Jordan excerpted information from world Bank's Report on the Observance of Standards. Jordan's has statutory framework for accounting and auditing which makes it mandatory as per the Companies Law 22/1997 for public shareholding companies, limited partnerships, general partnerships, private shareholding companies, limited liability companies along with foreign companies in conducting business in Jordan to prepare annual audited financial statements. Banks listed in stock exchange are listed companies as per Companies Law hence needs to maintain appropriate accounting records for its presentation as per internally recognized accounting and auditing principles. An Auditor for Companies is appointed, whose performance is evaluated by shareholders of the company. The Auditor at the Annual General Meeting of the Company needs to maintain all duties satisfactorily, prepare accounting documents and records, financial statements of the Company as Income Statements, Balance Sheet and Statement of Cash Flows as per internally recognized auditing principles. Jordan's robust banking sector attracts investments from world over hence its banks need to comply with set of principles as per international standards. It is compulsory that auditing and accounting procedures has been followed diligently and Financial Statements are provided to the Board of Director's addressed to General Assembly. The financial statements will need to reflect legal requirements as per Jordan and international standards. Jordanian Securities Commission (JSC) Law and Directives of disclosure, accounting standards and auditing has to apply International Financial Reporting Standards (IFRS). In any case there is a conflict between local legislation and international standards, local legislations shall be applicable.

Companies listed the stock exchange JSC has to file annual audited financial statements in 90 days of fiscal year ending, and then review the same financial statements by 30 days from mid- year end. IFRS for public companies, SMEs, private companies are similar in nature. Banks needed to disclose their financial and accounting information to be listed on the stock exchange.

Banks reflected their performance by means of stock returns by appropriately reporting their financial statements. Decision to depict appropriate financial statements and make decisions is done using information systems have allowed banks to gain profitability in the stock exchange. There are various parameters for determining effectiveness amongst organizations especially banks to understand efficiency of performance. Theories of understanding effectiveness related to organization can be analysed by means of management theories. AIS allow decisive actions to be made by qualitative and quantitative characteristics for benefitting an organization over another. AIS have been termed as necessary conditions that allow growth in stock markets. Studies have established AIS can allow making accounting and financial information in a better and effective way that enables decision makers to be presented with better information for the purpose of strategic decision making. Once Auditors develop AIS according to accounting and financial data, they provide the same across to shareholders of the organization. Shareholders are able view and analyse information obtained from Auditors during their meetings in best possible format. AIS not only encompass data and information critical to the organization rather these are represented in a better format to ease understanding related to the topic. Shareholders are able to understand information represented by means of AIS in a better manner compared to it being represented by any other means.

2.14 Conclusion and Summary

Evaluating several prominent works and literatures of well-known authors and researchers it can be said that there are multiple impacts of IT on banking systems. Banking transaction systems includes a web of complex analysis and factors in order to cater to customer services. Banks handle a wide range of complex data system that is not only critical in nature but also requires mechanical capability to handle. While literatures evaluate several impacts of AIS other impacts of IT is also incorporated into analysis. Technology has become the basic building blocks or guidelines on basis of which a banking system progresses. Earlier manual banking often imposed several challenges in terms of costs and time especially. Therefore, a system that supports more complex performance and functionality had to be developed that can cater to user ease. The primary scope of AIS and its multiple implications, ways of working has been discussed here. From such implications it can easily be concluded that while technology and IT has several impacts on banking systems, no prominent literatures are present that can actually evaluate AIS implications across banks in Jordan. This study aims to fulfill the literature gap by examining pertinent data analysis along with qualitative analysis of data to arrive at results for the study. It can therefore be concluded that a multiple number of literatures has been evaluated that can ideally reflect a suitable gap. A literature from almost all over the world has been taken into consideration for arriving the prominent gap in analysis.

2.15 Research Problem and Gap in the Literature

While there is extant research across various journal articles focusing on understanding the implications of IT in banking transactions none specifically focuses on AIS in Jordan. There is a gap in the literature in evaluating specific impacts of AIS on banking. It is that IT have an effect on the relevance, reliability, consistency, understandability, materiality, objectivity, and comparability of AIS for the purpose of accounting of AIS. Everyone is aware of the multiple types and nature of IT implications but none on specific issues related to IT components of AIS that meet accounting

framework need as identified for this study. This study is an original one that integrates key concepts or theories of AIS for comprehending its impacts across banks.

Secondly, there is a little literature that evaluates any specific implications of AIS on banks across Jordan. Major shareholders and stakeholders of banks in Jordan agree that AIS had been able to generate considerable impacts on their overall performance. Such impacts on performance were specifically noted posts application of AIS into their systems and integrating them. Therefore, this opens up a valuable area and domain of research wherein scholars need to evaluate specific aspects of AIS impacts across listed banks in Jordan.

Consequently, it is hypothesized that IT has an effect on the relevance, reliability, consistency, understandability, materiality, objectivity, and comparability of AIS for the purpose of accounting. As the separated functions of banking need to be connected for accounting purposes, AIS needs to be capable of integration of business data through the hardware, software, and networks used, such that clients of the banks are satisfied through effective implementation of services. The expected contribution is a conceptual framework encompassing an assessment of the impact of IT on the qualitative characteristics of AIS in terms of relevance, reliability, consistency, and comparability for accounting information. The conceptual framework will also enable assessment of the use of IT for AIS and to what extent the use of IT in AIS produces significant cost saving, improves operational performance, and financial disclosure. Finally, it will assess the impact of IT-based AIS on the internal control systems that can be used to improve decision making and effectiveness of banks in Jordan.

2.16 Conclusion

Evaluating literature sources is the most integral aspect of any study, as it entails including several works of previous authors and researchers. In this chapter various literature sources has been evaluated including some prominent authors in the field. This literature analysis is broad and encompasses covering a wide range of concepts from IT to various applications related to IT. Specific contribution in the domain of IT application and its contribution are seen. IT has benefited various types of industries amongst which banking industry stands to benefit the most. Due to handling and management of large amounts of data and information that might be financial or non-financial in manner, it had become cumbersome for banks to cater to diverse functionalities and customers. Customers were suffering on one end of the banking system along with other relevant stakeholders are investors, shareholders and so on. AIS are one of the integral types of functionality that can be accommodated across banks. In Jordan there is immense amount of complexity involved in handling transactions of customers. Number of branches along with specific facilities makes it all the more difficult to handle complexity in operations. Cloud computing and other developments in IT made functionality easy for banks to cater to their varied group of stakeholders. Most pertinent literatures that have been evaluated across this section of the study encompass the several benefits that have occurred to banks across various parts of the world while accommodating in AIS and its usability. Not only does AIS eases business transactions but also aids in extending services to stakeholders in all possible ways, generating a positive impact on overall business operation.

CHAPTER 3: CONCEPTUAL FRAMEWORK

3.1 Introduction

In the previous chapter the literature was analyzed to reveal the need to better understand how the IT, hardware, software, databases and network aspects related to improve the quality of AIS.

In this chapter a data framework is conceptualized to explain these aspects in terms of quality of accounting data. AIS have had several multiple implications and usages. Investigation of IT in AIS is the primary objective of this study and is essential for building a conceptual framework that explains how the hardware, software, and networks affect the quality of accounting information. Most accounting undertakings nowadays are prepared on computers so data frameworks have a significant effect on how accounting is done and what reports are produced. Not exclusively are accounting undertakings performed at a rapid, they are additionally made simple to improve the situation generally in organizations.

This Chapter develops the components of a data framework that apply to the characteristics of AIS analysed in the literature chapter. Namely, relevance, reliability, consistency and comparability through the generic aspects of data framework such as people, processes and instructions, data software, IT infrastructure and internal controls.

It is necessary that the qualities of data reflected in the characteristics of AIS are well represented in a data framework.

3.2 Conceptualize Model

Conceptualize model refers to the demonstration of a set of objectives and ideas that take introduces the organization to some precise set of standards and rules that help to manage the accounting standards. It is also a basis that helps to resolve the accounting disputes.

The conceptual accounting helps the companies to define the users and objectives that are related to financial statements. There are different methods related to reporting and accounting those different countries use to get the feasibility in the measurement of financial accounting. The pre-decided set of

accounting standards and rules help the auditors to build the decipherable reports that are easy to understand across the world.

3.3 Conceptualizing Accounting

Accounting is done naturally with fewer blunders than manual accounting, significantly enhancing productivity. The first spreadsheet program was called VisiCalc, and was outlined by Robert Frankston and Dan Bricklin in 1979 to improve budgetary investigation. It performed estimations more than 254 lines and 63 segments. In 1983, a more modern spreadsheet program, Lotus 1-2-3, permitted more lines and sections in addition to information administration and charts.

This was popular with accountants, who regularly need to dissect information, and perform complex calculations and demonstrating. For example, a phone - the crossing point of a section and line - can be changed and counts are naturally refreshed with the new data. Nowadays, Excel and different spreadsheets are the bread and margarine of numerous accountants, making life less demanding and more proficient.

Previously, a general record, a rundown of records and exchanges, was kept in paper cushions and after that physically kept up, a tedious assignment for accountants. On the off chance that the monetary record did not adjust, it some of the time took accountants days to discover the error. Nowadays are over with modernized accounting, where math is taken care of naturally and budgetary proclamations are incorporated at the push of a catch. While the general record contains general records and exchanges, points of interest of exchanges are frequently kept in independent modules. Data from these modules is then exchanged to the general record. For instance, the records payable module handles all issues with respect to creditor liabilities, including seller names, receipt dates, check printing and other information critical to the bill paying procedure. At the point when solicitations are entered and paid, costs, creditor liabilities and money are perceived and exchanged to the general record. There are modules for debt claims, stock and different procedures that need working space outside the general record, yet associated with it.

A pattern in programming is to focus on specific enterprises and make whole projects tweaked for those businesses. The outcome is a whole framework made with instruments particular to specific divisions, for example, retail, non-benefit or assembling. That makes modernized accounting quick to set up and utilize. Rather than sitting tight for a developer to build up your product, you can get one off the rack that is around 90 percent useful for your motivations and requires just insignificant customization. (Romney and others, 2014).

Data frameworks help with speed and exactness, however there is still space for human blunder. On the off chance that off base data is entered; the framework may not get it. For instance, the framework doesn't realize that a \$200 installment was really \$20 and was entered and paid by botch. Blunders misrepresentation still occurs in accounting and inner controls are expected to avoid or identify these dangers. An electronic framework ought to have secure access to maintain a strategic distance from unapproved utilize; administration must survey compromises to ensure they are sensible and precise; and installments ought to be made just on endorsed bills to stay away from misrepresentation and mistakes

3.4 Conceptualization of Data Framework

The conceptualization of data framework in this research includes the variables contained within the hypotheses formulated in this research to assess the impact of IT on the quality of AIS. Two sets of hypotheses were generated one for the IT sample and the second for the finance departments of the banks.

- The first set of hypotheses relating to the IT department.

H₁: The use of hardware has a statistically significant impact on the effectiveness of the AIS.

H₂: The use of database has a statistically significant impact on the effectiveness of the AIS.

H₃: The use of network has a statistically significant impact on the effectiveness of the AIS.

- The second set of hypotheses relating to the finance department.

H₄: The use of hardware has a statistically significant impact on the effectiveness of the AIS.

H₅: The use of database has a statistically significant impact on the effectiveness of the AIS.

H₆: The use of network has a statistically significant impact on the effectiveness of the AIS.

The relations between these hypotheses as a conceptual framework is shown in Figure (3).

The theoretical framework represented by these six hypotheses is shown in the figure below. The diagram shows that the IT, databases, and networks used to represent and process accounting information determine both the effectiveness of AIS and the quality of AIS as perceived by finance departments. Effectiveness of AIS and perceptions of finance (Accounting) departments result in compliance with accounting regulatory framework.

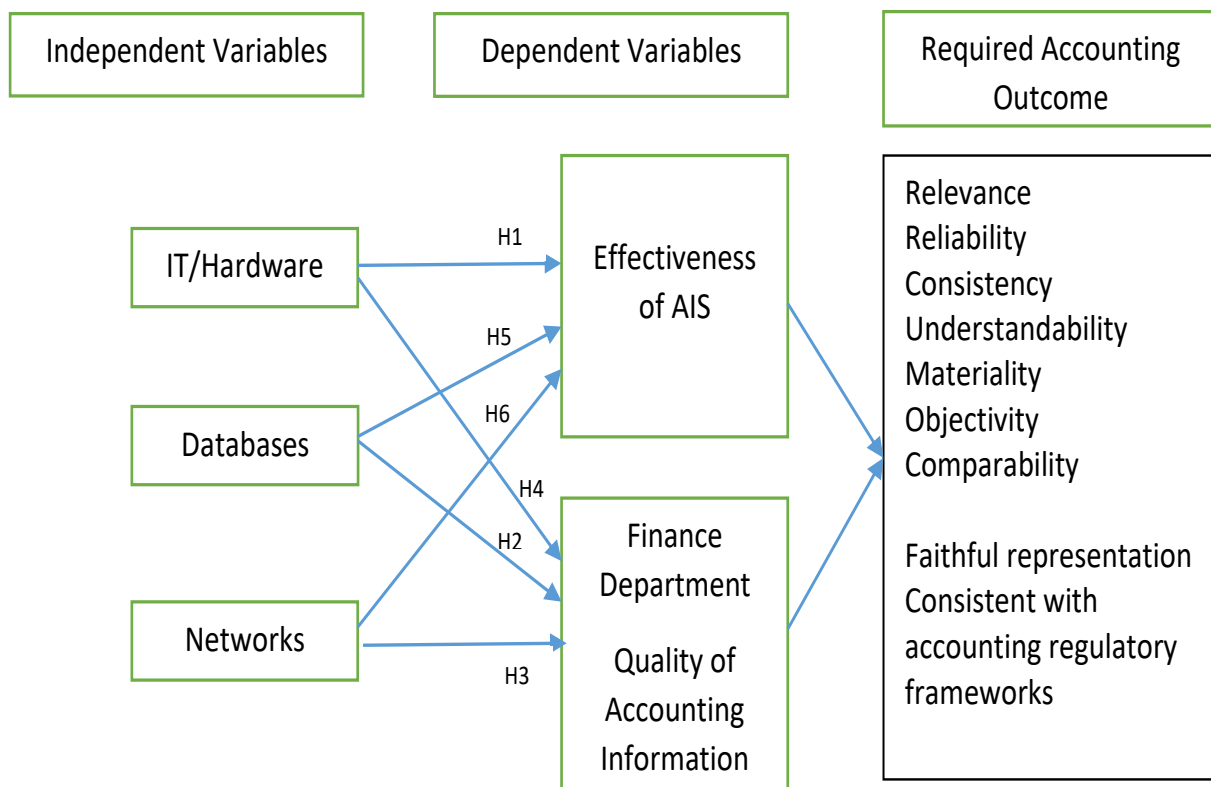


Figure 3: Hypothesis Diagram

The overall independent variable is IT. This variable was logically decomposed into its constituent parts, namely hardware, databases, and communication networks. The demands of accounting frameworks and regulatory frameworks need to be faithfully translated into suitable IT: hardware, databases, and communication networks.

From the above mentioned all hypothesis, the independent variables are IT: Hardware, database, and networks. Also, there is the outcome of the above-mentioned outcomes:

For the Hypothesis 1, the expected outcome is understandability of the effectiveness of AIS. Also, the impact of hardware on finance department and quality of accounting has some outcome which is consistent with regulatory frame work.

For the Hypothesis 2, the expected outcome from the independent variable is consistency of the AIS. There is a significant impact of database on the AIS and its effectiveness. The IT has also the impact on the dependent variable of finance department.

For the Hypothesis 3, the use of network has a significant importance in the effectiveness of AIS

and it also has the importance in finance department that has the outcome of consistency in the financial activity.

For the hypothesis 4, the hardware has the significant impact on the dependent variables AIS and the outcomes of these variables.

For the hypothesis 5, the database has also the impact on the effectiveness of AIS and it affects the outcome of independent variables.

For the hypothesis 6, the use of network has its own significant in the effectiveness of AIS that brings the outcome in the form of reliability and consistency of financial activities of AIS.

Importance of empirical data feeds

The empirical approach refers to the evidence-based approach in which the interpretation of information is being interpreted. This approach relies on the data that are based in the real world instead of concepts and theories. There is a significant importance of the empirical approach in the accounting information system. This approach helps the AIS to perform effectively in the financial banks in the Jordan. It is also helpful in validating the various hypothesis in order to enhance the knowledge of financial activities.

There is another significance of the empirical approach in the field of AIS in which it helps the banks' financial structure to eliminate the uncertain flaws existing in the AIS.

Quality and effectiveness of IT on AIS

There is a significant impact of IT on the AIS in the flow of management of financial activities. The hypothesis model describes the effective outcome from the independent variables. The quality of the IT in AIS is defined by the value that AIS serves to the client and financial institution. On the other hand, the effectiveness of hypothesis defined the output from the two variables including independent and independent that introduce the outcome in many terms such as reliability, understandability, effectiveness, and smooth function of financial activities. The independent variables such as hardware, database, and network are the factor that impact on the other variables

such as effectiveness of AIS and both of these factors introduces the output in the form of reliability, understandability, and financial activities of organization.

Relation of IT to the survey strategy

The IT helps the organizations to provide a suitable interface in between real-world system and computers. However, IT has the significant impact on the efficiency of AIS. The IT helps the systems of AIS to function smoothly and manage the performance of financial data effectively. As IT is a term that defines the physical components i.e., CPU, hard disk drive, RAM, etc. These components help the AIS to manage the financial operation smoothly. The IT is independent variable and the effectiveness of (AIS) that provides the results in.

The diagram below shows the region of the probability curve for which the hypothesis would not be rejects between -1.96 and 1.96.

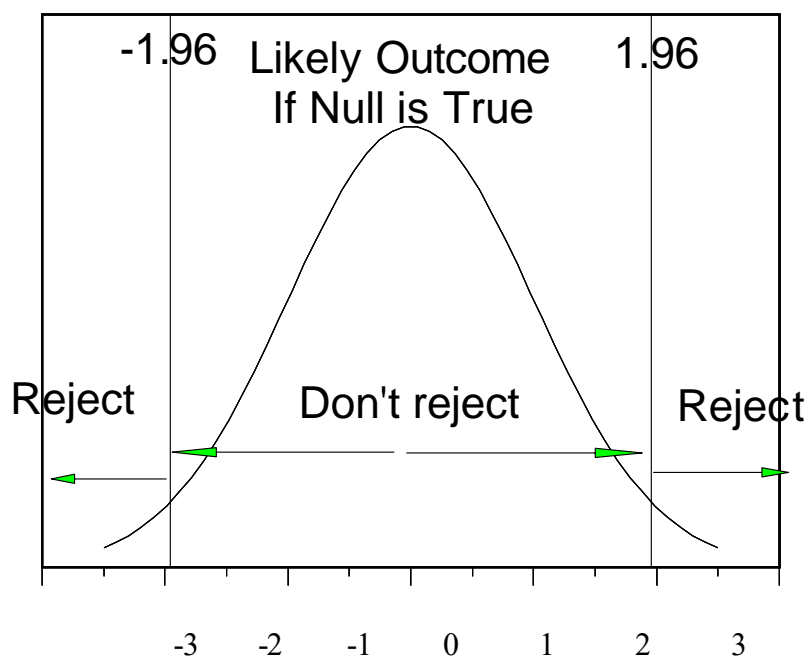


Figure 4: Hypothesis testing (Al-Zoubi & Talafha, 2017)

The overall independent variable is IT. This variable was logically decomposed into its constituent parts, namely hardware, software, databases, and communication networks. The demands of accounting frameworks and regulatory frameworks need to be faithfully translated into suitable IT hardware, software, databases, and communication networks.

The dependent variable is the quality of AIS. Therefore, the particular aspects relevance, reliability, consistency, understandability, materiality, objectivity, and comparability of accounting information from IT-based AIS, and whether they provide a faithful representation of business data in AIS to enhance its quality for financial reporting that is consistent with accounting regulatory frameworks need to be fulfilled by the independent variable of IT and its constituent parts. The various hypotheses used to test these independent variables and dependent variables are stated and tested in Chapter 5. The following section articulates the particular accounting aspects of the conceptualization of the data framework tested.

3.5 Data Framework Development

An AIS is a structure that a business uses to gather, store, oversee, process, recover and report its money related information with the goal that it can be utilized by accountants, specialists, business experts, administrators, (CFOs), examiners, controllers and expense organizations. Well prepared accountants work top to bottom with AIS to guarantee the largest amount of precision in an organization's monetary exchanges and recordkeeping, and additionally make budgetary information effortlessly accessible to the individuals who genuinely require access to it — all while keeping information unblemished and secure. AIS by and large comprise of six essential parts: individuals, techniques and guidelines, information, programming, data innovation foundation and inner controls.

- People:

The general population in AIS is essentially the framework clients. Experts who may need to utilize an association's AIS incorporate accountants, specialists, business investigators, supervisors, CFOs and inspectors. AIS enable the diverse offices inside an organization to cooperate. For instance, administration can set up deals objectives for which staff would then be able to arrange the fitting measure of stock. The stock request tells the accounting bureau of another payable. At the point when deals are made, sales representatives can enter client orders, accounting can receipt clients, the stockroom can gather the request, the delivery division can send it off, and the accounting office gets told of another receivable. The client benefit office would then be able to track client shipments and the framework can make deals reports for administration. Administrators can likewise observe stock costs, shipping costs, fabricating expenses et cetera.

Withal-around planned AIS, everybody inside an association who is approved to do as such can get to a similar framework and get a similar data. AIS additionally improve inspiring data to individuals outside of the association, when fundamental. For instance, advisors may utilize the data in AIS to break down the viability of the organization's estimating structure by taking a gander at cost information, deals information and income. Likewise, reviewers can utilize the information to evaluate an organization's interior controls, budgetary condition and consistence with the Sarbanes-Oxley Act (SOX). The AIS ought to be intended to address the issues of the general population will's identity utilizing it. The framework ought to likewise be anything but difficult to utilize and ought to enhance, not thwart, productivity. (Dull et al., 2012)

- Procedures and Instructions:

The system and directions of AIS are the techniques it utilizes for gathering, putting away, recovering and preparing information. These strategies are both manual and robotized. The information can originate from both inner sources (e.g., representatives) and outside sources (e.g., clients' online requests). Methodology and directions will be coded into AIS programming — they ought to likewise be "coded" into representatives through documentation and preparing. To be compelling, strategies and guidelines must be taken after reliably.

- Data:

To store data, AIS must have a database structure, for example, organized inquiry dialect (SQL), a programming language regularly utilized for databases. The AIS will likewise require different info screens for the diverse sorts of framework clients and information section, and additionally extraordinary yield arrangements to address the issues of various clients and different kinds of data. The information contained in AIS is all the monetary data germane to the association's business hones. Any business information that affects the organization's funds ought to go into AIS. The sort of information incorporated into AIS will rely upon the idea of the business, yet it might comprise of the accompanying:

- Sales order
- client bill statement
- sales analysis reports
- purchase requisitions
- vendor invoices
- check registers
- general ledger
- inventory data
- payroll information
- timekeeping
- tax information

This information would then be able to be utilized to plan accounting explanations and reports, for example, money due maturing, deterioration/amortization plans, preliminary adjust, benefit and misfortune, et cetera. Having this information in one place — in the AIS — encourages a business' record keeping, detailing, investigation, examining and basic leadership exercises. For the information to be helpful, it must be finished, right and applicable. Then again, cases of information that would not go into AIS incorporate notices, correspondence, introductions and manuals. (Wilkinson, etc., 2000)

- **Software:**

The product segment of AIS is the PC programs used to store recover process and dissect the organization's monetary information. Before there were PCs, AISs were manual, paper-based frameworks, however today, most organizations are utilizing PC programming as the premise of the AIS. Independent companies may utilize Intuit's QuickBooks, Sage Peachtree Accounting, or Microsoft's Small Business Accounting, yet there are numerous others. Little to medium sized organizations may utilize SAP's Business One. Medium sized and huge organizations may utilize Microsoft's Dynamics GP, Sage Group's MAS 90 or MAS 200, Oracle's PeopleSoft or Epicor Financial Management. Quality, dependability and security are key parts of compelling AIS programming. Administrators depend on the data it yields to settle on choices for the organization, and they require excellent data to settle on cool headed choices.

AIS programming projects can be modified to meet the one of kind needs of various sorts of organizations. On the off chance that a current program does not address an organization's issues, programming can likewise be produced in-house with generous contribution from end clients or can be created by an outsider organization particularly for the association. The framework could even be outsourced to a specific organization.

For traded on an open market organization, regardless of what programming system and customization alternatives the business picks, Sarbanes-Oxley directions will manage the structure of the AIS to some degree. This is on account of SOX directions set up inside controls and examining methods that open organizations must agree. (Romney & Steinbart, 2006).

- **IT Infrastructure:**

Data innovation framework is only a favor name for the equipment used to work the accounting data framework. The majority of these equipment things will be things a business would need at any rate, including PCs, cell phones, servers, printers, surge defenders, switches, stockpiling media, and conceivably a reinforcement control supply. Notwithstanding cost, variables to consider in choosing

equipment incorporate speed, stockpiling ability and whether it can be extended and updated. Maybe above all, the equipment chose for AIS must be perfect with the expected programming. In a perfect world, it would be not simply good, but rather ideal — an awkward framework will be considerably less accommodating than an expedient one. One-way organizations can without much of a stretch meet equipment and programming similarity prerequisites is by buying a turnkey framework that incorporates both the equipment and the product that the business needs. Obtaining a turnkey framework implies, hypothetically, that the business will get an ideal blend of equipment and programming for its AIS. Decent AIS ought to likewise incorporate an arrangement for looking after, adjusting, supplanting and updating parts of the equipment framework, and also an arrangement for the transfer of broken and obsolete equipment with the goal that touchy information is totally crushed. (Dull, etc, 2012)

- **Internal Controls**

The interior controls of AIS are the safety efforts it contains to secure delicate information. These can be as basic as passwords or as mind boggling as biometric distinguishing proof. AIS must have interior controls to ensure against unapproved PC get to and to restrain access to approved clients which incorporates a few clients inside the organization. It should likewise avoid unapproved document access by people who are permitted to get to just choose parts of the framework.

AIS contain private data having a place with the organization, as well as to its workers and clients. This information may incorporate Social Security numbers, pay data, Visa numbers, et cetera. The greater part of the information in AIS ought to be scrambled, and access to the framework ought to be logged. Framework movement ought to be traceable also. AIS additionally need inward controls that shield it from PC infections, programmers and other inner and outer dangers to organize security. It should likewise be shielded from catastrophic events and power surges that can cause information misfortune.

The aftereffect of this procedure is the way that financial specialists, joining our market or firms with remote interest demand such an overseeing which brings them included esteem. In this rationale, an accessible apparatus is controlling. Controlling is a particular administration framework, which misuses particularly accounting, costs and cost figuring arrangement of an organization and friends' financial plans. At to begin with, organizations need to reconsider its costs, accounting and cost figuring framework. This article examines the initial two said components.

- **Accounting data:**

By and large, accounting can be separated in two classifications: government accounting and financial accounting. This arrangement is imperative, particularly to control. Controlling endeavors administrative accounting which concerns giving data that chiefs inside the association utilize. A generation chief needs a write about the quantity of units of item different specialists make keeping in mind the end goal to assess their execution. A business chief needs a report demonstrating the relative gainfulness of two items with a specific end goal to center offering exertion. Firms don't convey administrative accounting reports to outside client in light of the fact that these reports regularly contain classified data.

Then again, outside clients like to see and assess organization's budgetary status in general. Along these lines the money related accounting is fundamental for the firm, as well. It concerns getting ready universally useful reports for partners outside the organization. Such partners incorporate proprietors, investors, loan bosses, monetary experts and government controllers. Both money related and administrative accounting conveys data to their particular clients. Free market activity for accounting data decides data certainty. The expenses and advantages of data are imperative components for chiefs with a specific end goal to have the capacity to choose to what degree the accounting is adequate. Just if the advantages of data surpass its costs the organization ought to create accounting data to supervisors.

Accounting is fundamental due to some particular kind of data, as well. This data brings a few learning about expenses. On a fundamental level a cost is a forfeit of assets. The term cost is important just in the event that it is utilized as a part of particular idea.

The meaning of a cost as a "forfeit" leads straightforwardly to the open-door cost idea. In the event that a firm uses an advantage for one reason, the open-door cost of utilizing it for that intention is the arrival sworn off from its best elective utilize. It is important to recognize taken a toll as utilized as a part of administrative accounting from cost, as utilized as a part of budgetary accounting. While a cost is a forfeit of assets, a cost is the verifiable cost of products or administrations a firm uses in a specific accounting period. Administrative accounting bargains principally with costs, not costs.

Sunk costs result from past consumptions. Choices don't influence them in light of the fact that the firm caused sunken expenses in the past, though choices made currently influence what's to come. Past uses are by sunk expenses however it does not imply that data about past sums spent is absolutely superfluous, e.g., for execution assessment.

Materials and Methods: Significant bibliographic assets were utilized to compose this article. Gained data concerning the improvement, creation and essential qualities of cost administration were then used to think about various potential outcomes of cost administration and controlling. Concerning strategies, investigation, blend, conclusion and reflection were utilized.

Cost's data: Chiefs utilize some other order of the expenses too. As indicated by the connection to a cost protests there are coordinate expenses and roundabout expenses. Costs that relate specifically to a cost question are immediate. Those that don't are circuitous. A cost protest is anything for which a chief wish to gauge cost. Offices, stores, divisions, item lines or units created are ordinary cost objects.

Backhanded expenses are normal as well, or shared by at least two costs objects, so accountants additionally call them normal costs. Coordinate materials and direct work are that a firm can follow to specific units of creation. Assembling overhead are costs that enable a firm to create, for example, backhanded materials, roundabout work, cost of utilities, property charges, devaluation, protection, lease and different expenses of working the assembling offices

Nonmanufacturing costs contain promoting costs and managerial expenses. Notwithstanding this arrangement there are some different routes how to acknowledge costs. Another point of view goes out the cost conduct. This characterization is maybe generally helpful. As indicated by along these lines there are:

- Variable costs that change as the level of action changes, though
- Fixed expenses don't change with change of movement volume.

In the short run a day and age sufficiently long to change the level of creation inside the requirements of current aggregate beneficial limit, huge numbers of company's expenses are settled. Over the long-term administration can change, add up to profitable limit, and no expenses are settled.

Add up to expenses of a thing can be communicated as takes after: Settled costs that furnish a firm with ability to deliver are limit costs. Other settled costs that incorporate research, improvement and publicizing to create new business are optional expenses or customized costs or overseen costs.

All firms incur costs. In the event that a firm does not pay a cost instantly but rather includes it in to a stock record on the asset report until the point when it offers the merchandise, that cost is said to be inventorial. Inventorial expenses are called item costs. Not inventorial expenses are called period costs in light of the fact that the firm pays them in the period acquired. It is vital - for outer money related detailing - to regard all assembling costs as item costs. Utilizing full assimilation costing, the firm allocates every unit of a decent delivered the unit's variable fabricating cost in addition to an offer of settled assembling costs for stock valuation. Variable costing strategy for stock valuation incorporates just every unit's variable assembling costs. Firms utilizing variable costing treat settled fabricating costs as period costs they cost in the period in which they bring about the expenses. Firms treat by all non-fabricating costs as period costs and along these lines the expenses are non-inventorial under both techniques.

A wide range of expenses or costs are essential for administrators to have the capacity to settle on some vital choice. For administrative choice they have to know commitment edge. This edge is frequently stirred up with net edge, be that as it may, they are extraordinary. It is conceivable to characterize the two edges with the assistance of full costs parts which incorporate advertising and regulatory expenses yet the full ingestion cost stock esteem does not.

The unit variable expenses incorporate variable advertising and regulatory expenses yet the variable assembling costs don't:

- Unit profit margin = unit selling price - full cost per unit of making and selling the product
- Unit gross margin = unit selling price - unit full absorption cost of making the product
- Unit contribution margin = unit selling price - unit variable cost of making and selling the product.

Auditors need to recognize these edges since firms routinely report add up to net edge on outer budgetary articulations however discover commitment edge by and large more valuable for administrative choices. Controllability is vital when administrators utilize accounting information for execution assessment. Knowing which costs representatives can control enables chiefs to set needs in performing one of their most critical missions - cost control. Realizing that, in the short run, industrial facility lease is a non-controllable cost, while coordinate work hours worked are controllable, empowers chiefs to concentrate on costs that they would more be able to effectively oversee. It is essential to perceive the relative idea of controllable and non-controllable expenses. To begin with, costs that trough can't control in the short run are probably going to be controllable over the long haul at some level in the association. Second, as one climbs the association to more elevated amounts of administration, an ever-increasing number of expenses move toward becoming controllable. We view a cost as controllable at the level in the association where the administration at that level has the ability to approve the cost. In the event that best administration however not, area deals directors can approve the publicizing spending plan, it controls promoting costs.

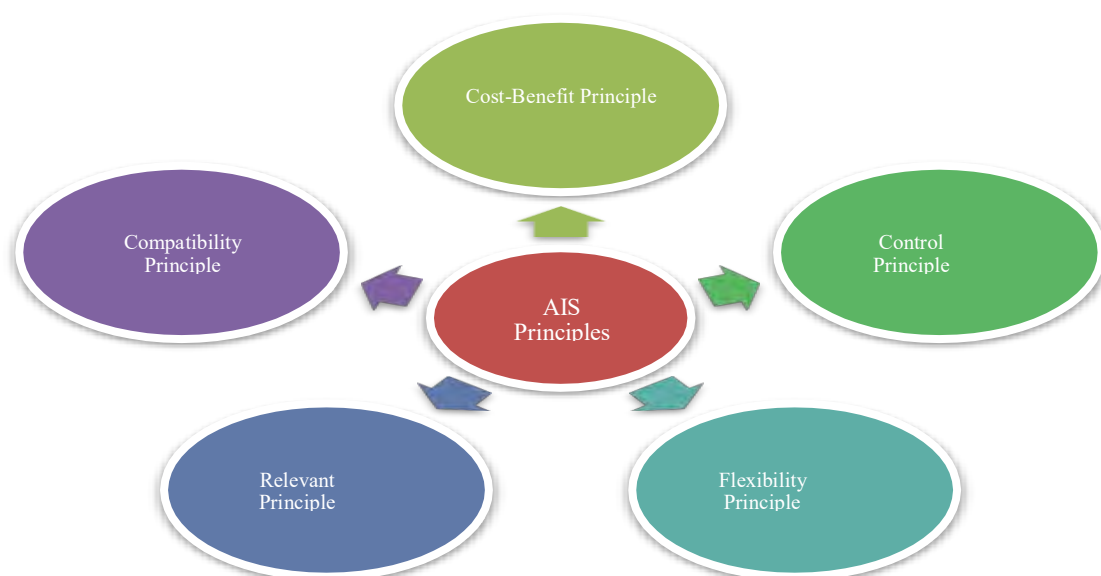


Figure 5: AIS Principles - (Kieso, 2016)

It is important to note that banks in Jordan normally depend on the AIS through connecting the banking services of banks in each department in a separate way and ensure that such departments are linked at the same time (Abdallah, 2014). Dependence on the AIS is aimed at ensuring that there is satisfaction of an organization's clients through implementation of their needs using little or minimal efforts (Schnackenberg & Tomlinson, 2016). It is important to note that over the last ten years, the entire world has actually encountered wide technological and economic changes that had an impact on the IS, AIS included (Lowe et al., 2014). Such changes led in overlapping of numerous scientific fields as well as the interconnection and knowledge of their purposes and objectives in a way which services different economic entities and businesses. As a result, the accounting field was not exempted from such developments.

It is vital to note that the broad application of the accounting IT in the accounting profession has made it to be placed before challenges which call for the sufficient means of effectively coping with the new changes in the field and seeking for new mechanisms that can enhance the quality and use of local accounting services to ensure that it is competitive with that in the rest of the world (Yoo et al., 2015). Whereas the use of IT in the modern world has led to significant and rapid changes in the modern business environment, it is vital to note that the banking sector is actually required to become more responsive towards such changes since competition is known to be so rife between various elements in the banking sector (Chiang et al., 2016).

It is important to note that there is need for the banking sector to expand in the development of IS through various ways and more specifically in the use of AIS (Tarhinet et al., 2016). This is attributed to the fact that the use of AIS will help any organization to effectively keep in line with its developments and also ensure that an organization reaps maximum benefits emanating from numerous diversified facilities, services, advantages, and potential which is provided through IT in order to develop and enhance the services which are rendered by banking institutions to their customers and enhance both their local as well as global competitiveness (Aboelmaged, 2014).

The use of the AIS in most of the Islamic banks through technological developments are known to present relevant information that is used in the process of decision making and then results ultimately used for both performance appraisal and control purposes (Alrabeiet et al., 2014). Such information is thus regarded as being an essential requirement for most of the decision makers in most Islamic banks so long as they have essential characteristics which can effectively be used in the process of decision making. There is need for AIS used in banks in Jordan to be effectively developed so that they are able to present reliable and accurate information that guarantees the effective existence of an organization's objectivity, self-assurance, and even security (Trkman&Trkman, 2014).

This research will be prepared with an aim of evaluating the impact or effect that has been caused by the AIS in most of the Banks in Jordan based on the contemporary technological developments through the evaluation of some of standards like reliability, flexibility, quality, and simplicity of such systems (Bontiset et al., 2017). The research will aim at depicting the benefits of such systems through showing their capability of providing more essential information to the process of decision making in the modern world that is marked with stiff competition as well as an expansive application of AIS in the present contemporary IT means. Information systems is defined as being a "correlated group" of components that are tasked with the responsibility of collecting, receiving, processing, saving, and distribution of information that is used in giving support to the process of decision making as well as control in a specific organization (Wilson et al., 2013). In addition to that, the use of information systems is quite crucial in baking institutions because it helps both workers and managers in such organizations to effectively examine the problems facing their organizations and thus develop new products and services that will help in the resolving of such problems. On the other hand, IT is regarded as the electronic way through which information is not only collected and processed but also stored and disseminated to relevant or appropriate recipients. IT is thus regarded as being one of the contemporary issues that are known to highly depict the importance of using

“technologically processed information” in serving numerous societal aspects (Shaikh & Karjaluoto, 2015).

The use of IT in the AIS and more specifically in the banks in Jordan has led to the reduction of the general costs of the Islamic operations thus making it quite apparent and easy for one to differentiate organizations using IT in their production services actions and those which are still using the manual systems (Shobaki & Naser, 2016). AIS that are deemed to be efficient are known to be marked by numerous characteristics and these include among others system reliability, flexibility, and simplicity.

It is prudent for all people to understand that the ever-dynamic changes that have been occurring in most of the business environments, banks in Jordan included coupled with the revolution in IT, some of the major reasons that have made most of such business organizations to place much emphasis on the competitive advantage thus reconsidering their competitive advantage.

The use of IT has thus become a crucial tool for the achievement and reinforcement of competitive advantages for most organizations such as the banks in Jordan that have been listed on the stock exchange (Maditheti & Gomes, 2017). Accordingly, there is a great need for banks which have been listed on the stock exchange to enhance their comprehension of the importance attached to the use of IT in conjunction with other means as being an essential tool for not only achieving but also supporting of competitive costs through cost cutting, enhancement of quality, and even through boosting of productivity for the banks that have been listed on the stock exchange. However, it is prudent to note that competitive advantage can only be achieved by organizations if it has effectively been impacted by the appropriate use of IT environments as well “supporting technical environments” that have been adopted by such organizations. It is well proven that indeed, the use of IT by banks listed on the Jordanian stock exchange helped them to easily achieve strategies of competitive advantages. It is of importance that most of the banks in Jordan heavily rely on the accounting systems in order to make their operations smooth and easy. The use of IT makes such

operations easy because it presents organizations with an opportunity connect all their banking services of each bank's department in a same manner and ensure that they linked at the same time. This is quite beneficial for the organizations because it enables them to effectively serve their clients and satisfy their needs through easy implementation of banking processes quickly and with less effort (Almsafiret et al., 2014). IT has had a significant impact on the AIS of banks that have been listed on the stock exchange because it is actually through it that electronic banking has been made possible. It can truly be asserted that the issue of electronic banking has now become one of the most modern and important applications which have encountered substantial expansion in the recent past.

Electronic banking has ultimately had a great impact on the way that most of the banks in Jordan performed. This was unlike in the past when most of the banks in Jordan highly depend on the conventional channels in order to execute banking operations. Due to that, some of the costs that were associated with the adoption of electronic banking coupled with other information technological tools were still higher as opposed to providing of electronic services. There is need for banks listed on the Amman stock exchange to focus their work on promotion of confidence in the use of IT and also encourage their clients to use the technological tools associated with them (Banalzwaa& Abdullah, 2017). The increasing of documents and evidence needed for control according to IT, all big companies look for investment in IT because they understand the importance of IT in order to achieve effectiveness direction on internal control. According to Lambert, et al., (2006), this paper examines how the AIS about the company manifest in its cost, the model used that is consistent with the capital average pricing model. This paper made several contributions such as the IT improvement in decisions for management.

An AIS is a framework that gathers, stores and procedures budgetary and accounting information, which are utilized by leaders (for this situation, eatery proprietors/accountants) An AIS is PC based technique for following accounting movement joined with data innovation resources. Accounting

Software is utilized by organizations to help mechanize and oversee finance, buy requests and that's only the tip of the iceberg. Today most AIS frameworks can be utilized on a tablet and most eateries utilize tablet-based accounting frameworks. Some of them can likewise be utilized on a cell phone, making it much more available. The Accounting Software industry is presently a multi-billion-dollar industry with several focused arrangements accessible.

A few AIS frameworks include:

Capital:

Capital is an Australia-based accounting programming, which is made for Banks that need to keep their records, regardless of whether they don't know anything about accounting. It is extremely straightforward: you should simply record the cash you get and the cash you spend into the segments. Capital accompanies multiyear of free help, and has a cell phone application too, so you can track your accounts with considerably greater reasonableness.

Xero:

Xero is one of the least demanding accounting programming projects to utilize in view of the simple setup process. It gives continuous access to your money related information and access for your accountant or clerk. One of its coolest highlights is the capacity to interface with your bank for programmed updates and straightforward bank compromise. You can likewise pay your bills, check your representative's finance data, and get installments from online installment administrations.

Sage:

Sage is one of the longest running accounting frameworks and gives answers for almost every sort of business, going from little new businesses to huge undertaking organizations. It has various distinctive adaptations, every one of them intended for a particular size of business, with special diverse highlights. Sage enables you to deal with your whole business, from the real records to your representative's finance and your installments.

QuickBooks:

Not at all like spreadsheet-based programming projects, QuickBooks does all the accounting naturally. It causes you monitor all the cash that travels every which way out of your business extremely easily. QuickBooks naturally moves down the entirety of your information with bank level security, so your business will dependably be protected and secure. QuickBooks is accessible from any gadget and it offers answers for any sort or size of organizations.

3.6 Conclusion

Accounting is a typical gauge in private venture. A bank can utilize accounting data to gauge her organization's business and operational execution. Accounting data is typically arranged by sound accounting guidelines (IFRS), International financial reporting standards. (GAAP). GAAP is the most legitimate accounting principles in the U.S. GAAP require accounting data to be exact, opportune and significant. These highlights guarantee proprietors have the best data for settling on business choices. Significance – as characterized in accounting wording - shows that accounting data gives an important advantage to the end client. End clients of accounting data are normally alluded to as inside and outer business partners. Inward partners incorporate entrepreneurs, administrators and representatives. Outside partners incorporate banks, financial specialists and the overall population. Outside partners utilize important accounting data to settle on financing choices for independent venture credits.

Banks require important data while checking on their organization's pay explanation. Pertinent data guarantees all stock expenses are incorporated into the organization's cost of products sold record. Costs should likewise be applicable to the specific deal's income earned for the accounting time frame. One-time, non-repeating expensed charges can rapidly mutilate an organization's wage for the accounting time frame. Organizations must guarantee this data is significant preceding discharge for survey by outside business partners. Significant accounting data can likewise help Banks settle on choices with respect to stock cost. The stock cost is applicable in light of the fact that it speaks to the cash an entrepreneur must pay to buy coordinate materials for delivering products. Banks may buy stock to exchange in a retail business condition. Pertinent expenses incorporate what organizations must pay right presently to supplant current stock. Banks should likewise focus on any volume rebates which can change the importance of stock expenses.

Banks ought to likewise make sure accounting data is exact and opportune. Precise accounting data guarantees all money related data is recorded legitimately on the organization's accounting record. Convenience alludes to accounting data recorded in the best possible accounting time frame. Most independent companies' record money related exchanges on a month-to-month premise. Counting budgetary data from past or consequent months can mutilate the present accounting time frame's data. Banks who are new to the accounting procedure should look for outside help or data to find out about accounting. Banks can take a class at a nearby school or college to find out about the significance of important accounting data. The nearby council of business or different business exchange affiliation may offer free or ease classes for Banks. These associations generally offer data on legitimately maintaining an independent venture and why accounting data has a vital impact in business proprietorship.

The data framework developed in this Chapter will be operationalized in the next chapter in terms of research methods needed to collect relevant data and analyses it to confirm the hypotheses detailed in Chapter 5.

CHAPTER 4: METHODOLOGY

4.1 Introduction

Methodology for research is most critical aspect of every study hence needs to be conducted in an appropriate manner. Research methodology defines ways that are accommodating for developing theory and integrating the same into the study. It proposes format that has been adopted for the study in order to arrive at research aims and objectives. A research design is known to comprise both the procedures and the methodology which is applied in carrying out the research. As a result, the design of a specific study thus greatly defines the type of study that is to be conducted.

The chapter on methodology is therefore structured into sections, one which analyses the research design while another one deals with the targeted population as well as the sampling design. Another section deals with the data collection instruments as well as the data collection procedures while another one will comprise of the analytical and conceptual frameworks. This Chapter provides in-depth analysis of relevant research methodologies that has been adopted by scholar in order to achieve the research goals and aims. The procedure will allow the researcher to analyse problems pertaining to the study and reach an appropriate conclusion for the same. So, in this chapter various aspects of the research methodology have been detailed.

The study is being conducted across several banks in Jordan, by way of gathering and collecting divergent types of data. Such data once collected will be tabulated and analysed to discover patterns. While several types of methodologies are available for scientific and social research, the researcher needs to select the appropriate one that is best suited to achieve the research objectives. In order to do so the scholar has to evaluate several methodologies that are present and their applicability, as he cannot select a process that has limitations. This chapter hence undertakes a brief explanation along with selection of appropriate research methodologies that can help the researcher arrive at findings related to the study.

This study data was analyzed by various statistical methods. This study also used the descriptive, analytical approach in obtaining the minor data and a library scan for a group of references, books and periodicals related to the subject of this study.

4.2 Data Collection

For the sources of data collection, the researcher relied on a number of sources to obtain data and information related to the study.

- **Primary sources:** are represented in each of the following.

- A. The questionnaire on IT measurements and the questionnaire on the effectiveness of the AIS.

- B. Field visits and interviews with a group of financial managers, IT managers, accountants and programmers working in some of the banking, and software and IS, companies.

- **Secondary sources:** it consists of review and investigating the study literature and represented in the following:

- A. Books and researches published in Arabic and foreign, especially on topics related to the AIS or IT.

- B. Arabic and foreign university papers related to the subject of the study.

- C. Related websites such as the Amman Financial Market website.

Collection of data is integral to achieve the research aim and objectives. Data can be both primary and secondary in nature. Primary data is first hand data that is collected by the researcher. Whereas secondary data that is already published.

Data collection is integral to a study as it involves collection of information from sources primary in nature to obtain results regarding the same. There are hosts of method from which the researcher can select from for arriving at results related to the study. They can be observation, participative and structured in nature. Observation can be of types, where the researcher takes part in sample participants on personal experienced for interpreting information. Interviews which might be

personal and semi-structured in nature, Questionnaires depending of research aims and objectives. Questionnaires will be depending upon research aims and study; can be either close-ended or open-ended questionnaire sets. A pre-determined sample with opinions with restricted information. Focus groups are not attempted in this study as it entails group of a specified people for discussing problems and then interpreting results. Posts analysis of various methods available for the purpose of data collection, the scholar has aimed at accommodating questionnaire method for conducting the study.

4.3 Research Philosophy

A research philosophy entails describing the entire structure for the study in terms of valid means for arriving at knowledge, which is called epistemology. The epistemology chosen for this research is positivism, since hypothesis have been generated and will be tested to assess their validity.

Epistemology is concerned with underpinning aspects that are critical for research. There are four prominent elements of research philosophies ontology, epistemology, axiology, and rhetoric philosophy. Ontology is concerned with understanding the nature of reality. Epistemology is concerned with the instruments and logic entailed in how knowledge is discovered. Axiology is concerned with the ethics and aesthetics of the research. Rhetoric philosophy is adopted for in-depth analysis of problem along with its exploration of interrelated aspects to arrive at conclusions.

Through analysis of various literatures, pertinent literature gap to understand applicability of AIS in listed Banks in Jordan had been undertaken in Chapter 2 and a conceptual framework developed in Chapter 3. The aim of this chapter is to set out the research methodology that was used in the achievement of objectives of the study. The proposed quantitative research methodology addresses the research questions and helps to achieve the research objectives.

The methodology of the study included identifying the sources of data, detailing the methods through which they were collected, determining the sample, designing the two questionnaires, administering them, designing the interview questions, the statistical methods used, and the data analysis methods.

In essence it sets out the data collection and analysis methods that was used in the selection of respondents, collection of appropriate data, and the analysis of the same (Joshi et al., 2017).

4.3.1 Positivism

Therefore, the primary research philosophy adopted is positivism. Since positivism regards reality as objective it is appropriate for testing hypothesis with observable variable, as detailed in Section 3.3 of Chapter 3. Positivism according to Levin (1988) is belief of reality and is observed from viewpoint of objectivity. The researcher does not intervene with phenomenon that is analyzed, as in this case scholar does not intervene with the application of IT or AIS in the listed banks. The approach is used to observe the phenomenon and the observation is repeatable by other researchers. Consequently, predictions can be derived from prior observed realities along with their inter-relationships. Though often reality is manipulated with variations in cases of single independent variable to analyses regularities when applied to the social world.

Alavi and Carlson (1992) show long tradition regarding positivism with several empirical studies being successful with association in natural and physical sciences. In analysis of Information Systems (IS) and AIS some difficulties have been experienced in apparent transparency. Inappropriateness of inconsistent results can be attributed to positivist paradigm in the domain. Some variables or parts might have been immeasurable hence went unsearched.

In positivists approach ontological nature of the phenomenon is analysed. The use of IT, hardware and networks in AIS suggests objects that are external to the researcher. That is they exist independently of any possible interpretation by the researcher. They are objects in reality. But since the aim is to understand how the IT, hardware, and networks contribute to the quality of such data, the focus is on the actual objects, their design, implementation.

The most prominent question surrounding scope for entire study is to be able to design it in a manner that it is pertinent to investigate the research problem and address the research questions and objectives. Positivism philosophy is suitable for the purpose of understanding ways in which listed banks use IT along with AIS in terms of compliance with accounting frameworks. The study aims to analyses scope related to ways listed banks in Jordan makes use of IT in AIS. Greater role of IT in

AIS is evaluated with recommendations in which they can enhance existing processes. The researcher remained detached in the study in order to achieve objectivity. Therefore, positivists, quantitative approach has been resorted to as the key to being research instrument.

4.3.2 Other Research Philosophies

Other research philosophies were considered but were considered inappropriate to answer the research questions and achieve the research objectives of this research. **Pragmatism** research philosophy is adopted when the researcher seeks to influence action, which was not a purpose of this research. This philosophy supports multiple methods of interpreting the world and taking direct action in the research field (Creswell & Creswell, 2017). A single point of view cannot provide the whole picture of the phenomenon. It is a philosophical movement that includes those who claim that an ideology or proposition is true if it works satisfactorily, that the meaning of a proposition is to be found in the practical consequences of accepting it, and that unpractical ideas are to be rejected.

Similarly, **interpretivism** was considered but not appropriate because it accepts reality as subjective interpretation that is socially constructed. The research did not seek to intervene in the observed phenomenon of IT-based AIS and did not seek to make a subjective interpretation. It is undertaken in the natural environment according to interpretivist philosophy, which acknowledges that these subjective views cannot be avoided (Walsham, 2018). This philosophy is used when a researcher wants to understand the meaning that people attach to their actions. As it is opposite of positivism which emphasises objective facts, it is not suitable for achieving the research objectives and so was not used.

Though **realism** research philosophy provides independence of reality from human mind, it is not suitable for this research because it does not permit the quantification of observed phenomenon and variables like positivism. It assumes scientific approach for developing knowledge. There are two realism approaches - direct and critical philosophy. Realism is concerned with making a practical difference in the research field (Creswell & Creswell, 2017).

Since the researcher did not seek to intervene in the observed IT-based AIS, realism is inappropriate, and as noted it does not enable quantification of the observed phenomenon, so it is not suitable to achieve the research objectives and test the proposed hypotheses. Realist researchers view a situation as it is and conduct research to make a difference accordingly. Research is about the nature of reality in general and the researcher sees the world existing independently.

As accounting data frameworks utilized by Jordanian organizations provide information to decision makers, it is necessary to understand such information from the objective viewpoint of users. The utilization of AIS significantly affects every single authoritative level, for example, on the vital strategic and operational levels. Then again, it is additionally critical to take note that AIS likewise significantly affect all the association's practical ranges, for example, in assembling and generation, in HR, in backend accounting, and even in treasury and fund management as well as accounting for regulatory purposes.

4.3.3 Inductive Approach

Inductive reasoning was used to formulate the hypothesis of this research. In inductive analysis observation is made from which patterns or laws are derived leading to formulation of theories. For understanding impacts related to IT, observation is pursued on several banks in Jordan and then results are derived. (Eisenhardt, et al., 2016), state that inductive approach is suitable for survey-based research. This research developed a survey to examine six hypotheses about the effect of IT on AIS of banks in Jordan.

4.4 Research Design

Research design is able to assess functionality and efficiency related to the methodology applying operational procedures. This aspect is crucial to the research as it entails application of the methodologies to investigate the phenomenon for arriving at findings for the same. It is an overall strategy for the study for different parts of the study. It establishes a logical and coherent manner for addressing research problem. It allows the researcher to logically address the research problem in social sciences research to collect data particular to research problem. Evidence is required to assess the proposed conceptual framework describing meaning particular to observable occurrences. Critical evaluation of information is needed for addressing research problem prior to conducting research. Research design follows specific cycle, initiating by way of exploratory stance where problem is planned and developed for investigation strategy.

4.4.1 Quantitative Research

There are four prominent types of research designs that might be adopted descriptive design, explorative design, predictive design, and explanatory designs. Descriptive design is utilized in projects where description related to particular occurrences are analysed. Explorative study aims at detailed information for understanding various facts from multiple sources for arriving at particular solutions related to the study. Predictive design is undertaken in studies in cases of explanatory researches are analysed for predicting outcomes. Explanatory designs are used where scholar aims at fundamental relation amongst various variables that are in observations. For the purpose of this study exploratory design is adopted, where dearth of data related to IT applications in AIS in Jordan banks is undertaken.

Appropriate statistical methods were identified. The reliability test was done using the Cronbach α test to judge the validity and rigidity of the measurement instrument, by measuring the degree of consistency and reliability between the responses to the questionnaire. Appropriate statistical methods were used in order to achieve the objectives of the study.

4.4.2 Descriptive Statistics

The following statistical methods were used to analyze the study data collected by the survey questionnaires:

- Duplicates: were used to identify the characteristics of the population and sample of the study, to identify the number of individuals responding in terms of gender, academic qualification, and other personal data that form descriptive data that enrich the study.
- Relative frequency: This was used to indicate the percentage of each category to the total of that category.
- Mean: The arithmetic mean was used to identify the significance of each variable item for the mean (3), by comparing it with the arithmetic mean of the responses to the variables of the study.
- Standard deviation: This was used to identify the amount of dispersion in the responses, around the arithmetic mean, and this indicates the extent to which the responses focus on the arithmetic mean.

4.4.3 Analytical Statistics

Appropriate analytical statistical methods were used in order to achieve the objectives of the study. The following statistical tests were used:

- Simple Regression Analysis: In order to identify the extent to which each variable is independent of the dependent variable, each independent variable is taken by itself.
- Multiple regression analysis: This analysis is used to determine the interpretation of independent variables of the dependent variable, where independent variables are taken together to explain the change in the dependent variable.
- Correlation Test: This test is used to examine the correlation between independent and dependent variables. The Pearson correlation coefficient was used.
- One-Sample Kolmogorov-Smirnov Test (K-S) and Histogram: These tests are used to determine the extent to which data are followed for normal distribution, and the graph helps to determine the extent to which data are followed for normal distribution.
- Test T test for Independent Sample: This is used to measure the differences in one of the variables according to another variable composed of two categories such as the type of department, and this study dealt with the banking sector.
- Variance Inflation Factor (VIF): This is used to identify the extent of overlap in the correlation of the study model and the strength of the study model. Such a statistical test is used. The strength of the correlation between the variables and the compensation in the variance inflation factor equation is verified. If VIF, less than (5) indicates that there is no overlap in the study model, and some less

conservative statisticians believe that the resulting value of the equation should be less than (10) to verify that there is no interference. (Berenson et al., 2002).

- Conditional Index test (CI): For this test, if the value calculated by statistical analysis is greater than (30), this indicates that there is a problem in the correlation of variables with each other, and therefore there is a problem in the study model. (Berenson, Levine, Krehbiel, 1996).
- Test credibility of the data degree: The measurement tool is acceptable if the ratio exceeds 60%. This is an indication of the stability of the questionnaire in which the study data were collected. The percentage of the current study of the IT questionnaire was (92.23%).
- Study data Analysis: Both questionnaires were then analysed to illustrate the characteristics of the study sample.

4.4.4 Study Questionnaires

The researcher has studied a set of relevant literature, especially with regard to the aspect of IT, to design two questionnaires. The questions contained in the questionnaire were derived from extant literature on AIS. The accounting theory literature was studied as detailed in Sections 2.2 and 2.3 of the literature review chapter. The actual survey questions were formulated to investigate the relevance, reliability, consistency, comparability, and extant understandability of AIS, as discussed extensively in Section 2.3. This discussion enabled the formulation of the hypotheses as detailed in Section 3.3 of Chapter 3 and the actual questions in the questionnaire to be formulated.

The first questionnaire was devoted to collecting data on the impact of using IT. It was distributed to (IT) department managers and to four IT department employees in each of the study banks. The second questionnaire was designed to collect data on the effectiveness of the AIS. It was distributed to the (Financial) department managers, and to four employees of the financial department of each of the study banks. The researcher distributed more than one questionnaire to each of the constituencies in the study society establishments in order to achieve objectivity and increase credibility in the answers as much as possible.

4.4.5 Research Participants

A total of 140 questionnaires were distributed by hand, 10 questionnaires for each bank. The number of questionnaires returned were 112 and 3 questionnaires were excluded because the answers were not complete or unclear. A total of 109 questionnaires (77.857%) were analyzed of all the distributed questionnaires.

When sorting these questionnaires, it was found that 53 of them related to the IT sector that accounted for 75.71% of the total questionnaires distributed to the IT Department. As for the questionnaire related to AIS, the number of questionnaires analyzed was 56 questionnaires that accounted for 80% of the total questionnaires distributed to the financial department or the accounting department.

There are different types of bias and each one was addressed in formulating the survey questions. For response bias this was avoided by restricting the questions to a few limited variables and limiting questions as experienced by Winter (2004). Non-response bias was less than 2%, any more would be considered 'serious nonresponse bias.' (Arthur et al., 1981). Similarly, self-report bias was minimized by careful procedures of recruitment and selection of the research participants as advised by de Reuver and Bouwman (2015).

4.5 Questionnaire Design

4.5.1 Questionnaire - IT

The questionnaire for IT departments contains the following:

Part One: Contains five questions to identify the personal data of the person who will be working on the answer the questionnaire.

Part Two: contains 23 questions, distributed to three groups aimed at identifying the use of hardware, software, databases and communication networks as well as the extent of applying the accounting information system.

4.5.2 Questionnaire – AIS

The questionnaire for the finance (Accounting) departments contains the following:

Part One: Contains five questions to identify the personal data of the person who will be working on the answer the questionnaire.

Part Two: contains thirty-seven questions, distributed to three groups aimed at identifying the effectiveness of the AIS applied to the study sample.

Part Three: contains seven questions, aimed to identify some of the problems that accompany the use of IT and affect the effectiveness of the AIS.

Part Four: contains twelve questions, aimed to identify the extent of applying AIS.

4.6 Validity and Reliability:

The validity of the questionnaire is one of the necessary conditions that should be met in the instrument adopted by the study. The study tool is valid if it can actually measure what it has set out to measure. the researcher can rely on their judgment, if experts agree that the tool is appropriate for what it was put into, this is known honestly as face validity. (Obeidat et al., 2003: 196)

The questionnaire was presented in its initial form by the researcher to a group of specialized university professors to take advantage of their knowledge in the field and to take their observations and amendments in order to make the tool more accurate, and come up with the current final form (**Appendix B**) for distribution to the study sample.

As for Reliability test, Sekaran (2003) argued that the stability of the questionnaire is the ability for the measurement tool to give similar results as it is over time.

Cronbach's alpha is a measure of interior consistency, that is, the means by which firmly related an arrangement of things is as a gathering. It is thought to be a measure of scale unwavering quality. A "high" esteem for alpha does not infer that the measure is unidimensional. In the event that, notwithstanding estimating inward consistency, you wish to give proof that the scale being referred to is unidimensional, extra investigations can be performed. Exploratory factor investigation is one strategy for checking dimensionality. In fact, speaking, Cronbach's alpha is certifiably not a factual test – it is a coefficient of unwavering quality (or consistency). Cronbach's alpha can be composed as a component of the quantity of test things and the normal between relationships among the things. According to Haleem and Raisal (2016), speed and accuracy with regard to processing a given set of financial data into accounting information are the key components that can be used to establish whether AIS is efficient and effective. This is attributed to the assertion that effectiveness and the efficiency of an given AIS will provide the management with the relevant accounting information for any purpose on time, thus ensuring that the management have access to vital information necessary for performing functions such as controlling, planning, evaluation, accuracy and speed

when retrieving the stored descriptive and overall information. Furthermore, a study by Taber, Alaryan, and Haija (2014) is one of the studies that have been conducted with a special focus on the Jordanian environment. On this basis, the study established that AIS were immensely affected by mechanical data processing used by Jordanian Custom Department. In this essence, it should be noted that the mechanical processing of data is attributed to the large requirements that have been set up for the purpose of international auditing standards that conform to the analysis of processing that occur in a mechanical environment and the study of the AIS. On an additional note, it has been established by the study that output that are used in the AIS should fulfill needs and the requirements of the designated decision makers.

Following table clarify α values for the variables for the two samples:

Table 4-1 Reliability Test

| Sequence | Variable | α for IT Sample (n=53) | α for financial department sample (n=56) |
|----------|-----------|----------------------------------|--|
| 1 | Hardware | 0.665 | 0.895 |
| 2 | Databases | 0.658 | 0.803 |
| 3 | Networks | 0.767 | 0.907 |
| 4 | AIS | 0.778 | 0.893 |
| | All Items | 0.844 | 0.955 |

Above tables shows that α values for the variables are greater than accepted values 0.60, that reflects the consistency of the two questionnaires for the two samples. (Sekaran, 2003)

After testing the validity and the reliability of the questionnaire the researcher concluded that it is ready for the final inferential statistics used in this study.

4.7 Univariate Statistics

Univariate investigation is a convenient type of examining information. "Uni" signifies "one", so at the end of the day your information has just a single variable. It does not manage causes or connections (not at all like relapse) and its real design is to portray; it takes information, outlines that information and discovers designs in the information. A variable in univariate investigation is only a condition or subset that your information falls into. You can consider it a "class." For instance, the examination may take a gender at a variable of "age" or it may take a gender at "tallness" or "weight". Be that as it may, it does not take a gender at in excess of one variable at any given moment else it ends up bivariate investigation (or on account of at least 3 factors it would be called multivariate examination).

Furthermore, Uyar, Gungormus and Kuzey (2017) in the conducted research asserts that the evaluation of AIS deployed by the Jordanian Islamic banks is vital when it comes to expanding their influence and upgrading their uses for the purpose of realizing strategic competitive advantage characterizing the operation of a bank. In this regard, it is emphasized that AIS are considered to be organizational and technological channels that can be integrated with substantive management needs of the Islamic banks. As such, they have the capability to maximize the efficiency with regard to the intellectual capital by specifically connecting best brains of persons have high skills in IT. On the other hand, articulates that there are various reasons that can be attributed to the fact that most Jordanian Islamic banks have been developing their respective AIS as well as increasing their investments in IT. As such, it is emphasized by author that banks should develop various e-commerce methods aimed at making them remain relevant in the market through the internet. As a result of this is pointed

out that by investing in IT and by extension the AIS, banks will be able to reduce the costs incurred when rendering banking services. Besides this, it also helps banks to cope with both international and local competition, fulfilling the needs of clients and improving the delivery of services to customers.

4.8 Bivariate Statistics

Bivariate examination is the synchronous investigation of two factors (traits). It investigates the idea of connection between two factors, regardless of whether there exists an affiliation and the quality of this affiliation, or whether there are contrasts between two factors and the noteworthiness of these distinctions. There are three sorts of bivariate investigation. In the article by, Lu'ay and Abdel-Rahman (2012) opines that financial banks have remarkably expanded their functions and work to the new aspects that have emerged due to the diversity of banking services and business globally. For this reason, it is articulated that banks have changed their strategies by adopting the use of AIS to provide expected returns and the funds for the clients, thus helping them to increase their returns.

Despite this, it is essential to note that the application of AIS have advanced and evolved due to proliferation of technology globally. Therefore, Jordan is one of the states globally whose banks have incorporated the use of AIS. As such, it is being deployed to help to provide data and information deemed suitable for variables in financial and economic market globally. Besides, it helps in the provision of crucial financial information to banks for accounting purposes as well as for the sake of decision-making, controlling and planning. Besides this, Sori (2009) examined the use of AIS by ZMBS. as well as its contribution to the organization's strategic roles and management. In this regard, it is articulated that the ZMBS, a construction company registered in Kuala Lumpur used the automated AIS known as "Contact Plus- Financial &Project Accounting". Therefore, this greatly helped the company in decision-making process with regard to various individuals that were involved in running the operations of the company. On the other note, Xiang &Yin (2011) asserts that the environment for accounting has greatly changed due to the revolution in modern IT due to the assertion that traditional systems for AIS does not have the capacity the satisfy the personalized needs and the diversity of enterprise stakeholders. On this basis, it has been pointed out that there is need to introduce event vouchers in cases of operational process and economic transaction basing on the contained accounting and event information.

4.9 Multivariate Statistics

Multivariate Data Analysis alludes to any measurable method used to dissect information that emerges from in excess of one variable. This basically models reality where every circumstance, item, or choice includes in excess of a solitary variable. The data age has brought about masses of information in each field. Regardless of the quantum of information accessible, the capacity to get a reasonable picture of what is happening and settle on canny choices is a test. At the point when accessible data is put away in database tables containing lines and segments, Multivariate Analysis can be utilized to process the data in a significant manner. There is critical need to guarantee that there is an assessment of the PC based data frameworks which are utilized as a part of the Islamic banks in Jordan. This is very helpful in light of the fact that it will empower such banks to overhaul their utilizations as well as extend their own particular impacts with the goal that they can without much of a stretch accomplish the "key upper hands" that are very distinct for any saving money foundation.

This is very genuine on the grounds that the utilization of automated frameworks shapes the authoritative and innovative reason for more advances and in addition savvy data frameworks to end up noticeably coordinated with the substantive needs of the majority of the Banks in Jordan (Melhem& Saleh, 2016). In fact, there are various reasons in the matter of why the vast majority of the Banks in Jordan have begun to build up their accounting data frameworks and in addition guarantee that their interests in electronic correspondences and additionally innovation are improved.

Besides this, accounting data is additionally fit for "encouraging long range key arranging" for the greater part of the business firms which are running in a domain that is profoundly unique and focused. In the contemporary world, the utilization of Information innovation designs a coordinated and also concentrated part in the way in which a large portion of the accounting data are executed. The significance that is related to the utilization of IT to listed banks in Jordan has been viewed just like the best method for upgrading most if the accounting capacities in such associations. The proper or successful utilization of IT in recorded banks in Jordan significantly affects them since it helps in guaranteeing that there is exact and opportune accounting reports and in addition other fundamental budgetary data for the supervisors of an association with respect to the effects or impacts of their basic leadership process and additionally the business operations comes about on the execution of the firm.

Alternatively, before making a basic examination on how the utilization of data innovation affects the accounting data frameworks of a portion of the recorded banks in Jordan, it is judicious to find out a portion of the key qualities of such accounting data.

4.10 Content/ Document Analysis

In order to formulate the questionnaire questions, the researchers conducted several interviews, the researcher also followed the "illustrative analytic methodology" and ensured that all the relevant data was obtained from both the primary and secondary sources (Weber, M. (2017). Key controls involve the utilization of long haul and deliberately significant criteria for the assessment of business-level chiefs' activities and execution. Key controls stress to a great extent subjective and some of the time natural criteria for assessment. The utilization of key controls requires that corporate chiefs have a profound comprehension of business-level activities markets. Such controls additionally require a rich data trade amongst corporate and divisional chiefs.

4.11 Pilot Study

It is the small study of the research protocols, research strategies, techniques, data collection instrument in order to conduct the large study. Pilot study was conducted to estimate feasibility, cost, time and adverse events. Prior to the large-scale quantitative research, it was done to assess the validity of the research instrument and for avoiding money and time issues. This pilot study was carried out on the relevant population by the researcher to determine the final sample and resulted in the design model for full-scale experiment which can later be adjusted. This small-scale study was used to full-scale experiment for improving possibilities of clear outcomes.

In dealing with an association and actualizing an inner control framework the part of AIS is critical. A critical inquiry in the field of accounting and administration and basic leadership concerns the investigation of AIS with necessities for data correspondence and control. In spite of the fact that the data created from an accounting data framework can be compelling in basic leadership process, but establishment and use of such a framework are gainful when the advantages surpass its expenses. Advantages of accounting data framework can be assessed by its effects on change of basic leadership process, nature of accounting data, execution assessment, interior controls and encouraging organization's exchanges. With respect to the other five qualities, the viability of AIS is exceedingly imperative for every one of the organizations. AIS is characterized as a PC based framework that procedures money related data and bolsters choice undertakings with regards to coordination and control of authoritative exercises.

Accounting data frameworks are considered as imperative authoritative components that are basic for viability of choice administration and control in associations. This investigation analyzed the adequacy of accounting data frameworks (AIS) in five distinctive degrees: better basic leadership by administrators, more powerful inside control frameworks, upgrade of the nature of monetary reports, change of execution measures, encouraging monetary exchange forms. The discoveries of the examination showed that execution of accounting data frameworks could prompt better basic leadership by administrators, more powerful inside control frameworks, upgrade of the nature of money related reports and encouraging money related exchange forms. We didn't discover confirmation to help the fourth theory, which shows that as indicated by the respondents of this examination, the usage of AIS would not enhance execution measures. Absence of noteworthy results to help the forward theory may be because of the decisions of the inquiries which estimated this theory.

4.12 Ethical Consideration

Ethical consideration refers to the safety of dignity, privacy and security of participants. It describes that the participants of research for any particular subject should not be used in an unethical way. Ethical consideration makes sure that there should not be unethical used of information of participants. While conducting the study, all ethical norms had been considered such that no scope of ethicality is excluded in nature. The University ethical approval procedure was followed and the research was approved by the Ethics Committee. No other external body's ethical approval procedures were required. There are some of the ethical considerations that are given below:

- The participants consent should be involved before taking any kind of information for the use to conduct the research.
- The ethical considerations should not be harmful for the participant in any way such as stress, anxiety, self-esteem, or unwanted entry into their privacy.
- Ethical consideration also makes sure that the confidentiality of participants should be maintain or used without their permission.

- The ethical consideration defines that there should only be relevant information used to conduct the research.
- No manhandling of information was entailed during the course of the study in any form.
- Each respondent to the study were explained the research aims and purpose through lucid communications
- The scholar did not practice any sort of biasness in any form.

4.13 Research sampling & population

The sample refers to the subgroup that has been cropped from the population so that it is able to represent the original population of the study and stimulate the goals and objectives for which the study was established (Forneron & Ng, 2016)

The study sample was used to represent the social studies for a number of reasons, the most important of which is that the population may be very large, such as being a member of a country or a continent, and therefore the number of population in the millions and it is difficult for the researcher to apply his study to the whole society. Thus, the community was dispensed with the sample to represent the whole population according to the results. In addition, it is impossible to apply to the whole population because of the dynamics of individuals within them and is usually subject to change and change and therefore it will be difficult for the researcher to keep the entire population in one place and at one time to apply the study to it (Bilgen & Varoglu, 2016).

Jung (2017) believes that the reason for using the sample instead of the whole community is that the researcher may be forced to make quick decisions regarding the research or one of its elements, which makes it impossible for all members of the population to meet this decision and apply it only to a sample Selected study.

The convenience sampling method is used (Etikan et al., 2016). This study has collected primary data from 109 respondents across listed banks in Jordan, the listed consists of Bank of Jordan, Cairo Amman Bank, Jordan Kuwait Bank, Invest Bank, Arab Jordan Investment Bank, Jordan Ahli Bank, Societe Generale Bank, Islamic Bank, Commercial Bank, Union Bank and The Housing Bank of Trade & Finance. Participants will be interviewed and questionnaires will be provided to them for filling up.

4.13.1 Population of the study

The population of the study consists of all the listed banks on the Amman Stock Exchange within the first market as of the date 31/12/2017, excluding industrial, services, and trade sectors because of the lack of IT department or lack of presence of specialists in the field of IT systems to answer questions relating to IT.

The number of banks was (14) which represent a sample that fulfilled the conditions of the study, and Table (4-2) shows the sample of the study.

Table 4-2 Banks establishments operating in the first market on Amman Stock Exchange as of 31/12/2017

| Number | Banking Name |
|--------|--|
| 1 | Arab Bank |
| 2 | Jordan Islamic Bank |
| 3 | Jordan Kuwait Bank |
| 4 | The Housing Bank for Trade and Finance |
| 5 | Arab Investment Bank |
| 6 | Arab Banking Corporation |
| 7 | Union Bank |
| 8 | Capital Bank |
| 9 | Cairo Amman Bank |
| 10 | Bank of Jordan |
| 11 | Ahli Bank |
| 12 | Jordan Commercial Bank |
| 13 | Jordan Investment & Finance Company |
| 14 | Societe Generale De Banque Jordan |

Source: Amman Stock Exchange, Annual Report 2017

4.13.2 Primary Data Collection

The researcher prepared a questionnaire then distributed it among the accountants, financial accountants, and even the heads of the accounting departments in the banks in Jordan that were listed on the stock exchange (Bader e, 2017). These were actually the listed banks which had accountancy and financial experience as well as were constituted of the research sample. Data was then collected and analyzed in order to effectively test the veracity of the proposed conceptual framework.

The primary sources and the use of secondary sources which included among others published

studies, periodicals, and books. The researcher distributed a total of 140 questionnaires to users which included managers and accountants of the banks in Jordan listed in Amman's Stock Exchange or ASE. 112 of the questionnaires were ultimately received back by the researcher, 3 were excluded because the answers were not complete or unclear, 109 questionnaires analyzed and these were known to represent a total of 77.857% of the total population.

14.13.3 Interviews

In order to formulate the questionnaire, the researchers conducted several interviews, the researcher conducted personal interviews with a group of financial managers and a number of accountants working in a group of banking and a number of IT workers from programmers and software specialists, computer engineers and communications engineers in a range of companies and institutions working in this field.

The researcher conducted field visits to a number of computer labs in Jordanian universities. Interviews were conducted with the laboratory supervisors. The researcher went out with a set of observations to enrich the current study. This is especially important in the ability to cope with any emergency events that may occur in the financial department. The presence of the researcher for many hours and days in a group of establishments operating in the first market has enabled the identification and proximity on the fact of IT applied in the enterprises operating within these sectors, and the extent of interest in IT.

4.14 Analytical Techniques

4.14.1 Quantitative Data Analysis

The Statistical Package for Social Sciences (SPSS) was used to do the data analysis. A level of significance (1% and 5%) was used. They are accepted in social sciences in general (Sekaran, 2003: Zikmund, 2003).

Quantitative data was analysed using statistical techniques of data analysis such as mean, standard deviation, correlation, regression analysis techniques. The specific statistical tests used are Cronbach's alpha, Pearson's Chi Square, Independent T-test, and Discriminant analysis. For the purpose of the study, collection of data from 109 questionnaires across banks in Jordan was done by simple random stratified sampling method. Random data from various banks managers, CFO, IT managers, developers and accountants were asked to fill in questionnaires provided to them. Inference is permissible in inferential statistics when the test results are significant. Consequently, inferences about generalizing from the data heavily depend on the significance results.

4.14.2 Limitations

- The sample is a convenience sample and may not fairly reflect the population. The study has been conducted in listed banks in Jordan hence universal applicability of the data cannot be verified in nature.
- There is very little delimitation related to the study, which can be overcome yet has been there in the study. The study has been conducted across banks in Jordan; hence this study is delimited in manner.

Limitations and Delimitations of Study, like every single experimental examination, the present research likewise has its own impediments due to the technique utilized. Utilization of survey to gather information dependably has additionally its own restrictions, since reactions could be one-sided as a result of the normal strategy utilized for the accumulation, everything being equal. Albeit broad care has been taken when outlining the poll and the pilot ponder refined the inquiries, still the

feedback of the review strategy can never be totally overlooked and ought to be considered.

From speculation of the outcome's perspective, estimating research questions in light of the sentiment of the respondents would restrain our speculation of the discoveries. In spite of the above restrictions, this examination has given valuable outcomes in clearing the route for future research around there. Since in Iran, just as of late expanding interest for AIS, as a viable apparatus in dealing with the Iranian associations, has won, this research could give a strong proof to the usage of AIS.

4.15 Conclusion

Prior to writing any thesis or conducting any sort of research, it becomes pertinent to evaluate research procedures to be used. The scope of this research has undertaken prominent research philosophy with clarity such that its goals and aims can be attained positively. As discussed earlier, there has been little study aimed at understanding implications on Jordan banks related to AIS.

This study has been conducted. Though this study was able to achieve certain amounts of literature support, it had to collect data of primary nature for progressing the study.

This chapter had been successful in defining data collection procedure and techniques, along with research procedures that has been adopted. Adapting a suitable procedure for research is the sole to achievement of overall success, in this study selection of research philosophy and method is highly suitable. The scholar has adequate knowledge regarding various types of methodologies that are present and has been successful in selecting a suitable one for the study. Ascertaining research goal and objective for the study is useful and helps accomplish vitality for the entire thesis.

This chapter outlined in great detail research procedures that have been used in this study. A great deal of research philosophies and methods as well as designs are available, but selecting an appropriate one is necessary for every study. In this study, the scholar has ascertained particular philosophy which can help collect primary data from source and then analyse the same.

Primary data has been collected by means of interview from questionnaire, for better analysis. Most integral and critical part of this study has been epistemology research philosophy, which is critical for these types of study. The entire tone of the study had been positivism, which helps it attain its goals in a better manner. The hypothesis of the study though incorporates to negate aspects of Null Hypothesis (H_0), yet all other Alternate Hypothesis had been aimed at proving to be positive.

In all consideration whether collection of data or selection and application of research procedure, ethicality had been followed. Ethics had been adopted by the scholar such that there can be no challenges that arise in later part of the study.

The scholar has visualized certain limitations that are coherent with this research procedure and study.

These limitations are critical to be analysed such that any other scholar referring to the study is aware of the challenges. The study incorporates challenges of secondary data that has been used in the process of data collection; therefore, such challenges have crept into the study in an automatic manner.

Chapter 5: Data Analysis

5.1 Introduction

In order to arrive at results of any study, it becomes pertinent that data is collected and then analysed. The scope of this chapter deals with data analysis procedures, from data that has been collected. Identified data have provided viable and integral facts regarding trends and results that need to be derived. This chapter enumerates and applies statistical derivation and analysis encompassing data collection and its subsequent analysis. All such analysis is respect to Jordanian listed banks participants, who had taken part in the survey and interviews and provided valuable data. Then, reflection has been incorporated in the data analysis to arrive at the findings of the study.

It needs to be noted that the utilization of accounting frameworks by a significant portion of the banks in Jordan, they have influenced leadership, financial specialists, and administrators. AIS are known to exhibit accounting frameworks that are equipped for specifying the operations and procedures similar to banks, hence providing credible outcomes that enable them to be regarded as authentic.

5.2 Survey Framework

Accounting data frameworks have been utilized generally by accounting associations worldwide to both computerize and incorporate accounting procedures. The significant points with respect to why a portion of the recorded banks in Jordan use AIS frameworks are that they need to improve their business effectiveness as well as need to upgrade their systems. A particular aspect related to AIS is that it ought to be kept updated consistent with the control arrangement of a particular association. Data was collected from listed banks from 109 participants. Prior to analysing data, it is essential that characteristics and nature for the respondents is understood. Data analysis needs to proceed by means of understanding survey's origin and methodology. For the purpose of this study, questionnaire in survey is a modified version of "IT barometer survey" that had been created by Royal Institute of Technology of Sweden in the year 1997 by Olle Samuelsson. Survey across different

regions in Jordan helps analyse and obtain results regarding the study. The questionnaire was translated in Arabic for Arabic-speaking respondents. The questionnaire was made easy for understanding and deriving results from. A two-page questionnaire has been prepared for the purpose of the study. The first page attached with questionnaire was instructions to fill in the details. The survey was provided to respondents with questionnaire. A total of 109 respondents from all Banks listed of ASE of Jordan.

5.3 Population Characteristics

In this sub-section the demographic data about the banks and respondents is presented. It covers the following:

1. Gender.
2. Academic Qualification.
3. Technical Specialization.
4. Years of Experience.
5. Job Title.

5.3.1 Gender

Table (5.1) shows that the majority of the respondents in the survey on the IT questionnaire are male (40) their percentage was (75.47%) but the number of females reached (13) and formed (24.53%).

Table 5-1 Distribution of respondents by Gender - IT department

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------|-----------|---------|---------------|--------------------|
| Valid | Male | 40 | 75.5 | 75.5 | 75.5 |
| | Female | 13 | 24.5 | 24.5 | 100.0 |
| | Total | 53 | 100.0 | 100.0 | |

Chart (5.1) Distribution of respondents by Gender - IT department

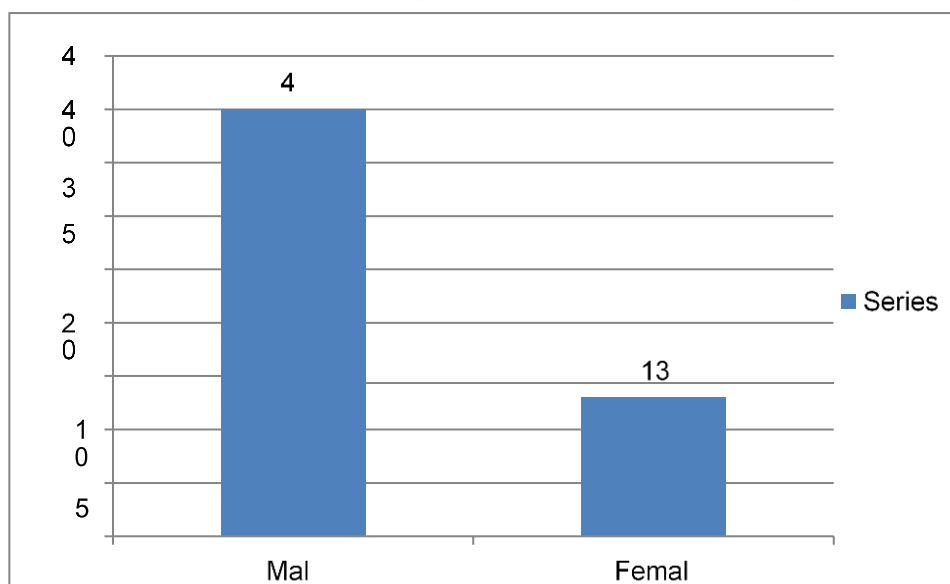
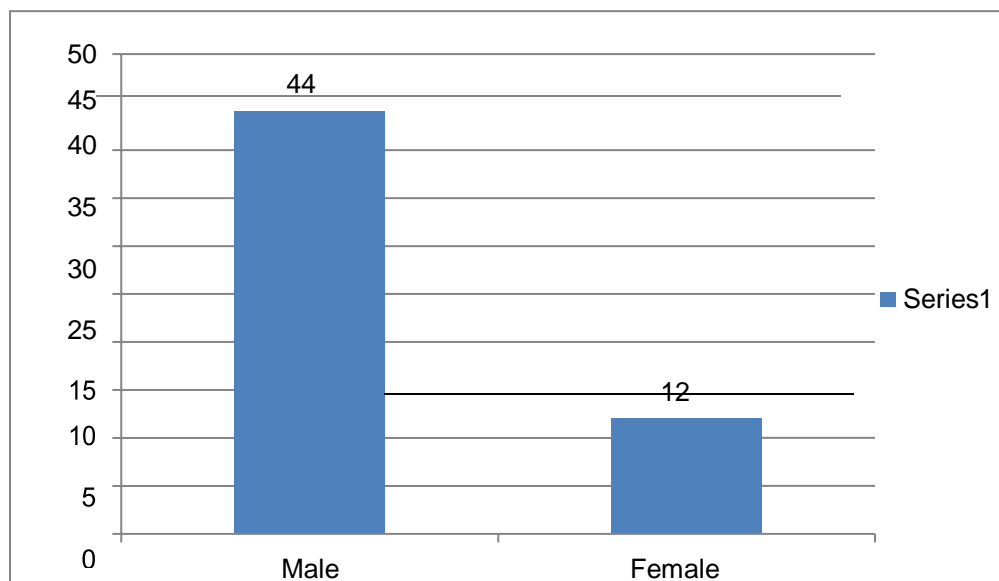


Table (5.2) shows that the majority of respondents were male 44 which is 78.57%. While the number of females reached 12 and formed 21.43%.

Table 5-2 Distribution of respondents by Gender - Financial department

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------|-----------|---------|---------------|--------------------|
| Valid | Male | 44 | 78.6 | 78.6 | 78.6 |
| | Female | 12 | 21.4 | 21.4 | 100.0 |
| | Total | 56 | 100.0 | 100.0 | |

Chart (5.2) Distribution of respondents by Gender - Financial department



5.3.2 Academic Qualification

Table (5.3) shows that the majority of the respondents in the questionnaire on IT are holders of a bachelor's degree (66.03%). The lowest percentage was for individuals who had qualifications lower than PhD degree (1.9%). The percentage of holders of a master's degree (22.64%) and this shows us that the employees within the IT department in the study, which are the institutions contributing to the banking sector are mostly university degree holders and this enhances the accuracy and reliability of the answers and the ability to rely on, especially in the aspect of IT.

Table 5 3 Distribution of respondents by academic qualification - IT

| | | Frequency | Percent | Valid P | Cumulative P |
|-------|--------------------|-----------|---------|---------|--------------|
| Valid | Less than Bachelor | 2 | 3.8 | 3.8 | 3.8 |
| | BA | 35 | 66.0 | 66.0 | 69.8 |
| | Higher Diploma | 3 | 5.7 | 5.7 | 75.5 |
| | M.A. | 12 | 22.6 | 22.6 | 98.1 |
| | Ph.D. | 1 | 1.9 | 1.9 | 100.0 |
| | Total | 53 | 100.0 | 100.0 | |

Chart (5.3) Distribution of respondents by academic qualification – IT

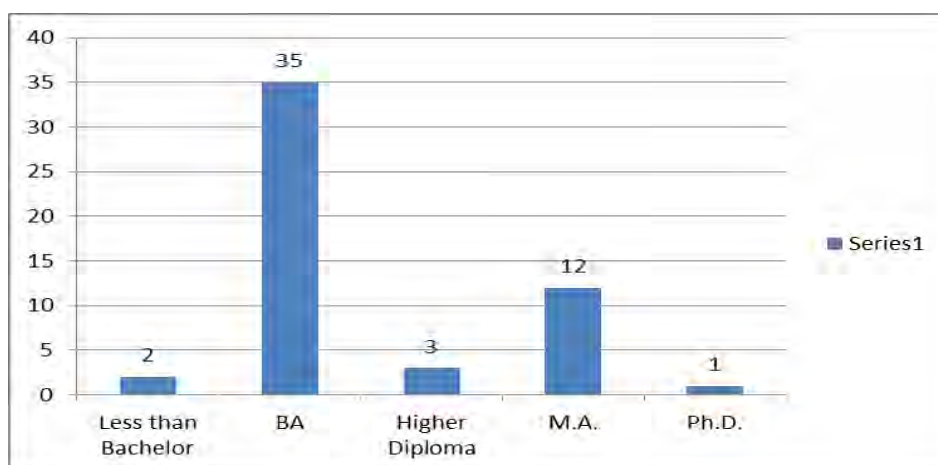


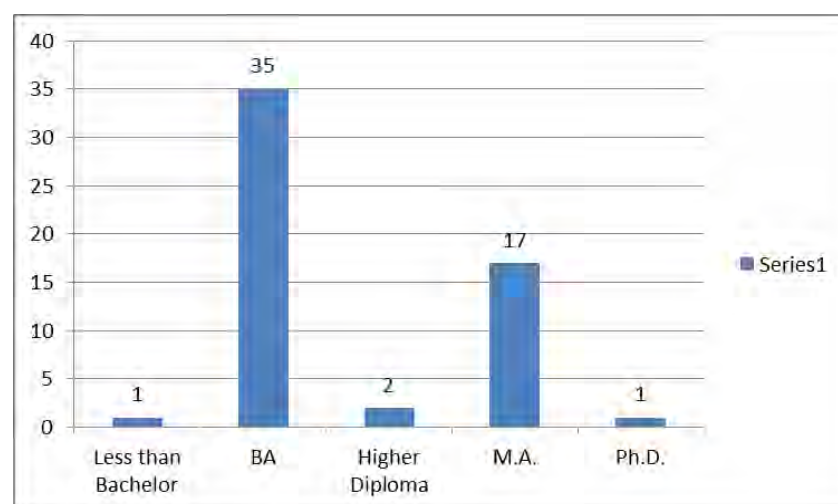
Table 5.4 shows that the majority of respondents are holders of bachelor's degree (62.5%). The

lowest percentage was for individuals with lower than bachelor's degree (1.78%). And the percentage of holders of a master's degree (30.35%) PhD (1.80%). This shows us that the employees within the financial department, which are the institutions contributing to the banking are mostly university degree holders, and this enhances the accuracy and credibility of the answers, especially in the aspect of governance on the effectiveness of AIS.

Table 5 4 Distribution of respondents by academic qualification - Financial Department

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--------------------|-----------|---------|---------------|--------------------|
| Valid | Less than Bachelor | 1 | 1.8 | 1.8 | 1.8 |
| | BA | 35 | 62.5 | 62.5 | 64.3 |
| | Higher Diploma | 2 | 3.6 | 3.6 | 67.9 |
| | M.A. | 17 | 30.4 | 30.4 | 98.2 |
| | Ph.D. | 1 | 1.8 | 1.8 | 100.0 |
| | Total | 56 | 100.0 | 100.0 | |

Chart 5.4 Distribution of respondents by academic qualification - Financial Department



5.3.3 Technical Specialization

Table (5.5) shows that more respondents are from IT and information systems and computer programming respectively (30.18%),

Information systems (32.07%), and there were (16.98%) from the Computer Engineering and (16.98%) for Systems Analysis, which gives a positive indication that the research sample that responded to the questionnaire is relevant and therefore enhances the credibility of the answers in terms of IT.

Table 5-5 Distribution of respondents by scientific specialization - IT

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|----------------------|-----------|---------|---------------|--------------------|
| Valid | Information Systems | 17 | 32.1 | 32.1 | 32.1 |
| | Systems analysis | 9 | 17.0 | 17.0 | 49.1 |
| | Programming | 16 | 30.2 | 30.2 | 79.2 |
| | Computer Engineering | 9 | 17.0 | 17.0 | 96.2 |
| | Other | 2 | 3.8 | 3.8 | 100.0 |
| | Total | 53 | 100.0 | 100.0 | |

Chart 5.5 Distribution of respondents by scientific specialization - IT

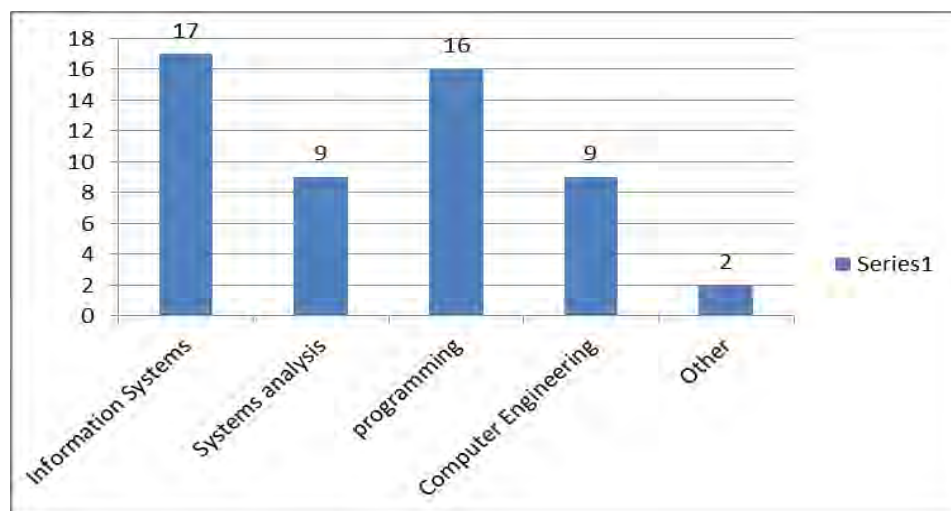
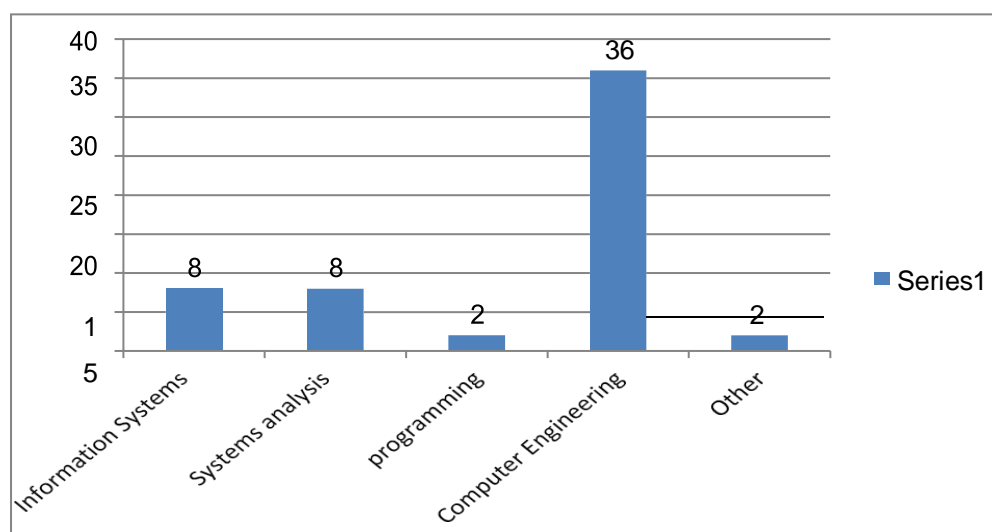


Table (5.6) shows that more respondents are allocated accounting by (64.28%) and there was (14.28%) from the disciplines of finance and banking and financial management, which are related to accounting, and was the lowest proportion of the item related to other disciplines and the percentage of respondents (3.57%). This gives a positive indication that the research sample that responded to the questionnaire is relevant and therefore enhances the credibility of the answers in relation to the effectiveness of the accounting information system.

Table 5-6 Distribution of Respondents by Specialization - Financial Department

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------|-----------|---------|---------------|--------------------|
| | Banking | 8 | 14.3 | 14.3 | 14.3 |
| Valid | Finance | 8 | 14.3 | 14.3 | 28.6 |
| | Management | 2 | 3.6 | 3.6 | 32.1 |
| | Accounting | 36 | 64.3 | 64.3 | 96.4 |
| | Other | 2 | 3.6 | 3.6 | 100.0 |
| | Total | 56 | 100.0 | 100.0 | |

Chart 5.6 Distribution of Respondents by Specialization - Financial Department



5.3.4 Years of Experience

Table (5.7) shows the most experienced members of the study range from (5 years and less than 10 years) (56.60%), which gives a positive indication that the data obtained from the answer to the questionnaire on IT indicates objectivity in terms of availability of sufficient expertise to answer such questions, they have formed a proportion of more than about their experiences more than 5 years that accounted for (84.91%) of the respondents had medium and long experience in IT.

Table 5-7 Distribution of respondents according to the number of years' experience IT

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|----------------------------------|-----------|---------|---------------|--------------------|
| Valid | less than 5 Years | 8 | 15.1 | 15.1 | 15.1 |
| | 5 Years and less than 10 Years | 30 | 56.6 | 56.6 | 71.7 |
| | 10 Years and less than 15 Year | 5 | 9.4 | 9.4 | 81.1 |
| | 15th Years and less than 20 Year | 7 | 13.2 | 13.2 | 94.3 |
| | 20 Years and over | 3 | 5.7 | 5.7 | 100.0 |
| | Total | 53 | 100.0 | 100.0 | |

Chart 5.7 Distribution of respondents according to the number of years' experience - IT

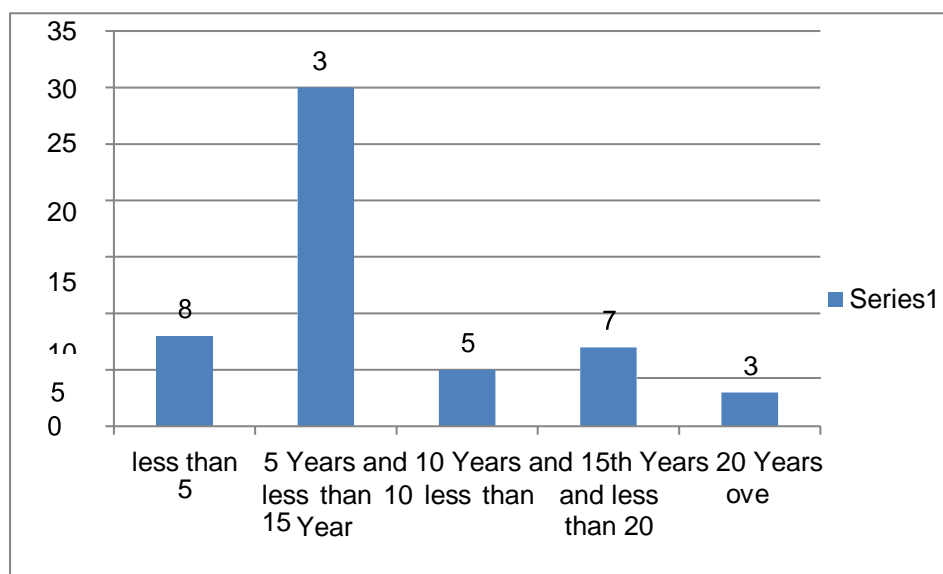
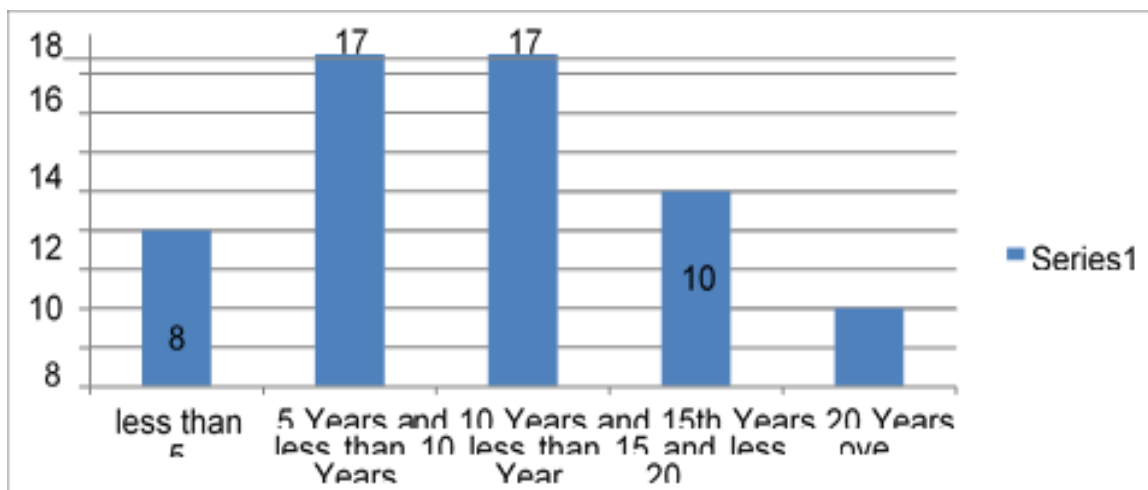


Table (5.8) shows that more respondents ranged between 5 Years to 10 Years (30.35%). This gives a positive indication that the data obtained from the answer to the questionnaire on effective AIS has an objective of providing sufficient expertise to answer such questions, they have formed a proportion of more than about their experiences (10 years) (55.37%), and accounted for (85.72%) of the respondents had medium and long experience.

Table 5 8 Distribution of respondents according to the number of years of experience - Department of finance

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------------------------------|-----------|---------|---------------|--------------------|
| Valid | less than 5 Years | 8 | 14.3 | 14.3 | 14.3 |
| | 5 Years and less than 10 Y | 17 | 30.4 | 30.4 | 44.6 |
| | 10 Years and less than 15 Y | 17 | 30.4 | 30.4 | 75.0 |
| | 15th Years and less than 20 Y | 10 | 17.9 | 17.9 | 92.9 |
| | 20 Years and over | 4 | 7.1 | 7.1 | 100.0 |
| | Total | 56 | 100.0 | 100.0 | |

Chart 5.8 Distribution of respondents according to the number of years of experience - Department of finance



5.3.5 Job Title

Table 5.9 shows that more respondents on IT are programmers respectively (32.07%), software analysis (30.18%), programming manager (18.86%) , programmer (32.07%), While the proportion of directors of the Department of Information and programming respectively (15.09%) , and this is consistent with the distribution of the questionnaire adopted by the researcher in terms of the distribution of three questionnaires to the Department of IT, in order to reach the greatest possible credibility of the answers, as evidenced by the study that there are some functional titles that were not addressed by the researcher and formed his (3.80%) of the total respondents' responses .

Table 5-9 Distribution of respondents by job title – IT

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | Director of Info. Dep | 8 | 15.1 | 15.1 | 15.1 |
| | Programming Manager | 10 | 18.9 | 18.9 | 34.0 |
| | Programmer | 17 | 32.1 | 32.1 | 66.0 |
| | Software Analyst | 16 | 30.2 | 30.2 | 96.2 |
| | Other | 2 | 3.8 | 3.8 | 100.0 |
| | Total | 53 | 100.0 | 100.0 | |

Chart 5.9 Distribution of respondents by job title – IT

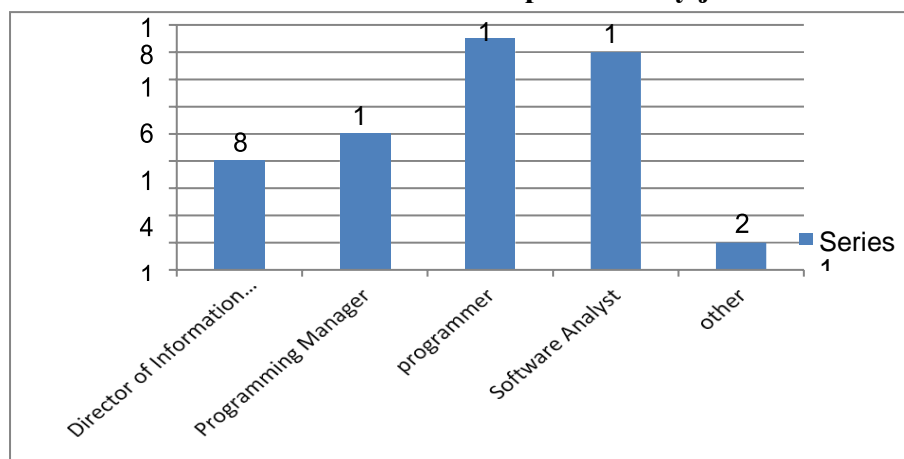


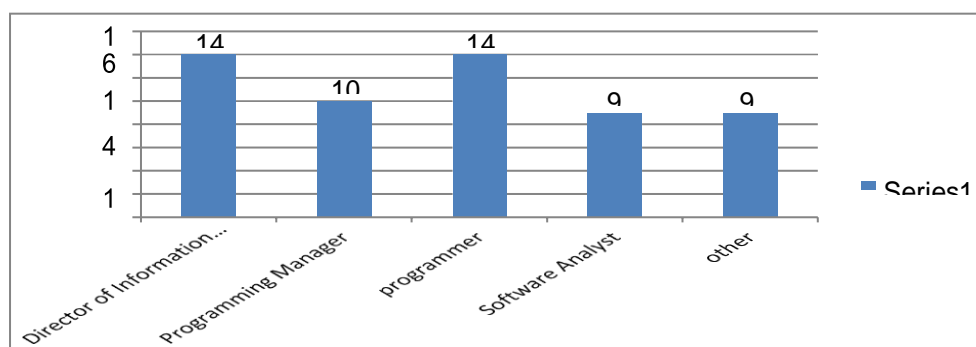
Table (5.10) shows that more respondents to the questionnaire on effective accounting information system are accountants and financial managers (50%), and the proportion of those who are not functional (16.07%), this is caused by the presence of a number of job titles in the banks that have a great relationship to work accounting, but the employee are not included under the name of an accountant or head of the accounting department, as the researcher noted the presence of more than three answers under the name of (Assistant Director General for Financial Affairs), there was no job title under Assistant Director - General for IT.

The researcher has taken into account the distribution of the questionnaire to take into account all disciplines related to the AIS in order to reach the greatest possible objectivity in the answers.

Table 5 10 Distribution of respondents by job title - Financial Department

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-----------------------|-----------|---------|---------------|--------------------|
| Valid | Director of Info. Dep | 14 | 25.0 | 25.0 | 25.0 |
| | Programming Manager | 10 | 17.9 | 17.9 | 42.9 |
| | Programmer | 14 | 25.0 | 25.0 | 67.9 |
| | Software Analyst | 9 | 16.1 | 16.1 | 83.9 |
| | Other | 9 | 16.1 | 16.1 | 100.0 |
| | Total | 56 | 100.0 | 100.0 | |

chart 5.10 Distribution of respondents by job title - Financial Department



5.4 Analysis of data

5.4.1 Analysis of data on levels of IT

In order to enhance the objectives of the study, the researcher designed a part of the questionnaire on IT to show the type of technology used in the sample establishments and to identify the characteristics related to the hardware, software, databases and communication networks. This attempt was the first at the level of local studies, As far as the researcher's knowledge is concerned, no previous study has examined the type of software used, the methods used to organize the files, the type of communication networks used, and other elements that show and explain what IT means and the impact of each As to increase the effectiveness of the accounting information system This section included 23 questions, as well as 12 questions regarding the applying the accounting information system (hardware and software, databases, telecommunication networks) were not addressed by the researcher in the questionnaire submitted to the IT Department (for clarification, please refer to the Annex on the IT Questionnaire).

5.4.2 Items related to hardware and computer software:

It is found that 96.2% of the IT sample mentioned that 95% were using 60GB and in the accounting department it was 86.7% of the sample were using 60GB and more as a hard disk capacity. Also 71.6% of the sample is using Intel Core i7, 75.5% is using software applications locally, 37.7% of the sample is using computers with 3.4 GH and more as a CPU speed, 41.5% is using 4 GB and less as RAM capacity. Also 85% of the sample is using Windows (most of them Windows10) as an operating system

5.4.3 Items related to Database:

It is found that all the sample is using Database format to save the data in the accounting department, most of them (79.2%) with a database administrator (DBA). Also 75.5% of the sample is using ISAM in the firm to organize files (files are stored in the storage media of the CDs and tapes),

whereas 83% of the sample is using Encryption Data to ensure the security and privacy of data in the accounting department.

Also, it is found that 52.8% of the sample is using relational model to define data structures for the mutual relations of the entities in the database, whereas Oracle is the DB software that is used to develop the database in the accounting department by 60.4% of the sample.

5.4.4 Items related to communication networks:

It is found that 83% of the sample is using LAN Network, also 79.2% of the sample is using Windows as a network operating system used in the accounting department, whereas 94.3% is using Full duplex as a communication style for data. Also, it is found that 79.2% of the sample is using Circuit to transfer data through the network, whereas, 56.6% of the sample is using ADSL provide Internet service in the Department of Accounting, as well as ,50.9% is using Windows 2016 Server in the management of the network (Server).

5.5 Quantitative Analysis

The conceptual framework detailed in Chapter 3 was operationalized as testable hypothesis and data was collected using the survey method. Now, the results of the hypotheses are presented.

5.5.1 Normal Distribution Test

To test the hypotheses of the study first a test for the normal distribution of data was done. The K-S (Kolmogorov-Smirnov Test) test was used to verify that data were followed was normally distribution. Table 5.11 shows that the values for all variables are not significant at (0.05) level, that means the data is normally distributed in the two samples. (Oztuna, Elhan, Tuccar,2006) According to this result the researcher will use parametric tests, because normality is a condition for using this type of tests. (Kaur& Kumar,2015)

Table 5-11 Normality test

| Sequence | Variable | Sig for IT Sample (n=53) | Sig for Financial department sample (n=56) |
|----------|----------------------------------|--------------------------------|---|
| 1 | Hardware | 0.453 | 0.877 |
| 2 | Databases, | 0.256 | 0.815 |
| 3 | Networks | 0.203 | 0.463 |
| 4 | Accounting Information System | 0.707 | 0.907 |

5.5.2 Multicollinearity

To investigate the extent of overlap in the correlation between the study model and the strength of the study model, two tests were used. The Variance Inflationary Factor (VIF) and Tolerance for the independent variables are presented in the following table:

Table 5-12 Multicollinearity test

| | Variable | IT Sample | | Financial department | |
|----------|-----------------------|-----------|-----------|----------------------|-----------|
| Sequence | | VIF | Tolerance | VIF | Tolerance |
| 1 | Hardware and software | 1.506 | .664 | 1.658 | 0.603 |
| 2 | Databases | 1.591 | .629 | 1.948 | 0.513 |
| 3 | Networks | 1.072 | .933 | 1.598 | 0.626 |

VIF Values are less than 5 and Tolerance values are greater than 0.10, that means there is no overlap multicollinearity in the study model, which confirms the strength of the study model (Dielman, 2005).

5.5.3 Mean and Standard Deviation

The arithmetic mean and the standard deviation were calculated and compared with the arithmetic average of the total responses of the sample, and to make sure that the arithmetic mean of each hypothesis is greater than the mean, the (One-Sample T-Test) was used.

5.6 Analysis of Independent and Dependent Variables

5.6.1 First: IT Department

In order to achieve the objectives of the study, the researcher measured the independent variables through the questionnaire that was distributed to the Department of IT.

5.6.1.1 Factors related to hardware:

This variable was measured by questions (1-7) and by finding both the mean and the standard deviation. The most important factors affecting the effectiveness of the AIS under the hardware and software used were as follows in Table 5.13

Table 5-13 Respondents' attitudes towards hardware related paragraphs

| No. | Details | Mean | Standard Deviation |
|-----------------|--|-------|--------------------|
| 1 | Number of computers used in Accounting S. | 3.68 | 1.140 |
| 2 | The storage capacity of computers used in accounting S. | 3.64 | 0.982 |
| 3 | Kind of Computer brand used in accounting S. | 3.57 | 1.065 |
| 4 | CPU speed of computer used in the S. | 3.64 | 1.021 |
| 5 | The size of RAM in computer used the S. | 3.64 | 1.039 |
| 6 | The size of random memory in the computer used in the S. | 3.38 | 0.860 |
| 7 | Operating system used in the computer used in S. | 3.92 | 0.937 |
| General average | | 3.638 | 0.582 |

Above table shows that there are positive attitudes toward the above variable because the overall attitude (3.6388) is greater than the average of the five rating points (3). The means are within the range of (3.38-3.92). That indicates that respondents have positive attitudes.

5.6.1.2 Factors related to databases

This variable was measured by questions (8-12) and by finding both the arithmetic mean and the standard deviation. It was found that the most important factors affecting the effectiveness of the AIS under the used databases were as follows in Table 5.14.

Table 5-14 Respondents' attitudes towards the database paragraphs.

| No. | Details | Mean | Stan.Dev |
|-----|--|-------|----------|
| 8 | The existence of the databases in the computer | 3.74 | 0.880 |
| 9 | How to organize files in the database | 3.94 | 0.842 |
| 10 | Method of data security in database | 3.60 | 0.947 |
| 11 | Way of structuring the data in the database | 3.92 | 0.829 |
| 12 | Kind of Software Database | 3.94 | 0.691 |
| 13 | The cost of database software | 4.21 | 0.567 |
| 14 | The database features | 3.66 | 0.876 |
| | General average | 3.859 | 0.465 |

Above table shows that there are positive attitudes toward the above variable because the overall attitude (3.8598) is greater than the average of the five rating points (3). The means are within the range of (3.60-4.21). That indicates that respondents have positive attitudes.

¹ Positive attitude means: sample's opinions tend to agree toward the question when the mean is greater than neutral.

5.6.1.3 Factors related to communication networks

This variable was measured by questions (13-18) and by finding both the arithmetic mean and the standard deviation. It was found that the most important factors affecting the effectiveness of the AIS under the networks used were as follows in Table 5.15.

Table 5-15 Respondents' attitudes towards paragraphs relating to telecommunication networks.

| No. | Details | Mean | St. Dev |
|-----|---|-------|---------|
| 15 | Network used in Section | 3.45 | 1.367 |
| 16 | Network operating system in place | 4.30 | 0.607 |
| 17 | Communication style or Kind of communication line | 4.19 | 0.681 |
| 18 | Way to transfer data through the network, such as circuit, packet or message. | 3.77 | 0.869 |
| 19 | Type of technology used to provide Internet service such as ADSL, ISDN | 4.06 | 0.691 |
| 20 | Type of operating system used in the network system | 4.25 | 0.677 |
| 21 | The brand of hardware used in the network. | 4.06 | 0.842 |
| 22 | The type of security in network used | 4.45 | 0.667 |
| 23 | Bandwidth used in network | 4.23 | 0.669 |
| | General average | 3.945 | 0.320 |

Above table shows that there are positive attitudes³ toward the above variable because the overall attitude (3.9455) is greater than the average of the five rating points (3). The means are within the range of (3.45-4.45). That indicates that respondents have positive attitudes.

5.6.2 The dependent variable (AIS)

This variable was measured by questions (1-12) and by finding both the mean and the standard deviation as shown in Table 5.16

Table 5 16 Respondents' attitudes about the extent of applying AIS

| No. | Details | Mean | Stand. Dev |
|-----|--|------|------------|
| 1 | Accounting information system provides information in time for decision makers to make decisions. | 4.21 | 0.743 |
| 2 | Accounting information system produces accurate information. | 4.15 | 0.718 |
| 3 | Accounting information system gives reliable (free from bias) information for users. | 3.72 | 1.183 |
| 4 | Accounting information system presents information in a useful and intelligible format. | 3.62 | 1.023 |
| 5 | Accounting information system make information consistency for users. | 4.19 | 0.652 |
| 6 | Accounting information system allow users to comparability the information. | 3.70 | 1.030 |
| 7 | Accounting information system makes information available to users when they need it and in a format they can use. | 3.89 | 0.751 |
| 8 | Accounting information system give ability to verify the information for users. | 3.62 | 0.814 |
| 9 | Accounting information system produces | 3.87 | 0.735 |

| | | | |
|----|---|-------|-------|
| | complete information for users. | | |
| 10 | Accounting information system reduces uncertainty of information. | 3.68 | 0.827 |
| 11 | Accounting information system improves decision making. | 3.74 | 0.788 |
| 12 | Accounting information system confirms and corrects prior expectations. | 3.66 | 0.783 |
| | General average | 3.836 | 0.458 |

Above table shows that there are positive attitudes⁴ toward the above variable because the overall attitude (3.8365) is greater than the average of the five rating points (3).

The means are within the range of (3.62-4.21). That indicates that respondents have positive attitudes.

5.6.3 Second: Financial Department

In order to achieve the objectives of the study, the researcher measured the independent variables through the questionnaire that was distributed to the Financial Department.

5.6.3.1 Factors related to hardware.

This variable was measured by questions (1-7) and by finding both the mean and the standard deviation. The most important factors affecting the effectiveness of the AIS under the hardware and software used were as follows in Table 5.17

Table 5 17 Respondents' attitudes towards hardware and software related paragraphs

| No | Details | Mean | Stan. Dev |
|----|---|------|--------------|
| 1 | System's ability to provide accurate information about the financial position of the firm. | 3.96 | 1.008 |
| 2 | System's ability to provide senior management with financial information in a timely manner | 3.73 | 1.000 |
| 3 | Difficulty penetrating the accounting system. | 3.73 | 1.000 |
| 4 | The ability to provide an easy flow of economic events data of the firm from its sources. | 3.68 | 1.046 |
| 5 | Provide the necessary financial information to achieve control over the firm's activities. | 3.63 | 1.054 |

⁴ Positive attitudes mean: sample's opinions tend to agree toward the question when the mean is greater than neutral.

| | | | |
|-----------------|---|------|-------|
| 6 | The ability to retrieve stored data quickly. | 3.45 | 0.952 |
| 7 | Low cost of dealing with input, processing and output Components. | 3.89 | 1.003 |
| 8 | Reduced time spent in the operations of the system's input, processing and output. | 3.79 | 0.909 |
| 9 | The ability to validate the data stored. | 4.05 | 0.818 |
| 10 | Provide management with the necessary information to assist in planning for business purposes and firm's activities. | 3.73 | 0.904 |
| 11 | The ability to provide feedback. | 4.00 | 0.853 |
| 12 | The ability to track firm's assets and obligations in order to ensure the achievement of the internal control. | 4.02 | 0.700 |
| 13 | The ability to respond and adapt to any emergency changes facing the firm. | 4.27 | 0.587 |
| 14 | The ability to achieve integration with other information systems in the firm for the servicing planning Functions, implementation and control. | 3.82 | 0.897 |
| 15 | The ability to determine the outcome of the financial operations of the during multiple periods. | 3.13 | 1.176 |
| 16 | The ability to prepare financial reports quickly to serve the management objectives. | 4.21 | 0.563 |
| 17 | The System ability to achieve a high degree of speed when its handling of the economic events. | 4.09 | 0.695 |
| 18 | The ability to provide the necessary information for the making different decisions purposes. | 3.77 | 0.786 |
| General average | | 3.83 | 0.543 |

Above table shows that there are positive attitudes⁵ toward the above variable because the overall attitude (3.8304) is greater than the average of the five rating points (3).

The means are within the range of (3.13-4.27). That indicates that respondents have positive attitudes.

5.6.3.2 Factors related to databases

This variable was measured by questions (8-12) and by finding both the arithmetic mean and the standard deviation. It was found that the most important factors affecting the effectiveness of the AIS under the used databases were as follows in Table 5.18.

Table 5-18 Respondents' attitudes towards the database paragraphs

| No. | Details | Mean | Stand. Dev |
|-----|--|------|------------|
| 1 | Low redundant entered data, which deals with the accounting information system. | 4.02 | 0.674 |
| 2 | Data integration with the accounting system data to other systems in the firm. | 4.23 | 0.660 |
| 3 | Easy access and handle to accounting data. | 3.95 | 0.903 |
| 4 | The system's ability to cope with any changes facing the firm. | 4.41 | 0.654 |
| 5 | System's ability to maintain financial data from damage, loss and theft. | 4.20 | 0.672 |
| 6 | Reduce the time spotlighting the results. | 4.25 | 0.745 |
| 7 | The independence of the accounting data that is handled on the application software. | 4.20 | 0.724 |
| 8 | Accuracy of the results that are drawn from the handle of the accounting system. | 3.86 | 1.151 |
| 9 | Achieve share in data files and do not need to provide frequent copies. | 3.77 | 1.027 |
| 10 | Logical relationships between the different types | 4.25 | 0.667 |

| | | | |
|----|---|-------|-------|
| | of records in different files to achieve reliability. | | |
| 11 | System's ability to control and manage a huge amount of data. | 3.77 | 1.044 |
| | General average | 4.081 | 0.481 |

Above table shows that there are positive attitudes⁶ toward the above variable because the overall attitude (4.0812) is greater than the average of the five rating points (3).

The means are within the range of (3.77-4.41). That indicates that respondents have positive attitudes.

5.6.3.3 Factors related to communication networks

This variable was measured by questions (13-18) and by finding both the arithmetic mean and the standard deviation. It was found that the most important factors affecting the effectiveness of the AIS under the networks used were as follows in Table 15.19.

Table 5-19 Respondents' attitudes towards paragraphs relating to telecommunication networks

| No. | Details | Mean | Stan. Dev |
|-----|---|-------|-----------|
| 1 | Verification of data sources for economic events with which it deals easily | 4.00 | 0.786 |
| 2 | Handle speed and response between the accounting system and other systems in the enterprise | 3.71 | 0.868 |
| 3 | How much easy to Access all the data established in the entity | 3.98 | 0.774 |
| 4 | Reduce the cost by achieving participation in the use of devices and data | 3.82 | 0.855 |
| 5 | Provide over sight through the ability to track sources of financial statements | 3.82 | 0.834 |
| 6 | Easy to publish accounting data indifferent departments. | 3.82 | 0.811 |
| 7 | The ability to secure distributed processing on any amendments to the accounting data | 3.75 | 0.815 |
| 8 | The ability to participate in physical sources and terminals | 3.84 | 0.869 |
| | General average | 3.843 | 0.643 |

Above table shows that there are positive attitudes⁷ toward the above variable because the overall attitude (3.8438) is greater than the average of the five rating points (3)

The means are within the range of (3.71-4.00). That indicates that respondents have positive attitudes.

5.6.4 The dependent variable (AIS)

This variable was measured by questions (1-12) and by finding both the mean and the standard deviation as shown in Table 5.20

Table 5-20 Respondents' attitudes about the extent of applying AIS

| No. | Details | Mean | Stan. Dev |
|-----|--|------|-----------|
| 1 | Accounting information system provides information in time for decision makers to make decisions. | 3.73 | 0.842 |
| 2 | Accounting information system produces accurate information. | 4.05 | 0.818 |
| 3 | Accounting information system gives reliable (free from bias) information for users. | 4.09 | 0.837 |
| 4 | Accounting information system presents information in a useful and intelligible format. | 4.07 | 0.710 |
| 5 | Accounting information system make information consistency for users. | 3.80 | 0.862 |
| 6 | Accounting information system allow users to comparability the information. | 4.20 | 0.699 |
| 7 | Accounting information system makes information available to users when they need it and in a format they can use. | 4.04 | .713 |
| 8 | Accounting information system give ability to verify the information for users. | 4.09 | 0.880 |
| 9 | Accounting information system produces complete information for users. | 4.02 | 0.981 |
| 10 | Accounting information system reduces uncertainty of information. | 4.11 | 0.867 |

| | | | |
|----|---|-------|-------|
| 11 | Accounting information system improves decision making. | 4.20 | 0.699 |
| 12 | Accounting information system confirms and corrects prior expectations. | 4.25 | 0.477 |
| | General average | 4.053 | 0.536 |

Above table shows that there are positive attitudes toward the above variable because the overall attitude (4.0536) is greater than the average of the five rating points (3)

The means are within the range of (3.73-4.25). That indicates that respondents have positive attitudes.

5.7 Hypothesis Testing

To ensure that the data obtained from the study sample are valid for multiple linear regression analysis, two conditions are required before testing hypotheses. The assumptions are:(Al-Zoubi & Talafha, 2017,195)

- The data distribution of the variables to be tested should follow the normal distribution., as shown in (5.5.1 Normal Distribution Test).
- There is no Multicollinearity as shown in (5.5.2 Multicollinearity)

5.7.1 (IT) Department Sample

5.7.1.1 First Hypothesis Test

Ha: The use of IT has a statistically significant impact on the effectiveness of the AIS.

Multiple regression equation of the first main hypothesis:

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + e$$

$$Y = -0.403 + 0.212X_1 + 0.159X_2 + 0.723X_3 + e$$

B_0 = constant

X_1 = hardware and software

X_2 = Databases

X_3 = Telecommunication networks

Table 5-21 Test the main hypothesis first

Model Summary

| Model | R Squared | Adjusted R Squared | Std. Error of the Estimate |
|-------|-----------|--------------------|----------------------------|
| 1 | .456 | .423 | .34829 |

a. Predictors: (Constant), Network, hardware, Database

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 4.986 | 3 | 1.662 | 13.702 | .000 ^b |
| 1 Residual | 5.944 | 49 | .121 | | |
| Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Network, hardware, Database

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| | (Constant) | -.403 | .669 | | -.602 | .550 |
| 1 | Hardware | .212 | .102 | .269 | 2.084 | .042 |
| | Database | .159 | .131 | .161 | 1.215 | .230 |
| | Network | .723 | .156 | .506 | 4.640 | .000 |

a. Dependent Variable: AIS

It is found that F value =13.702 is significant at 0.05 level and the hypothesis is supported by the evidence. As well as, there are variations in the group and that defines the use of IT has significant impact on the effectiveness of accounting information system. Also, the use of IT explains 45.6% of the effectiveness of the AIS.

Following charts shows the linearity of AIS:

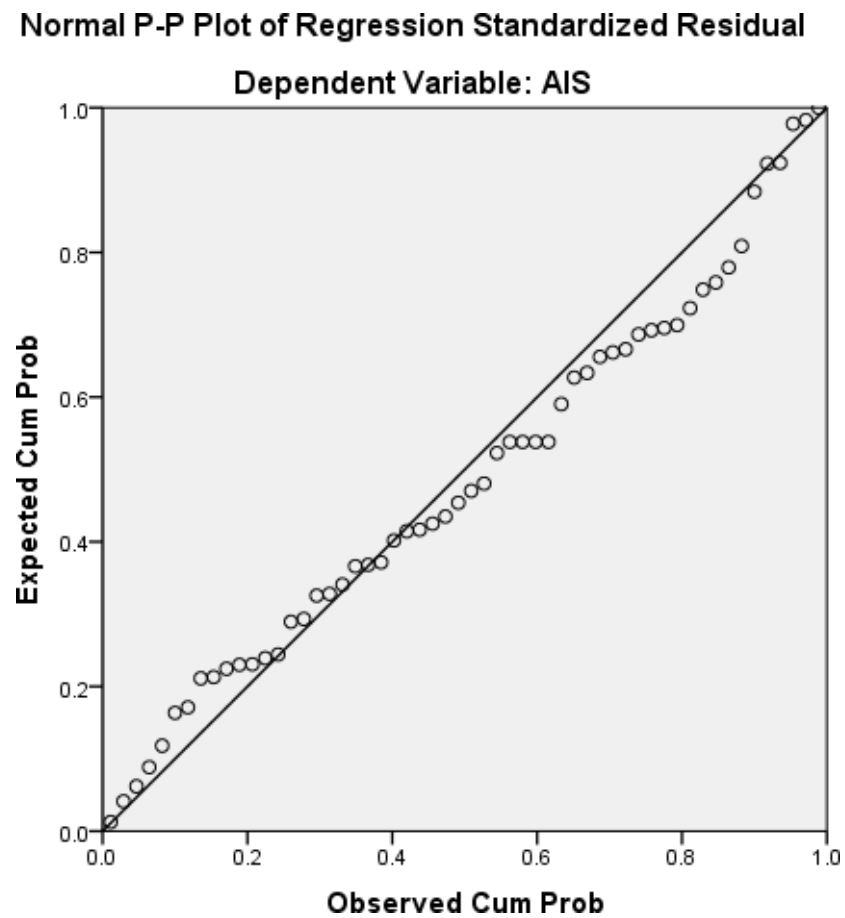


Chart 5.1 Linearity of AIS

5.7.1.1.1 First Sub-hypothesis.

Ha: The use of hardware has a statistically significant impact on the effectiveness of the AIS.

The simple regression equation of the first sub-hypothesis:

$$Y = B_0 + B_1X_1 + e$$

$$Y = 2.73 + 0.304 X_1 + e$$

B_0 = (constant) fixed

X_1 = Hardware

Table 5 - 22 Test the first sub-hypothesis

Model Summary

| Model | R Squared | Adjusted R Squared | Std. Error of the Estimate |
|-------|-----------|--------------------|----------------------------|
| 1 | .149 | .132 | .42704 |

a. Predictors: (Constant), hardware

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|-------|-------------------|
| 1 Regression | 1.630 | 1 | 1.630 | 8.936 | .004 ^b |
| Residual | 9.301 | 51 | .182 | | |
| Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), hardware

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 2.730 | .375 | .386 | 7.282 | .000 |
| hardware | .304 | .102 | | 2.989 | .004 |

a. Dependent Variable: AIS

It is found that F value =8.936 is significant at 0.05 level and the hypothesis is supported by the evidence. That means the use of computer hardware and software has a statistically significant impact on the effectiveness of the AIS.

The use of computer hardware explains 14.9% of the effectiveness of the AIS. Apart from that, the degree of freedom defines the variables that are free to vary. As the AIS is the dependent variables and constant variable is hardware.

5.7.1.1.2 Second Sub-hypothesis

Ha: The use of databases has a statistically significant impact on the effectiveness of the AIS.

The simple regression equation of the second sub-hypothesis:

$$Y = B_0 + B_2X_2 + e$$

$$Y = 2.184 + 0.428X_2 + e$$

B_0 = constant

X_2 = Databases

Table 5 - 23 Test the second sub-hypothesis

Model Summary

| Model | R Squared | Adjusted R Squared | Std. Error of the Estimate |
|-------|-----------|--------------------|----------------------------|
| 1 | .189 | .173 | .41681 |

a. Predictors: (Constant), Database

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 2.070 | 1 | 2.070 | 11.913 | .001 ^b |
| 1 Residual | 8.860 | 51 | .174 | | |
| Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Database

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|--------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 2.184 | .482 | | 4.527 | .000 |
| Database | .428 | .124 | .435 | 3.452 | .001 |

a. Dependent Variable: AIS

It is found that F value =11.913 is significant at 0.05 level and the hypothesis is supported by the evidence. There are more variations in the variables that mean the use of databases has a statistically significant impact on the effectiveness of the AIS. The use of databases explains 18.9% of the effectiveness of the AIS. The degree of freedom defines that there are some of the variables that are free to vary such as AIS is the dependent variables and constant variable is database

5.7.1.1.3 Third sub-hypothesis

Ha: The use of networks has a statistically significant impact on the effectiveness of the AIS.

The simple regression equation of the third sub-hypothesis: $Y = B_0 + B_3X_3 + e$

$$Y = 0.695 + 0.796X_3 + e$$

B_0 = constant

X_3 = Telecommunication networks

Table 5-24 Third Hypothesis Test

Model Summary

| Model | R Squared | Adjusted R Squared | Std. Error of the Estimate |
|-------|-----------|--------------------|----------------------------|
| 1 | .310 | .297 | .38447 |

a. Predictors: (Constant), Network

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 3.391 | 1 | 3.391 | 22.944 | .000 ^b |
| 1 Residual | 7.539 | 51 | .148 | | |
| Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Network

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | .695 | .658 | | 1.056 | .296 |
| Network | .796 | .166 | .557 | 4.790 | .000 |

a. Dependent Variable: AIS

It is found that F value =22.944 is significant at 0.05 level and the hypothesis is supported by the evidence. That means the use of networks has a statistically significant impact on the effectiveness of the AIS. Also, the use of networks explains 31% of the effectiveness of the AIS. The degree of freedom represents the variation between variables such as the dependent variable is AIS and constant variable is network that affects the value of these variables.

5.7.2 Second: (Financial Department) Sample

5.7.2.1 First Sub hypothesis

Ha: The use of IT has a statistically significant impact on the effectiveness of the AIS.

Multiple regression equation of the first main hypothesis:

$$Y = B_0 + B_1X_1 + B_2X_2 + B_3X_3 + e:$$

$$Y = -.424 + .124X_1 + .585X_2 + .20X_3 + e$$

B_0 = constant

X_1 = hardware

X_2 = Databases

X_3 = Telecommunication networks

Table 5- 25 Test the main hypothesis first

Model Summary

| Model | R Squared | Adjusted R Squared | Std. Error of the Estimate |
|-------|-----------|--------------------|----------------------------|
| 1 | .606 | .583 | .34660 |

a. Predictors: (Constant), communication, hardware, Database

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|--------|-------------------|
| 1 Regression | 9.592 | 3 | 3.197 | 26.617 | .000 ^b |
| Residual | 6.247 | 52 | .120 | | |
| Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), communication, hardware, Database

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | .424 | .416 | | 1.020 | .313 |
| Hardware | .124 | .111 | .125 | 1.116 | .270 |
| Database | .585 | .136 | .524 | 4.314 | .000 |
| communication | .200 | .092 | .239 | 2.175 | .034 |

a. Dependent Variable: AIS

It is found that F value =26.617 is significant at 0.05 level and the hypothesis is supported by

the evidence. There are more variations in the group than expected and it has been demonstrating that the use of IT has a statistically significant impact on the effectiveness of the AIS. Also, the use of IT explains 60.6% of the effectiveness of the AIS. The standard error defines the reliability of mean. A small standard error (SE) indicates more accurate sample mean in terms of reflection of real population mean. Apart from that, beta coefficient that indicates the degree of variation in the dependent and independent variables. It shows that beta coefficient is increased by 1 unit than the outcome will decrease.

The degree of freedom defines the final calculation of those aspects that are free to differ. In the AIS, the dependent variable is accounting information system and the independent variables are hardware, network, and database.

5.7.2.1.1 Sub-hypothesis.

Ha: The use of hardware has a statistically significant impact on the effectiveness of the AIS.

The simple regression equation of the first sub-hypothesis:

$$Y = B_0 + B_1X_1 + e$$

$$Y = 1.917 + 0.558 X_1 + e$$

B_0 = (constant) fixed

X_1 = Hardware

Table 5- 26 Test the first sub-hypothesis

Model Summary

| Model | R Squared | Adjusted R Squared | Std. Error of the Estimate |
|-------|-----------|--------------------|----------------------------|
| 1 | .315 | .303 | .44808 |

a. Predictors: (Constant), hardware

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 4.997 | 1 | 4.997 | 24.889 | .000 ^b |
| 1 Residual | 10.842 | 54 | .201 | | |
| Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), hardware

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 1.917 | .432 | | 4.432 | .000 |
| hardware | .558 | .112 | .562 | 4.989 | .000 |

a. Dependent Variable: AIS

It is found that F value =24.889 is significant at 0.05 level and the hypothesis is supported by the evidence. That indicates the use of computer hardware and software has a statistically significant impact on the effectiveness of the AIS. Also, the use of computer hardware and software explains 31.5% of the effectiveness of the AIS.

5.7.2.1.2 Second Sub-hypothesis.

Ha: The use of databases has a statistically significant impact on the effectiveness of the AIS.

The simple regression equation of the second sub-hypothesis:

$$Y = B_0 + B_2X_2 + e$$

$$Y = 0.675 + 0.828X_2 + e$$

B_0 = constant X_2 = Databases

Table 5- 27 Test the second sub-hypothesis

Model Summary

| Model | R Squared | Adjusted R Squared | Std. Error of the Estimate |
|-------|-----------|--------------------|----------------------------|
| 1 | .551 | .543 | .36289 |

a. Predictors: (Constant), Database

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|------------|----------------|----|-------------|--------|-------------------|
| Regression | 8.728 | 1 | 8.728 | 66.280 | .000 ^b |
| 1 Residual | 7.111 | 54 | .132 | | |
| Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Database

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|-----------------------------|------------|---------------------------|---|------|
| | B | Std. Error | Beta | | |

| | | | | | |
|--------------|------|------|------|-------|------|
| 1 (Constant) | .675 | .418 | | 1.617 | .112 |
| Database | .828 | .102 | .742 | 8.141 | .000 |

a. Dependent Variable: AIS

It is found that F value =66.28 is significant at 0.05 level and the hypothesis is supported by the evidence, that means the use of databases has a statistically significant impact on the effectiveness of the AIS. Also, the use of databases explains 55.1% of the effectiveness of the AIS.

5.7.2.1.3 Third sub-hypothesis Test

Ha: The use of networks has a statistically significant impact on the effectiveness of the AIS.

The simple regression equation of the third sub-hypothesis:

$$Y = B_0 + B_3X_3 + e$$

$$Y = 2.098 + 0.509X_3 + e$$

B_0 = constant

X_3 = Telecommunication networks

Table 5- 28 Third Hypothesis Test

Model Summary

| Model | R Squared | Adjusted R Squared | Std. Error of the Estimate |
|-------|-----------|--------------------|----------------------------|
| 1 | .372 | .361 | .42906 |

a. Predictors: (Constant), communication

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|--------|-------------------|
| 1 Regression | 5.898 | 1 | 5.898 | 32.039 | .000 ^b |
| Residual | 9.941 | 54 | .184 | | |
| Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), communication

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 2.098 | .350 | | 5.991 | .000 |
| communication | .509 | .090 | .610 | 5.660 | .000 |

a. Dependent Variable: AIS

It is found that F value =32.039 is significant at 0.05 level and the hypothesis is supported by the evidence. This indicates that the use of networks has a statistically significant impact on the effectiveness of the AIS. Also, the use of networks explains 37.2% of the effectiveness of the AIS. The degree of freedom defines the variables in the constant and dependent variables.

5.7 The main challenges faced banks according using IT and affect the AIS.

In order to enrich the study and identify the most important problems that affect the effectiveness of the AIS, the researcher designed part of the questionnaire to investigate the most important problems that may affect the effectiveness of the AIS. The mean and standard deviation were used to identify the most important problems, as Table 5.29 shows.

Table 5- 29 challenges affecting the effectiveness of the AIS

| No. | Details | Mean | standard deviation |
|-----|---|------|--------------------|
| 1 | High relative cost of buying and running an AIS based on the technology software and hardware | 3.84 | .848 |
| 2 | The need for a specialist in the field of IT and communication | 3.91 | .837 |
| 3 | The response of the accountants of the computerized accounting system | 4.05 | .749 |
| 4 | The need for rehabilitation of accountants to be able to deal with the accounting system | 3.98 | .751 |
| 5 | Breach of confidentiality and penetrate the accounting system | 4.11 | .705 |
| 6 | Increasing rapidly in technology and communication domain | 4.14 | .645 |
| 7 | Need for maintenance of files and devices frequently | 3.82 | .876 |

Above table shows that there are positive attitudes toward the above variable because calculated means for the questions are greater than mean of the scale (3).

5.9 Results

The results of the statistical analyses improve our understanding of the impact of IT on AIS. Overall, the independent variables have an effect on the quality of AIS, decision making, and cost. Also, the variables studied are related through the hardware, databases and networks as reported by the IT and financial department samples.

The hypotheses substantiate objectively the impact of IT on accounting information for decision making and cost control.

These results are further discussion in detail in Chapter 6, Section 6.4.

5.10 Summary and Conclusion

All data collected across from banks in Jordan that were listed had similar AIS infrastructure and systems. Designs for AIS adopted across these several banks in Jordan were same as they needed to reflect similar information to their stakeholders that needed to process such information for the purpose of decision making. Designs of AIS adopted across these banks were suited and well matched to the needs of these banks such that they could concentrate on their performances related to such systems. Managing of AIS is crucial to any and every organization that has adopted it hence for the purpose of its management, accountants and managers are employed who has appropriate understanding relative to the systems. Moreover, managing such systems across varied stakeholder sets makes it necessary that information is easily readable and understandable not including typical terms of accounting. Application of these accounting systems has immense impacts on the overall investment management, transaction processes, ordering and many more systems. It is only possible to achieve easy usability with these systems in cases that they provide information that can be easily accessed and read by multiple users. User of the systems needs to be combatable with aspects and output provided by these systems.

CHAPTER 6: DISCUSSION

6.1 Introduction

This chapter represents the summary of chapter 5; data analysis. In the first part of the above chapter, there were basic questions asked in the survey just like gender, age, educational qualification, technical specialization, scientific specialization, experience, job profile of the respondents, etc. In addition, it also represents the quantitative analysis, normal distribution test on various variables such as hardware and software, databases, networks and accounting system.

It also included the findings of standard deviation & mean on the basis of several details. It also consisted several factors related to databases such as computer databases, methods of data security, structuring of data and cost of database software by findings their mean and standard deviation which shows the general average of 3.8598. The factor related to communication network includes operating system, type of technology, type of security, length of bandwidth in system etc. that shows the results of average 3.9455. In the above chapter, the table 5.16 represents the general average of 3.8365 on the basis of respondents' attitudes.

The table 5.17 includes the respondents' attitude towards hardware & software which shows the general average of 3.8304. In table 5.21, there is the model summary of hypothesis test is given that represents the results of F value i.e. 13.702 which indicates that the null hypothesis is not correct thus IT has the significant impact on the effectiveness of AIS. The table 5.22 represents that the F value is 13.702 which also represents that the null hypothesis is wrong and r is 0.386 that means there is moderate relationship between the variables. The table 5.23 represents the F value is 11.913 and r is 0.435 that also reflects the same results as table 5.22.

In third hypothesis test, the table 5.24 represents the F value is 22.944 and R value is 0.557 and table 5.25 represents the F value of 26.617 and r value is 0.778 that both demonstrates the effectiveness of IT impact upon the AIS. The table 5.26 shows the F value 24.889 and R value 0.562 and the use of hardware & software represents the 31.5% of the effectiveness of AIS. The table 5.27

represents the F value 66.28 and R 0.742 and that use the effectiveness 55.1% of AIS and last 5.28 tables represents the F value 32.039 and r value as .61 which explains the 37.2 % effectiveness in the AIS.

From the above summary of chapter 5, it has been demonstrating that *it is necessary to analyze the data individually because it helps in-*

- Data identification & explanation separately
- Comparison & contrasting of data
- Identifying the data outliers individually
- Future predictions

The findings of the research are discussed in this Chapter. The findings are related to extant literature discussed earlier and other recently published literature to determine the contribution of the research or the new knowledge. The discussion also mentions the similarities in the present research with existing literature. It also highlights the anomalies that still need to be understood better in terms of further research, which is specifically mentioned in Chapter 7, sub-section 7.1 Further Research.

The new findings are the confirmation of the hypothesis that IT has an impact on the relevance, reliability, consistency, comparability, understandability, materiality, and objectivity of accounting information. This is the first conceptualization of this type in the literature that focuses on determining how IT complies with accounting data frameworks. It is asserted by Susanto (2016) that the application and incorporation of IT in the whole accounting process has the impact of affecting the routine operations executed by business. Consequently, a business organization should comprehend holistically the role played by IT and the resultant influence on its operational processes. It is for this reason that the AIS is usually wholly supported by a proper IT infrastructure to ensure there is continued operation of an organization in the market. However, it is important to note that the quality of accounting information is to a large extent determined by the integrity of the adopted AIS and the existing relationship with other areas within a business. In this regard, it is

postulated that integrated business applications play a major role in helping the entire accounting process to be valuable to the business as a whole. As a result of this, it is advisable that an organization should deploy the use of a timely, reliable and accurate IT system. Likewise, it is significant to note that the accounting data Processing is to a large extent supported by suitable IT. Such an approach can be deployed to help in the significant reduction of incurred cost regarding the production of accounting information, thus helping to boost the confidence in the resultant accounting information that may be produced. Historically, AIS is determined by the corresponding development in IT. The survey results show that organizations have been adopting various changes in their AIS with regard to disciplines such as cost accounting. This has been necessitated by the emerging changes in the operational environment and adapting to new technological discoveries. Despite this, it should be noted that similar changes have also greatly been witnessed in the field of managerial accounting. The empirical survey results show that accountants in various corporate institutions usually link IT with the resultant changes in the tasks and role of managerial accountant. Consequently, IT has led to the discovery of significant features with regard to the changes in the tasks and role performed by managerial accountants.

Legislators in Jordan have realized that the transformation of the banking sector from the traditional manual information management to the current computerized AIS has become an urgent necessity for all the players in the banking industry, especially the listed Banks in Jordan. This has prompted the introduction of Article (92) of the Jordanian Bank Law that recognizes electronic data in most banking instances. Therefore, it is asserted by Article (92) that financial banks operating and listed in Jordan need to adopt the use of AIS by using the mini-copy as opposed to other original records, books and statements. Despite this, Chae, Koh and Prybutok, (2014) had extensively deliberated on various techniques and forms that can be deployed to evaluate the effectiveness of a given AIS, as well as the potential development and utilization of a complex model for the purposes of evaluating the effectiveness of the designated AIS with respect to social, economic and

technological aspects. On this basis, it is concluded by the study that the characteristics possessed by an AIS may have diversified significance. On a similar note, it is articulated that their use is strictly subject to the appropriate and correct selection of system components such as programs, devices, databases as well as highly qualified employees. Besides this, the results obtained by the study show that the effectiveness of any computer-based AIS can appropriately be represented in the use of a designated system in a successful manner meeting all the laid down requirements for users.

6.2 Findings and Recommendations

The findings of the quantitative study confirm the proposed hypotheses, specifically they reveal that the use of IT has a statistically significant impact on the effectiveness of the AIS in the banking establishments listed on the Amman Stock Exchange within the first market, and the use of networks is the most influential on the effectiveness of the AIS, followed by hardware and software, and then databases in terms of the impact of each variable on the effectiveness of AIS. The difference is the type of sector affected by the effectiveness of the AIS, where it was found that the banking sector has more effective AIS than in the others sector.

There are a number of problems associated with the use of IT that affect the effectiveness of the AIS, notably the rapid increase in technological progress and the need to qualify accountants to be able to deal with the AIS in the light of technological developments. The importance of the presence of specialists in the field of IT in enterprises and the extent to which accountants respond to the IT-based AIS.

The Jordanian establishments operating in the banking sectors enjoy advanced levels of technology, in terms of benefiting from IT. The reasons may include the presence of branches and facilities of some of the Banks in Jordan, so banking benefits more from technology at the global level.

6.3 Theme Discussion

6.3.1 Theme 1: Relevance

According to Richardson and Zmud (2001), relevance of IT investments only has payback when it is selective and well targeted like AIS investment. Additionally, such investment can be strategic giving the company competitive advantage. Similarly, Ahmed (2013) reported on the role of IT in cost optimization and operational excellence in Islamic banking. The survey showed the relevance of knowledge technology in the development of Islamic banking. The survey results of this research support their findings as IT, databases, and networks make AIS more effective.

Vasarhelyi et al. (2015) consider the evolution of overall framework of Big Data in accounting which range from the structured data of ERP systems to unstructured and semi-structured information. Such networks pose challenges of measurement and auditing assurance. Big Data and networks change the nature of accounting records and accounting and auditing standards. As the research findings show networks have a significant impact on the quality of accounting information and its relevance. However, in order to remain effective AIS in Jordan need to take advantage of cloud computing. The hardwire type networks are high in maintenance. Developments in cloud computing can significantly lower maintenance costs. Cleary & Quinn (2016) show that cloud-based accounting/finance infrastructure is positive and statistically significant on structural capital. Their model, similar to the hypothesis tested in this research show a positive and statistically significant result for cloud-based accounting and finance. Moreover, the bespoke cloud computing-based software can make the AIS more relevant. The availability of accounting information consistent with accounting frameworks is greatly improved due to bespoke software. It is for this reason that it is postulated that the impact of IT on the discipline of accounting is not only represented by the innovations being witnessed with regard to technology but also, they make IT, databases and networks highly relevant to accounting standards and business needs. It is in this context that it is vital to emphasize that corporate organizations such as banks in Jordan and globally have adopted

the use of Internet in the whole process of disclosing their financial as well as other significant business records and information.

Fang (2016) shows the advantage of accounting information transmission in group companies. The research shows that relevance is critical in the specific path of disclosure of accounting information based on XBRL and cloud computing technology. The roles of accounting information demander and the differences in disclosure of accounting information for traditional accounting and AIS favor XBRL based cloud computing because of high relevance.

It has become clear that the XBRL language and the Internet have played a crucial role when it comes to changing the process and format of reporting the financial records. From the perspective of accounting, XBRL has played a major role when it comes to analyzing and gathering information that can be utilized by a business entity to accomplish an underlying legal obligation. Irrespective of the merits of IT in the discipline of accounting, there are multiple risks associated with IT that should not be ignored. In this case, despite IT playing a significant contribution to the whole process of accounting, it is recommended that corporate institutions should institute appropriate measures of securing its internal control system with regard to the adopted IT infrastructure and environment

6.3.2 Theme 2: Reliability

The investments in IT, databases, and networks have resulted in the realization of optimum benefits and improved services provided by the financial banks to their clients. This is based on the reliability of the AIS to provide timely and relevant accounting information. Such reliability has improved the competitiveness of Banks in Jordan against foreign competition. Reliability is crucial for relevant information and the survey findings show it is important for the banks. IT needs to be incorporated into the AIS in Jordan's Islamic banks and such information can be utilized for the purpose of making decisions (Susanto, 2017).

According to the International Financial Reporting Standards Framework financial information is useful when it is relevant and reliable and this is confirmed by recent research (Liu et al., 2018). In this context, it is emphasized by the IFRS in Jordan that the usefulness of any given financial information is greatly enhanced whenever such information is verifiable, comparable, understandable and timely (IFRS, 2019). Therefore, quality of AIS should meet the needs of its internal and external users, which the findings of this survey suggest. This is achieved when the respective AIS is calibrated to operate in liaison with other systems. In this case, the level of integrating AIS with other information systems is a key determiner of accounting formation quality. Mancini (2016) shows that in open systems environment, integration is a challenge that is being met with in AIS. Besides this, it is important to note that the quality of AIS can chiefly be achieved by providing each segment of the system for seamless operation, as the survey results suggest. Additionally, the quality of the AIS is determined by the quality and the existence of implemented procedures for internal control. It should be noted that internal control is necessary in the whole process of producing reliable and verifiable accounting information. This can be achieved by the commitment by the top management in an organization, training and education regarding proper ways of handling and operating the installed AIS in an organization and incorporation of an appropriate AIS reflecting the needs of an organization.

6.3.3 Theme 3: Consistency

AIS need to provide consistent information and financial reporting (Haddad et al., 2014). The survey results indicate that IT, databases, and networks effectively give the benefits which are desired, it is important to ensure that it is quite appropriate for decision making. Consistency is an integral factor that is a basic characteristic of AIS. It is prudent to note that appropriateness is indeed an essential requirement in any information which is utilized in the assessment of the financial state of an organization. Credibility of accounting information ought to comprise of a “degree of possibility” of objectivity or verification that is based on enough evidence of proof as well as one which is free from any form of bias Myers et al. (2017) examined managers' perceptions of information credibility in shadow IT systems and information from shadow IT systems is less credible and users rely less on costing reports produced from such systems. The survey results confirm the AIS through the IT provide this.

Failure to present accurate and concise accounting information that causes lack of verification for such information due to mistakes in discrepancies between information that has been processed for use by the administrative team can make it to become inaccurate and thus un- useful (Mohamed et al., 2014).

Dillard, Yuthas and Baudot (2016) postulates that it is imperative to acknowledge that the use of IT has proved to be a great challenge among many companies and users. The survey results reveal that there are difficulties in IT implementation but IT is significant in providing reliable and relevant accounting information. The difficulties arise, as noted in the survey results, this is attributed to IT is constantly evolving, implying that new technology is introduced to the market continuously.

The IT technical language used in AIS cannot be easily understood by its users. Haleem & Kevin (2018) also found that the success of AIS depend on the competency of users. They showed that training professional accountants properly to use AIS is necessary for successful implementation and usage. Whenever such a scenario occurs, the employees of an organization will be prompted to undergo mandatory training prior to using it. Besides this, another challenge is usually reflected in terms of the resultant difficulty to adjust to frequently emerging changes.

6.3.4 Theme 4: Comparability

The application of AIS in banks in Jordan has been bolstered through significant IT investment and helped to minimize accounting expenses and improve generation of relevant data. Additionally, it improves trust in the accounting data that is being utilized by firms by their important partners. So, comparability is significant. The utilization of accounting data frameworks is ordinarily seen and discovered through the improvement of data innovation but the frameworks enable comparability. It should be noted accounting associations change their accounting data frameworks in order to maintain comparability. The survey results confirm existing evidence that IT investments in relational databases help to expand comparability of accounting information according the accounting data frameworks (Caruana et al., 2019). For example, in the cost accounting field with a specific end goal to react to the advancement of new data and corresponding advances and changes globally. It is judicious to take note of that comparative changes have likewise happened in the administrative accounting field also. It is well-known that a portion of the "observational review comes about" in Jordan portray that a portion of the ensured accountants high associate the utilization of data technology.

Before IT was introduced, accountants used to involve themselves vigorously in various accounting activities manually (Uyar, Gungormus, &Kuzey, 2017). For instance, daily records of the transactions undertaken in an organization were dome by human beings. Besides this, the process of preparing financial statements also used to be prepared manually by accountants. However, IT has

greatly changed routine operations undertaken by organizations with respect to the accounting systems. This is attributed to the assertion that the accounting plans and subsequent decisions has to be made considering the emerging changes in IT (Arnold, 2018). According to Peppard& Ward (2016) IT entails the processing, acquisition, storage as well as the dissemination of information. The survey results reveal that IT investments have resulted in effective AIS. It is the deployment of computers and other relevant communication technology in the whole process of handling the flow of information. Furthermore, it is primarily defined by software and hardware products, IT control frameworks, human resources and the information system operations and the management processes (Uyar, Gungormus, &Kuzey, 2017). Additionally, it is imperative to note that the central processing unit serves as the hub and help to improve comparability between systems. Alternatively, storage devices imply those hardware components that are utilized for the purpose of storing data.

Furthermore, it is imperative to note that IT can be categorized into function IT, network IT, and enterprise IT. This is supported by the survey results which broadly fit into IT, databases, and networks that enable effective AIS. On this basis, function IT are the multiple technologies that are deployed to facilitated the process of performing given tasks. In particular, they serve the role of enhancing the efficiency under which the underlying accounting tasks can be performed. For this reason, such kind of technologies are usually deployed to be used by accountants. Most prevalent function IT includes spreadsheets. Furthermore, it is essential to note that network IT are the technologies that are deployed for the sake of providing a platform for the process of communication to be affected. Therefore, it facilitates the process where individuals can interact with each other without the imposition of any limitations. On the other hand, enterprise IT denotes a set of technologies that are deployed by organizations for the sake of managing the interaction of employees at an organizational level as well as with the associate business partners.

Marshall (2016) states that it is important to note that AIS entails tools that can be incorporated with IT to help in the whole process of managing and controlling the financial and economic data in an organization. This is accredited to the notion that the use and incorporation of technological advancements have played a crucial role in the generation and the use of the collected accounting information for strategic approach with regard to operations of an organization in the market.

Given its usefulness to organizations, it is vital to note that even medium sized and small-scale organizations need information to be able to deal these uncertainties that may be presented in the competitive market (Uyar, Gungormus, &Kuzey, 2017). On this basis, there is need for organizations to significantly improve their systems as well as data processing capacity to be able to match with the resultant need for information. This is alluded to the fact that when an organization chooses to invest in the training of its staffs, it can help boost the quality if its products as well as internal processes. This implies that investing in AIS can help a given business organization to greatly leverage the opportunity aimed at ensuring that such an organization has a flexible and stronger corporate culture for its continued operations in the market. On the other hand, it is important to note that innovation can be utilized as an incentive by an organization when it comes to making continued changes in the market of its operations. In this essence, it is an incentive that can be incorporated in the routine operations of an organization to enhance performance as well as reduce the organizational and financial obstacles, thus making it easy to seamlessly access capital market.

Given IT covers a broad range including multiple areas regarding AIS, it is necessary to allow the use of computerized accounting tools in the execution of routine operations in an organization to realize desired financial and economic results as well as an improvement in the performance of small and medium sized business organizations. For this reason, AIS are deployed to record financial transactions in an organization. This is attributed to the assertion that it combines multiple methodologies, control mechanisms and accounting techniques with the relevant IT innovations in the industry such as sophisticated software, computers and the user interface (Trigo et al., 2016). In this case, the software that is deployed for the sake of tracking transactions executed within an organization further goes ahead to report data, financial statements, external reporting data and other relevant capabilities for analyzing trends. Primarily, the incorporation of AIS by small and medium sized enterprises enables them to easily adapt to the dynamic and changing environment in the market, thus helping the respective organizations to enhance their degree of competitiveness.

On the other hand, the incorporation of AIS has the capabilities of improving an organization in terms of administrative management with respect to finance and accounting. This simply implies that whenever a business organization incorporates the use of AIS to run its routine operations in the market, it will be better placed and, in a position, to gauge the expected risks with regard to routine operations as well as being better placed to predict future earnings by utilizing the advanced statistical software (Mouritsen & Kreiner, 2016). Therefore, such benefits usually play an instrumental role when it comes to developing and testing larger business enterprises.

Despite this, Caskey and Laux (2016) states that it is important to note that key challenges regarding successful implementation and incorporation of IT is manifested in the whole aspect of designing an appropriate technological infrastructure that can be utilized for the sake of improving the inclination of the business with regard to AIS. In this consideration, it is advisable that organizations should go a notch higher to analyze the resultant impact of AIS on its financial and economic profitability indicates in order to ascertain whether it is on the right path or not. This can be achieved through analysis of specific indicators such as the return on equity (ROE) and the return on assets (ROA) regarding the routine market operations of an identified business enterprise.

It is suggested by other studies that there is a direct relationship when using AIS between management and the resultant performance indicators in the market (Tayeh et al., 2015). This clearly shows how it is vital for AIS to be implemented in the routine operation of firms. The primary merit associated with the optimization of AIS in a business enterprise is the adaptation to the dynamic market environment. This is majorly a case because an organization will be able to compete favorably with other entities both locally and internationally. Furthermore, optimization of AIS in the operations of an organization can help in the realization of improved management due to the efficiency in terms of executed transactions and improving the aspect of competitiveness of a firm in the market.

As evidenced in the survey results AIS enable better reporting and help to boost the dynamic nature of a business enterprise due to enhancement in the flow of information with respect of the relevant staff, which is confirmed generally too (Libby, 2017). However, it is also important to note that excessive adoption of such tools has the capability of decoupling interaction quality between accounting staff and business decision makers, thus leading to subsequent reduction in the aspect of productivity (Vasarhelyi, 2015).

According to Shamki (2012) studies have established that AIS plays a major role in aligning the strategies adopted by an organization and performance in the market. This is attributed to AIS being able to provide business to devise workable solutions and strategies based on the available data reflecting its routine operations in the market. Further, this can also help an organization to improve on various aspects of efficient management of its resources as well as enhancement of the administration of an organization thus the effective measure of reducing the incurred costs.

Inherently, according to Khairi and Baridwan (2015), it is postulated by previously conducted studies that there is a positive relationship between the financial profitability, economic profitability and value addition with regard to investment in IT. This is alluded to the fact that incorporation of IT aspects in the routine operations of a firm in the market has the impact of giving the respective firm a competitive advantage that will help it to go all the way towards achieving the desired improved results. However, such a phenomenon can only be achieved after a considerable period of time and also a firm implementing it should be operating on a large scale. Objectively, this is attributed to the assertion that IT-performance ratio is majorly significant when it comes to firms carrying their operations in the market on a large-scale basis.

Alternatively, Bodnar& Hopwood (2013) states that the incorporation of AIS in a business entity has a resultant impact of improving its performance in the market. This is reflected in terms of the efficiency in which a firm will be serving its customers, thus helping in boosting a positive image about the firm among the customers. On the other hand, firm that does not incorporate such aspects in their routine operations may be characterized with a significant decrease in productivity and performance compared to their counterparts who would have adopted the use of IT. This is alluded to the fact that most countries that have invested in some of these technologies are market leaders with respect to a growth in productivity. This is because it serves the function of reducing the labor time and by extension decreasing the incurred costs, thus favoring seamless operations by a business organization in the market.

According to Gomaa and Tan (2017), it cannot be wished away that AIS plays an instrumental role in the management and decision-making process of a business entity. Given the role of accounting in any given institution, it can be postulated that AIS entails the overall information system that may be adopted in an organization with the sole goal of generating information that can be utilized for making various decisions at business level. For this reason, the way of analyzing, gathering, processing, archiving and distributing the requisite AIS is one of the key roles that have been performed by the AIS even though it has undergone tremendous changes over the last few years. Alternatively, the proliferation of IT has significantly affected a number of operational processes in an organization. For this reason, it is hugely important for an organization to comprehend the role that technology can play in the whole process of running its routine business operations. This is attributed to the assertion that its deployment in a business entity has an impact of influencing other business processes conducted within an organization. It is for this reason that an AIS should be supported by proper IT to facilitate efficient management process in an organization. However, the quality of an adopted AIS will solely depend on the integrity associated with the said AIS with regard to its created relationship with other areas and departments in a business. In this consideration, it is vital to note that the integrated business application can be deployed to help the accounting process adopted in an organization to be valuable to the entire business operations executed by a business entity. This is attributed to the assertion that whenever such systems are put in place, they are required to be timely, reliable, and provide accurate information for decision making process in an organization. Furthermore, supporting the processing of accounting data with appropriate IT infrastructure has an impact of decreasing the cost that may be incurred in the whole process of producing the needed accounting information, thus by extension increasing the confidence with regard to the provided accounting information.

The need to incorporate these regularly various frameworks prompted the accountant's energy about shared databases that give a strong photo of the association's information, dispensing with

duplications and diminishing information clashes. The striking cases that innovation has had the most imperative effect as accounting has been changed into a learning administration calling have by and large been ineffectively reflected in ongoing accounting research. Besides, the examination custom in the AIS field, focusing on, for instance, exchange preparing, information structure displaying, PC extortion and security and additionally framework improvement philosophies, appears not to have delivered a valuable comprehension of the interchange between present day IT and accounting/administration control. The viability of accounting data frameworks can be gotten giving administration data to help concerned choices. The viability of AIS can be assessed as included estimation of advantages. The viability of AIS as a measure of accomplishment to meet the built-up objectives. The accomplishment of AIS execution can be characterized as beneficially connected to territory of real worry to the association, is generally utilized by at least one fulfilled client, and enhances the nature of their execution. As per the above advantages which drives from AIS to corporate area, in this paper the creators endeavor to show this significance also in creating nation to be specific, Iran. Here before clarifying AIS, the creators quickly going to clarify on data framework.

A data framework is a sorted-out method for gathering, entering, and handling information and putting away, overseeing, controlling, and announcing data with the goal that an association can accomplish its destinations and objectives. This meaning of data framework demonstrates that a data framework has following parts. Each data framework is intended to achieve at least one objectives or goals. For instance, a data framework might be intended to gather and process information about workers to enable directors to plan finance reports.

Data must be gone into the data framework to be handled. Information are the realities that are gathered and prepared by the data framework. Information are good for nothing and futile, which, in this manner, ought to be prepared and changed to important, sorted out, and valuable frame that is called data. Yields: Output is the significant and helpful data reacted by the data framework. For instance, week by week finance report created by the data framework is a yield. Information stockpiling: notwithstanding the outer information went into the data framework, there ought to be inside put away information utilized for preparing.

Processors: keeping in mind the end goal to deliver valuable and important data, information must be prepared. Generally, organizations process information by utilizing PCs. Guidelines and

Procedures: A data framework produces information by the accompanying directions and systems.

In mechanized data frameworks, programming incorporates systems and guidelines that direct PCs to process the information. Clients: Users are individuals who utilize the data delivered by the framework and who collaborates with the framework. For illustration, administrators who utilize money related proclamations that are created by a accounting data framework are the clients of the data framework. Control measures are keeping in mind the end goal to influence the data framework to deliver right, and mistake free data, important measures ought to be taken to ensure and control the data framework. Any framework that incorporates the above segments is known as a data framework. The accompanying segment will demonstrate how accounting frameworks are built up utilizing these segments. Accounting is the administration work that tries to furnish the clients with quantitative data. On the other hand, AIS is a data framework that is intended to make the achievement of accounting capacity conceivable. AIS forms information and exchanges to give clients the data they have to plan, control, and work their organizations. AIS can be a manual framework, or a mechanized framework utilizing PCs. Despite the sort, AIS is composed to gather, enter, process, store, and report information and data.

By and large, data framework is the entire of the related parts that are cooperating to gather, store

furthermore, and disperse information to plan, control, coordination, examination and basic leadership. Then again, an AIS is the entire of the related segments that are assembled to gather data, crude information or common information and change them into money related information to report them to choose producers. The most vital and most established of the present frameworks in organizations is absolutely the Management Information Framework. "Administration" and "data" are two indistinguishable ideas and demonstrate the inconceivability of the objective execution of administration exercises without data. Administration Information System comprises of numerous subsystems. Accounting Information System is one of these subsystems and the most seasoned one.

The accounting data framework that is made in a business is straightforwardly identified with the authoritative culture, level of key arranging and the data innovations that this particular business has. It is conceivable to acquire more beneficial data about the budgetary structures of the organizations that have set up a decent accounting data framework. A portion of the imperative capacities that a accounting data framework perform in a business are: gathering and recording information about the exercises and exchanges; arranging; handling the information, transforming it into data to be utilized as a part of basic leadership for arranging, application and control exercises; and completing the important controls keeping in mind the end goal to secure the business resources. Primarily, similar changes have been witnessed in the field of managerial accounting whereby organizations have been forced by the emerging market circumstances to change the role and responsibilities performed by managerial accounts due to the proliferation of IT. Based on these assertions, it is obvious that IT has greatly defined the conventional AIS, an aspect that has been evidenced with the introduction of e-commerce and e-business. This has been necessitated by the need to incorporate IT in the whole discipline of AIS. This is primarily based on the assertion that it facilitates the use of computers to improve the whole process of collecting, storing, processing, transforming and distributing various accounting information related to a given business entity for

the purpose of decision-making process in an organization. This is because such kinds of adoption has an impact of helping a business organization to generate the needed information that can be utilized in the entire process of making business decisions within an organization. However, it is important to note that there are various designs with regard to the system that should be seriously considered when ascertaining the role that can be played by IT in the whole process of gathering and reporting the desired accounting information. Alternatively, this is further influenced by the anticipated user, an aspect that will be determined by the size of the firm intending to deploy the use of AIS to execute its accounting functions and operations. Furthermore, the whole aspect is again influenced by the nature of the operations conducted by the business entity in the market and the structure of the adopted organizational form adopted by the respective business entity. In this chapter data analysis has been undertaken for processing the complex data collected by means of questionnaire.

Statistical data analysis procedure has been used with techniques as mean, correlation, regression and ANOVA. The scholar had been capable of collecting greater amount of data and information relative to these banking systems and their infrastructures, however not all data obtained has been used for the purpose of analysis pertaining to the study.

The scholar has made use of those information that can reveal crucial factors related to performances of AIS adaptation within banks.

All tests are performed for verification of hypothesis that has been assumed for the purpose of the study. The scope of this chapter has accommodated some critical data analysis as per interview questions that had been raised in the questionnaire. All data collected is analysed using statistical procedures of mean, correlation, regression and ANOVA test. Each and every question has been analysed in a numeric manner along with its reflection in graphical format for better understanding related to users of the thesis. Testing data and plotting them graphically have helped arrive at critical findings and results related to the study. Data analysis of collected data is an integral aspect for arriving at suitable findings for the study. This chapter has a detailed description of data analysis procedure that has been used step by step to arrive at results for the study. With a variable type and nature of data involved and integrated in the process of data analysis, it often becomes critical to arrive at findings or results regarding the study. While collecting data and information regarding the banks for conducting the study, mostly profitable banks listed in Jordanian stock exchange were selected. These organizations have been capable to introducing and accommodating valuable information systems within their infrastructure. They have designed AIS suited and matched to their needs such that they are able to gain valuable inputs related to the same. Further designs of AIS adopted across these banks were more or less similar in nature, reflecting information of similar nature to their stakeholders.

In this case, all separate hypothesis had been evaluated in a separate manner and jotted such that it can reflect findings in a clear manner. All hypothesis that had been assumed at the initial part of the research procedure, while defining of research goals or problems had been attended to. While there have been a wide range of survey that had been conducted with various types, Null Hypothesis (H_0) that aimed at proving that AIS does not impact on AIS on banking systems of Jordanian listed banks had to be negated. Proving this hypothesis wrong all other hypothesis had to be accepted, meaning AIS does impact on banking systems in Jordan, rather having a positive impact was established. Therefore, the study can conclude similarly as has been established by other studies of

similar nature that AIS does impact on banks in listed banks in Jordan. Historically, AIS is viewed and determined by the resultant developments in the field of IT. It is for this reason that some surveys conducted by some companies in the market show that a change in the AIS plays a vital role when it comes to the disciplines of cost accounting, thus making it appropriate as a way of adapting to the resultant changes in the field of technologies.

Based on the analysis which was carried out as well as the deduced findings coupled with reviewing of relevant literature, numerous recommendations can be made. Based on the information from this paper, it was well proven that indeed, there was a significant impact of IT on the accounting systems as well as organizational performance. It is therefore highly recommended that listed banks in Jordan ought to be encouraged to investing in such relevant information technologies (Al-dalahmehet et al., 2017). There is need for managers in listed banks in Jordan should consider all the relevant external factors as well as how they affect the adoption procedures especially when implementing the use of IT in their respective organizations. There is dire need to always provide staff training in the listed banks in Jordan especially those who wish to evolve with the use of IT. This is quite important since it will help in enhancing the participation of staff and ensure that they are not made unproductive and redundant.

Owing to the fact that there has been a significant rise on the impact of IT on the AIS as well as in the organizational performance, it is quite important for the management of the listed banks in Jordan to ensure that they gather any new and relevant information and also become well familiar with any previous knowledge to be in a better position of offering viable solutions to the underlying problems (Sharma et al., 2017). Listed banks in Jordan should thus ensure that there is good storage and management of accounting information so that the addition of IT tools could enhance accounting operations in their respective financial institutions. There is need for the management of these institutions to also become aware of the fact that the advancement of accounting systems in their respective organizations is highly depended on numerous variables and aspects one of which

is the inclusion of the impact that IT has on the accounting systems. It is therefore important for the relevant stakeholders in the Jordanian's listed banks to note that even though IT is indeed a generic term which covers the "acquisition, processing, storage, and even the dissemination of information" it is important for them to note that the application of both computer as well as communication technology is quite essential (Hosseini et al., 2017). This is attributed to the fact that it ensures that the handling of information, the flow of information, the operations of the information system, and the entire management of the organization is fully compliant with the relevant IT setups.

It is highly recommended that the impact regarding the progress in the "accounting IT" on the banking sector should never result in a strong increase in the costs of processing since it will not help them to attain economies of scale. There is thus great need for the banks in Jordan to continue with the effective utilization and upgrading of IT so that they can derive efficient service delivery as well as profitability.

It is important for the Jordanian Banking industry to become contended with the financial regulatory structures and also ensure that it fully complies with the relevant accounting standards. To effectively attain this objective, the listed Banks in Jordan should effectively relate the application of knowledge and computer systems in not only performing tasks but also solving problems and developing new methods that can help them to attain their set business objectives and goals so that they can achieve desired outcomes (Al-Afifet et al., 2017). The quality concept in the accounting systems of most of the Banks in Jordan is not new in entity but rather it is actually a problem which has not been properly articulated as well demonstrated. However, it is quite unfortunate that that despite the availability of the accounting software, some of the banks in Jordan are not capable of meeting up with relevant user demands since they may not be timely and accurate. This implies that even though the listed banks in Jordan are use the software, this technology will still require development and research so that it timely and accurately meet the users' needs.

banks in Jordan may use accounting information technologies in various ways and purposes and this has made it easier for cash to be not only easily deposited and dispensed, but also made it easier for accounts to be credited and debited automatically (Anonymous, 2015). The administration of listed banks in Jordan may greatly be assisted through management information systems, Accounting Information systems, and accounting IT.

The banks listed on the Jordanian Stock exchange should take into consideration the view which are held by the International Federation of Accountants or IFAC which stated that competence in IT is actually one of the most vital factors in the “knowledge economy” in which all the “newly emerging professional accountants” ought to possess enough IT skills as a result of “pervasive use” as well as indispensability of IT in the contemporary business world (Anonymous, 2015).

Analysing pertinent trends in IT and connecting them to AIS reveals its applicability to hardware, software and networks. While the study has aimed at exploring several conceptualities related to all factors there still remains opportunity to expand the scope of study. For the purpose of overcoming limitations pertaining to the study, certain recommendations need to be accommodated. AIS of the past concentrated on the chronicle, condensing and approving of information about business money related exchanges. Accounting frameworks that were already performed physically would now be able to be performed with the assistance of PCs. In this way, upgrades in the data innovation have encouraged the utilization of cost and administration accounting strategies. Advancements in IT have been principal in ongoing decades, and they have been driving improvements in the globalization of business sectors and social orders. In the perspective of the reality, it is broadly recognized that IT assumes an imperative part in the field of accounting; IT can be vital weapons to help the protest and system associations. Some business associations get upper hand by preparing new data frameworks. Along these lines’ associations tend to expand the cash for IT, which makes the proportion of IT speculation to their aggregate spending plan higher. In a time of worldwide rivalry, the way to a company's survival is the constant change of its exhibitions. AIS

of the past concentrated on the account, condensing and approving of information about business money related exchanges. These capacities were performed for the different gatherings inside the association that were concerned about the separate choices related with money related accounting, administrative accounting, and duty consistence issues. The need to incorporate these regularly various frameworks prompted the accountant's energy about shared databases that give a strong photo of the association's information, dispensing with duplications and diminishing information clashes. The striking cases that innovation has had the most imperative effect as accounting has been changed into a learning administration calling have by and large been ineffectively reflected in ongoing accounting research. Besides, the examination custom in the AIS field, focusing on, for instance, exchange preparing, information structure displaying, PC extortion and security and additionally framework improvement philosophies, appears not to have delivered a valuable comprehension of the interchange between present day IT and accounting/administration control. The viability of accounting data frameworks can be gotten giving administration data to help concerned choices. The viability of AIS can be assessed as included estimation of advantages. The viability of AIS as a measure of accomplishment to meet the built-up objectives. The accomplishment of AIS execution can be characterized as beneficially connected to territory of real worry to the association, is generally utilized by at least one fulfilled client, and enhances the nature of their execution. As per the above advantages which drives from AIS to corporate area, in this paper the creators endeavor to show this significance also in creating nation to be specific, Iran. Here before clarifying AIS, the creators quickly going to clarify on data framework.

A data framework is a sorted-out method for gathering, entering, and handling information and putting away, overseeing, controlling, and announcing data with the goal that an association can accomplish its destinations and objectives. This meaning of data framework demonstrates that a data framework has following parts. Each data framework is intended to achieve at least one objectives or goals. For instance, a data framework might be intended to gather and process

information about workers to enable directors to plan finance reports. Information are the realities that are gathered and prepared by the data framework. Information are good for nothing and futile, which, in this manner, ought to be prepared and changed to important, sorted out, and valuable frame that is called data.

Output is the significant and helpful data created by the data framework. For instance, week by week finance report created by the data framework is a yield. Information stockpiling: notwithstanding the outer information went into the data framework, there ought to be inside put away information utilized for preparing. Processors: keeping in mind the end goal to deliver valuable and important data, information must be prepared. Generally, organizations process information by utilizing PCs. Guidelines and Procedures: A data framework produces information by the accompanying directions and systems. In mechanized data frameworks, programming incorporates systems and guidelines that direct. Users are individuals who utilize the data delivered by the framework and who collaborates with the framework. For illustration, administrators who utilize money related proclamations that are created by a accounting data framework are the clients of the data framework. Control Measures: keeping in mind the end goal to influence the data framework to deliver right, and mistake free data, important measures ought to be taken to ensure and control the data framework. Any framework that incorporates the above segments is known as a data framework. The accompanying segment will demonstrate how accounting frameworks are built up utilizing these segments.

We can recognize a few bases for the investigation of AIS. The initial ones identify with the evolving business condition, the expanded utilization of data frameworks (IS) and progresses in data innovation (IT). Expanding business multifaceted nature, systems, globalization, shortening item life cycles and the requirement for cross-practical getting sorted out are the primary explanations behind organizations beginning to utilize Management Information frameworks. The AIS supply side on-screen characters - merchants, specialists and other entire deal performing artists of AIS -

has tended to the expanded utilization of data frameworks and, in this manner, we are amidst a monstrous dissemination of coordinated data frameworks that should be utilized for basic leadership, control and execution administration. These sorts of frameworks arrangement being diffused are today observed as administration accounting advancements. Besides, progresses in data innovation have driven change "in the accumulation, estimation, investigation and correspondence of data inside and between associations". In the 1990s, the change has been encouraged by the development of Endeavor Resource Planning (ERP) frameworks, which empowered organizations to better screen their organization by coordinating the entire business cycle. Merchants asserted that an Enterprise Resource Planning System (ERPS) would bolster the methodology procedure and connecting this to the regular business. This guarantee was anyway not satisfied and ERPS ended up being a framework for proficiency, not adequacy. Additionally, numerous organizations have likewise discovered how ERPS execution could turn out badly. One celebrated disappointment is the ticket Associated Industries, who acquired SAP, lost over \$ 40 million in the wake of abandoning their SAP arrangement. Truth be told, 70 % of IT-related ventures neglect to meet their targets. Additionally, colossal ERPS disappointments with extreme outcomes have been revealed from administrative offices in Sweden.

Despite the fact that guarantees are not satisfied and numerous ERPS ventures are coming up short, IT interests in associations consistently speculations add up to trillions of dollars around the world. In spite of the fact that it is perceived that ERPS have qualities in supporting the operational undertakings of administration accounting, for example, information accumulation and taking care of exchanges, they do not have the refined apparatuses and applications required to help the specialty of administration accounting and control. ERPS have not had the impacts that were expressed by the merchants. Recently, writing has moved far from the view that ERP frameworks envelop all essential capacities to help an association (Rom and Rhode, 2004).

A measured approach may likewise restrict the value of an ERP framework for the firm. Rather a

foundational mentality is proposed furthermore, to consider the general business needs before fusing distinctive modules.

The gathered information from look into on the effect of ERPS on administration accounting and administration accountants is very blended. Bigger ERPS merchants, similar to SAP, Oracle and Microsoft, are currently concentrating on conveying coordinated data frameworks arrangements, for example, Corporate Performance Management (CPM), as another endeavor to address key business issues and the requirement for administration information. The supply side performing artists are asserting that utilizing their answers will move forward organization execution and, particularly, how organizations will enhance their system execution process and, along these lines, "make technique everybody's activity". Solid talk is likewise normal in the dispersion of administration accounting advancements

Accounting is the administration work that tries to furnish the clients with quantitative data. On the other hand, AIS is a data framework that is intended to make the achievement of accounting capacity conceivable.

□ Management of Banks in Jordan needs to enhance investments in IT infrastructure to increase overall effectiveness of AIS. These investments will entail Banks in Jordan convenient, efficient, compatible, facilitating speed. Overall, this will increase competitiveness of Jordanian listed banks allowing them to cope with challenges in global economy.

□ Banks needs to invest in hardware, software and networks equipment, training members of staffs. In this way banks will be able to update their human resources with best practices applicable across the globe.

□ IT applications across AIS has their own distinct challenges which are cybercrime, insecurity and fraud that often scares end customers. With banks in Jordan applying IT on AIS there is a large number of potential threats posed on the infrastructure. In order to overcome these challenges posed by security, there needs to be private-public partnership developed on security and infrastructures.

Private and public banks across Jordan needs to develop infrastructure aimed at promoting a safe environment for all users of AIS such that there are no hindrances incurred by them.

□ Banking regulatory bodies within Jordan needs to develop infrastructures with stipulated standards that banks follow. Banks in Jordan should not be dumping grounds for outdated technological and internet usages. These banks further need to have a R&D infrastructure that allows accomplishment associated with IT in AIS domain for continuous development and growth in the field.

□ There is a growing legal and security threat that is posed by e-commerce and net banking within the industry. Banks with accommodation of IT into AIS are thrown open to a diversified number of threats that they need to overcome for establishing steady growth and development in the industry. Establishment and development of legal codes will enable sustainable growth in the industry coupled with development. The industry through such legal code will further receive greater amounts of impetus for generating more profitability and revenues for the banking sector.

Electronic business (e-business) includes the electronic data trade inside the association, and in addition between the association and the other subjects. Moreover e-business does not comprise just of web organizations or deals and buys on the web, e-business is a significantly more extensive idea which incorporates likewise the web related advances in order to coordinate and rearrange the inside organization exercises, business procedures and Inter link ages-Business advances quickly and its essentialness develops, yet in addition the components that influence it change day by day. In the present exceptionally focused business condition, compelling and imaginative utilization of data frameworks (IS) more, went with data and interchanges innovation (ICT), as their indispensable part, e-business has the possibility to change organizations and additionally to decidedly influence association's execution. IS and ICT enable people to scatter vast volumes of data rapidly and proficiently, share data with a worldwide gathering of people and they might be refreshed effectively. For instance, ICTs may help make an arranged structure for interconnectivity, benefit

conveyance, proficiency and adequacy, intuitiveness, decentralization, straightforwardness and responsibility. These advantages are especially profitable to the administration industry where IS speaks to foundation of effective e-business usage. Primary goal of this paper is to pressure the significance of IS in usage of e-business idea, to be specific through leading business exchanges which are going on 'underneath' e-business. Electronic business (e-business) alludes to the escalated utilization of IS and ICT (particularly Internet advancements) in leading business exchanges and administrations to clients. Most associations in all divisions of industry, trade and government are on a very basic level reliant on their (IS) and would rapidly stop to capacity should the innovation (ideally ICT) that supports their exercises at any point come to stop. In the pre-e-business time, the potential utilization of IS and ICT as an aggressive power in simultaneous conditions can vary amongst ventures and organizations, and can serve to raise distinctive boundaries to new contestants in a market, exchanging costs, item separation, access to appropriation channels, change of value/execution relationship and so on. The new business time introduces the data framework (especially the Internet) as a business spine and a stage for leading business exchanges and other financial exercises, making IS and ICT a key essential for a fruitful e-plan of action. Data frameworks (IS) assumes critical part in current business associations supporting its authoritative proficiency or, in specific situations, encouraging plan of action advancement and change. IS can impact association competitiveness in two different ways; supporting operational effectiveness (IS as a fundamental framework for the present business), or - separating business through plan of action development and business process change.

In the principal part IS improve conduction of business forms in more proficient, speedier and viable way supporting cost initiative technique. For instance, reservation of flight ticket is up to seven times less expensive for an organization, if done by means of their own web-based reservation framework contrasted with counter exchanges. The cost of an e-managing an account exchange is up to 50 times less expensive for the bank contrasted with counter exchange. It is very clear that

exchange data framework furthermore, accounting data framework as their crucial part assumes vital part in executing e-business idea. Likewise, IS may contribute towards productivity, profitability, and intensity upgrades of both between hierarchical and theoretical frameworks furthermore, effective associations oversee IS/IT work in similarly that they deal with their other vital capacities and procedures. Aside from master sentiments and huge number of examples of overcoming adversity, it is important to discover the logical confirmations on the use of exchange and accounting data framework in actualizing E-Business idea.

For Ayad& Ghazi (2017), accounting data frameworks in the Islamic banks, under the mechanical advancement, speak to the column to give the fundamental data to the choice - influencing process and the related outcomes to can be utilized for control purposes and execution evaluation. This data is viewed as a fundamental necessity for chiefs in Islamic banks gave that they are highlighted with attributes that settle on them proper for choice - making. Presumably, these frameworks are influenced by natural factors encompassing banks, regardless of whether at neighborhood or worldwide level. Along these lines, they ought to be produced to have the capacity to give solid data that guarantees the important parameters of security, self-assurance and objectivity. They ought to likewise ascribe the expected attributes to keep up their efficiency. Accordingly, this examination has been set up to assess the effect of accounting data frameworks in the Jordanian Islamic banks, under the current mechanical advancement, by assessing a few guidelines, for example, quality, adaptability, straightforwardness, and unwavering quality. This examination goes for raising the proficiency of these frameworks and making them more fit for giving the proper data to the basic leadership process in a universe of expanding aggressiveness and far-reaching utilization of accounting data frameworks in current present-day methods for data innovation. The structure of the paper is as per the following (Simkin, Norman & Rose, 2014). Initially the primary moved toward meanings of the principal ideas are presented, and afterward the past writing is examined trailed by the destinations of the investigation. In the following area primary speculation are detailed

with giving measurable information about the specimen. At long last the primary outcomes and bearings for additionally investigate are featured.

According to Alrabei (2014), IT intends to collect, process, store, and scatter data. It is viewed as one of the advanced issues that start to mirror the significance of utilizing mechanically handled data to serve a few angles in the society. These innovations prompted lessening the general expenses of Islamic operations (Jones, 2001). It has turned out to be inescapable to recognize elements utilizing data innovation in their gainful and administration exercises those as yet utilizing manual frameworks. Productive accounting frameworks ought to be highlighted with a few qualities, the most critical of which are: framework effortlessness, dependability, and adaptability.

Al-Nuaimi, Mohamed & Alekam (2017) asserts that the Jordanian lawmaker has understood that the change of the keeping money part from manual data frameworks into modernized data frameworks has turned into a pressing need for this segments advancement and presentation into the time of data innovation, Article (92) of the Banks in Jordan Law considered electronic information in saving money cases, as one of the affirmation strategies offered that banks keep a smaller than normal duplicate (microfilm or other) rather than unique books, records, and proclamations and have the first confirmation. Also, section (d) of a similar Article exempted banks utilizing PC or other current innovation gadgets in arranging their money related operations from books association accommodated in the viable Trade Law.

Massdeh, (2016) have examined structures and strategies of assessing the viability of electronic accounting data frameworks and their capability of use, and built up a mind-boggling model to assess the adequacy of these frameworks as far as the innovative, monetary and social perspectives. The investigation has reasoned that, attributes of electronic accounting data frameworks have an alternate hugeness, and can be communicated by quantitative and subjective estimations, and the accomplishment of their utilization is liable to the right choice of the framework segments, including gadgets, projects, databases, and very qualified specialists. Additionally, the examination comes

about indicated that the viability of PC based accounting data frameworks can be spoken to in the fruitful utilization of these frameworks in a way that fulfills the client's prerequisites.

Alrabei (2014) has demonstrated that the most vital attributes that qualify accounting data frameworks as powerful and productive are the precision and speed of handling budgetary information into accounting data, along these lines furnishing administration with the fundamental accounting data on time; furnishing administration with the important data to perform elements of arranging, control, assessment, speed and exactness in recovering put away by and large and clear data when it is required; satisfactory adaptability; general acknowledgment of specialists ;effortlessness, and to be related with other data frameworks in the substance.

A second method of reasoning is that few specialists have called for additionally considers into the zone of administration accounting and control and data frameworks other than ERPS. An administration control and data innovation is a developing and under-inquire about territory inside administration control. They call for more research on how the new advancements make new conceivable outcomes for administration control and how they affect the part of the accounting and controlling capacity. During the time there have likewise been various calls for research and commitments inside the field of AIS. AIS as a field with little effect on either the Accounting or the Information Systems fields. This disappointment of effect is credited to both an absence of intrigue what's more, comprehension of IT and its part from the accounting scholastics, and an absence of comprehension of representing IS scholastics, for an itemized talk on this). This view of AIS, that it exists in the fringe between two beforehand settled fields, is ubiquitous in many commitments to the improvement of AIS. This presumption too carries with it restrictions concerning what the field really is and ought to be. Few significant conclusions that could shape the reason for a proceeded with outline of research and maybe the most problem that needs to be addressed that is advanced is that of importance versus meticulousness. AIS is depicted just like a field overwhelmed by meticulousness at the cost of importance. As a characteristic continuation of this, there is a

methodological predisposition with possibility and financial matters as the overwhelming methodologies. In this manner, this investigation centered on both accounting and IS.

6.3.5 Theme 5: Understandability, Materiality and Objectivity

In the past years organizations across the world have significantly invested in AIS. Such investments help firms to not only cut costs but also become effective and compete strategically (Bader et al., 2017). Information output from AIS needs to be understandable and materially relevant. As a result, an accounting information system should have the capability of taking raw facts which are also known as data, manipulate them, compile them, and finally integrate them into meaningful accounting information.

AIS used in Jordanian organizations are capable of providing information to help accomplish commercial objectives. This agrees existing findings that AIS have a significant impact on all organizational levels such as on the strategic, tactical, and operational levels (Komala, 2017). The information provided by the studied AIS is materially relevant and objective and has an impact functional area such finance and accounting.

6.4 Discussion of Results

It is reasonable to take note that for many years, a large portion of the organizations over the world have fundamentally put resources into the utilization of data frameworks or IS and in fact, it is accepted generally that such interests in the zone of data frameworks will incredibly help such firms to cut expenses as well as wind up noticeably compelling and contend deliberately. A data framework alludes to the use of registering and also correspondence innovation or IT with the goal that organizations are equipped for confronting the developing markets and in this manner adequately fortify the worldwide economy. Data frameworks essentially exist with a point of helping associations adequately achieve or accomplish their destinations. Subsequently an accounting data framework ought to have the capacity of taking crude actualities which are otherwise called information, control them, incorporate them, lastly coordinate them into important

assets that are significant for chiefs or administrators.

Based on the above information, it can truly be concluded that there is indeed a significant impact of IT on the AIS and more so on the listed banks in Jordan. It can also be concluded that the use of IT indeed has had a significant impact on not only the accounting systems of the listed banks in Jordan but also on their organizational performances (Choo & Shahryar, 2013). This is attributed to the fact that in the most recent times, most of the organizations in Jordan and more so listed banks in Jordan have had great desires of staying relevant in the contemporary markets through incorporation of IT into their day-to-day operations. It was noteworthy to observe that the listed banks in Jordan opted to go an extra mile by heavily investing in IT without necessarily being guaranteed of rich returns which is quite definitely a huge and significant risk.

Based on the findings in this research work, it can truly be asserted that during both the implementation as well as the adoption of the IT systems in the listed banks in Jordan, not only the banks were relevant but also other aspects or external factors like beliefs, norms, social control and influences also determined the extent to which IT was adopted in the banking institutions (Glävanet et al., 2010). As a method of adding to the current knowledge, this particular study was aimed at not only educating the managers of the listed banks in Jordan but also aimed at educating the Jordanian government, employees, and other relevant stakeholders. This study will also serve as a platform through which managers in the listed banks in Jordan can be educated regarding this topic and further serve as way of providing essential information the employees of the specific banks on the impact of IT on their specific jobs as well as the manner in which they can effectively adjust to the dynamic changes.

Based on the above information, it is quite evident that the use of IT has significantly stimulated the expansion of most of the banking networks as well as a range of services in the most recent years. It can truly be ascertained that the use of IT has indeed become an important business resource since its absence can lead to poor decision making thus ultimately resulting to the failure of the business

(Eija, 2011). It can truly be ascertained that the use of accounting IT is capable of improving the performance of the listed banks in Jordan. Administration analyzes data about current execution to spending plans, figures, earlier periods, or different benchmarks to gauge the degree to which objectives and goals are being accomplished and to recognize unforeseen outcomes or strange conditions that require development. Similarly, that chiefs are essentially in charge of recognizing the money related and consistence dangers for their tasks, they likewise have line duty regarding outlining, executing and observing their inner control framework. Interior controls regularly revolve around the organization's accounting data framework, which is the essential capacity for moving money related data through an organization. Consequently, interior controls help supervisors to screen and measure the viability of their accounting tasks on execution.

Execution administration has a key part to play in enhancing the general estimation of an association. AIS are frequently the most critical formal wellsprings of data in modern associations. They are intended to furnish all levels of administration with convenient and sensibly exact data to impact on execution administration and enable them to settle on choices which are in concurrence with their association's objectives. Hierarchical execution is a standout amongst the most imperative builds in administration explore. There are two sorts of major inward controls related with the administration of vast firms, especially expanded firms, which importantly affect firm development, these are; vital controls and money related controls. Accordingly, the connection amongst AIS and authoritative execution would be directed by the quality of inward controls. As indicated by the past contention we break down the possibility fit between AIS, administration execution and authoritative adequacy utilizing accounting information, basic leadership and inward control process.

The inward controls of Ethiopian Aircrafts, Nairobi branch office and reasoned that absence of isolation of accounting and caretaker capacities was the best shortcoming of the Branch office. He contended that there is have to bring together money receipts, set up an interior review, isolate

obligations of procurement exercises, and build up interminably stock framework for tickets. It was ascertained that the use of IT in the listed banks in Jordan was capable of enhancing the performance of these institutions through not only the reduction of the operational costs but also through facilitating of transactions among the clients within a similar or even different network. It can also truly be concluded that the use of accounting IT is quite relevant because it helps in the simplification of issues and also in ensuring that there is provision of quality information in the listed banks in Jordan. This is indeed the major reason as to why the listed banks in Jordan are known to spend a significant amount of their time and even financial resources on the application of IT and indeed considered such applications as being a comparative edge in the banking industry which is now quite competitive.

It was quite apparent that each and every organization whether it is public or private, whether it is for profit or even non-profit making organization, whether it is for large scale or even small-scale production require the use of accounting information in order to make wise decisions. However, it is important to note the information needs of each and every organization may vary based on the information that is required by every user. The advent of IT has now made it possible for accountants in the listed banks in Jordan to get at their disposal various tools that can help them in the simplification of issues and provision of quality information for the numerous banks that they are rendering their services to (Gartner, 2010). In this information age, most of the banking institutions are actually finding greater success or failure through having an increased dependence on the management as well as the use of information. It is therefore prudent to ensure that banks have an efficient information system which will enable an effective and efficient use of information in order to give them more competitive advantages.

For an Accounting Information System to be deemed efficient, then it must it should have numerous subsystems which have the capability of working together in order to not only collect, but also process, store, transform, and distribute relevant information that can be used for control, planning,

and decision making of the organization. The use of computers in the banks' information systems is capable of enhancing the efficiency of the information which has been collected and even makes its processing, storage, transformation, and even distribution of such information to become easier. It is quite obvious that the use of IT which broadly implies to the use of computers and other peripheral equipment has incurred significant growth in most of the service industries and more so in banks during the most recent past.

One of the most obvious examples where IT has created a significant impact is the banking industry where various IT related services or products such as electronic payments, internet banking, information exchange, and security investments have no made it possible for banks to provide diverse services to their clients using little manpower. This makes it obvious to note that the use of accounting IT in organizations such as banks is capable of bringing about equal contributions to profits while the mismanagement of the same AIS results in both communication and technical problems. Based on that, such failure can ultimately result in low productivity, loss of confidential and vital data, and even the loss of AIS inventory.

It is quite obvious that there is a significant relationship between the use of the accounting IT's relevance and the production of very high-quality information in the banking sector in Jordan. This is quite true since it was ascertained from the above information that the use of It in AIS helps in the reduction of the operational costs of banking institutions and that it also makes it easier for such institutions to facilitate effective transactions among the clients within similar and even different networks. It can therefore never be denied that advancement in the sector of IT is indeed a necessary idea that can never be ignored in this current era (Greenstein-Prosch& Quick, 2008). There is need for listed banks in Jordan which are also business entities to not only adopt but also embrace new viable technologies that can help them provide excellent and effective business services and operations to their customers (Reza et al., 2013). Listed banking industries in Jordan should not therefore be an exception in the adaptation. The emergence of both computers as well as the internet

has made communication between clients and business firms to become even faster than ever before. The nature as well as the application of the different software for accounting is greatly bound to have a significant influence on the behavior of financial statements for the banks' users (Shanker, 2016). This is quite true since when there is no effective or even timely application of the accounting software in banks in Jordan, by both the auditors and the preparers of the financial reports, this will have a negative effect on the banks' performance before the invention of the online systems. It was quite apparent that the major reasons why most individuals in Jordan and in other parts of the world use the bank services is so that they can gain convenient cash to their services and even ensure that they get interest payments as well as other returns on their investments (James, 2012). Listed banks in Jordan should therefore serve the needs of their customers through provision of systems that enables their clients to effectively check on the account balances, make deposits, and even withdraw cash or make payments in a convenient manner. The system that should be used by the listed banks should thus not only be up to date, but it must also provide accurate information regarding the accounts of their customers (Maik&Hamann, 2013).

The introduction or invention of the accounting IT has greatly enhanced the quality of bank services which are offered to their clients. It is quite evident that most of the listed banks in Jordan have now been able to offer new services due to the impact of IT which has also made the issue of electronic banking to become a reality. This is quite true since the use of electronic banking has indeed become a norm in most of the corporate treasuries that use electronic links (James, 2013). Quite definitely, it is a common fact that most of the listed banks in Jordan have embraced the use of the electronic banking systems that comprises of an array of "automated services" which include among others the cross currency and cross border cash management and account reporting as well as online access to numerous banking services which includes currency dealings, payments, account reconciliation, and trade finance (Yaw et al., 2013).

IT has had a significant impact on how such transactions are carried out. The account transactions

for such banks which may involve the cash deposits and withdrawals, the standing orders, and the transfer cheques which may still require the verification through signatures, the major use of account IT in banking institutions has been generation and control of account information in databases. Unlike before when clients had to physically travel to the initial bank branches where they opened the account in order to withdraw their money, things have changed as a result of IT which has had a positive impact in the AIS of listed banks in Jordan (European Journal of Business and Social Sciences, 2016). Such clients were not only required to fill some specific forms and sign on them but they also had to present to such banks some viable identification documents that were used in the verification processes. However, the use of IT has had a significant impact on the information accounting systems. This is due to the fact that in the contemporary world, there has been the application of online computerized systems for most or all of the client accounts (Nzomo, 2013). This has made it easier for customers in listed banks in Jordan to check their balances, withdraw, deposit money, and even transfer their money at any of the branches in the banks. For instance, the invention of the Automatic Teller Machines or the ATMS have also added more convenience to the clients in that it has enabled many of the clients to execute numerous transactions such as paying bills, carrying out bank transfers between different accounts, and cash withdrawals 24 hours in a day. That apart, the initiation of internet banking has made it possible for most of the customers to execute bank transactions without necessarily leaving their offices or homes (Magloff, 2016).

Before the use of IT and online computer systems in which clients were only required to withdraw money from the account numbers of the branches that they had opened the, it usually took one or even two days for such funds to be received in the account, the use of IT has greatly changed the way in which business bank transactions are done. This is due to the fact that such bank transfers and transactions were manually processed using the clearing house that made use of the paper-based systems or transactions. IT has had a positive impact in the AIS since it has made sure that the each and every transaction that is made by the clients can directly be credited or debited into their

respective accounts regardless of the ATMs or branches that are carrying out the transactions (Keller & Gracht, 2014).

Based on the above information, it is quite apparent that the discussions above effectively highlight numerous vital issues which are associated to the issues of IT and accounting from the contingency theory perspective. It is apparent that the study effectively examined the issues of the unavailability of a “specified empirically study” that emphasized the relationship between the sophistication of IT and the “perceived usefulness” of the accounting information features in the listed banks in Jordan (Linus, 2012). The study appropriately depicted the fact that there was indeed a significant and positive relationship between the sophistication of the information and the perceived usefulness that was attached to the accounting “information characteristics”. It was also quite evident that the Banks in Jordan that were listed on the stock exchange had greatly reached maturity especially in terms of informational sophistication. This is due to the fact that majority of the listed banks in Jordan were making use of the basic applications of accounting such as accounts receivable, accounts payable, general ledger, and even applications that were more advanced.

It was ascertained that the information technologies which were used as both security and control tools for information were actually found in both large and high degree in the banks which had been listed on the stock exchange. The information technologies were expected to highly guarantee the control and security for the data transfer both within and outside the organization. This was achieved through ensuring that vital data for the banks was effectively protected from computer piracy and spying for the benefit of the organizations’ competitors. This ensures that the banks are protected against any forms of competition. From the information above, it can also be noted that the use of control and security tools ought to be dully restricted to only authorize people so that they can not only access it but also justify it and ensure that it is well protected from virus invasion and destruction. Quite evidently, the use of IT and the AIS have a significant impact on the success of the banks which have been listed on the stock exchange in Jordan. Despite the fact that the banks

listed on the Jordanian stock exchange encountered some challenges in effectively running the Accounting Information Systems. Based on the above information, it can also be concluded that the Banks in Jordan that are listed on the stock exchange are also well developed based on terms of IT and even in computerized information systems as compared to some of the banks in the Middle East. However, it can also be truly ascertained that the banks listed on the stock exchange in Jordan were actually less developed as compared to banks operating in developed countries such as in the United States and in Britain especially those which are known to use high computerized and modern information systems.

The use of IT or IT is indeed the bedrock for both national and global development especially in the contemporary society which is rapidly changing (Masry, 2017). This implies that there is need for the humanity to ensure that courageous and bold initiatives are devised so as to address numerous socio-economic issues affecting the society which include among others skilled human resources, reliable infrastructure, as well as other issues involved in capacity building (Joshi et al., 2017). As a result, many of the banks have now put in place updated modern computers that have the capability of aiding them to not only attain communication, but also, multimedia connections on the internet, intranet, extranet. Despite the fact that the use of personal computers has already had a significant impact on the manner in which businesses operate, it is prudent to note that their significant impact cannot be effectively felt both outside and inside an organization until such personal computers become intimately interconnected (Jenkins et al., 2017). Most of the studies depict that in order for the banks listed on the Jordanian Stock exchange to attain an effective and successful communication, then there is need for banks to ensure that all their computers are well connected to the internet using various networks like the Local Area Networks or LANs or even using the Wide Area Networks or WANs (Fathi&ElBannan, 2017).

Putting such networks in place implies that banks listed on the stock exchange in Jordan can be able to simultaneously work on a similar document through either receiving or sending the emails

externally, internally, and even across the world (Frimponget et al., 2017).

Some of the authors indicated that in order to bring the banking services in proximity or close to the clients and also guarantee the opportunity for them to use them at any given time, then there is need for the banking institutions listed on the stock exchange in Jordan to use the online and real time systems (Komala, 2017). This was attributed to the fact that the use of online banking services by such institutions makes it easier for the banking services to become not only closer but also familiar to the customers (Yassin, 2017). IT has made it possible for the listed banks in Jordan to install the most modernized computer connectivity which have ultimately helped them to easily attain enhanced data communication, information and document access, and thus provision of the most “modern banking day” services to the clients (Arunet et al., 2017). As result of that, the number of customers patronizing such banks has greatly increased. Through the use of IT, managers as well as staff of the listed Banks in Jordan are now in a better position of not only searching but also gathering data from numerous source type, effectively analyze them, then ultimately choose the ones which are relevant and ensure that they are organized in a manner which can permit them make effective decisions which have been based on the data (Al Share, 2017). It is a true assertion that the deployment of IT in the AIS has led to a basically improvement of the banks that have listed on the stock exchange in Jordan.

IT has had a significant impact on the AIS of the listed banks in Jordan and this can clearly be evidenced through the huge budget that such institutions have allocated the IT departments (Ntimet et al., 2017). This has seen such banks offering flexible and smooth ways of operating thousands of bank accounts in any of the respective branches regardless of where such banks or even the accounts are domiciled (Banalzwaa& Abdullah, 2017). The use of IT has also made it possible for banks to offer their customers with the electronic based instructions as opposed to the paper-based transactions. The AIS have been used widely by many organizations in order to both automate as well as integrate their business operations (Almdhamet et al., 2017). On the other hand, it was

ascertained that the major reasons as to why banks listed on the stock exchange in Jordan embraced the use of technology in the AISs was so that they can enhance their efficiency as well as increase their competitiveness. (Amin & Aslam, 2017).

It has been explored that globalization has resulted in intense competition among various banks across the world. This is the main reason as to why the world is now actually referred to as being the “global village” that has turned both markets as well as economies in a manner that is alike. The increase in the demand for IT in the banking industry become quite imminent and unavoidable the world offers and Jordan was no exception (Arunet et al., 2017). Invariably, the future is now known to lie heavily in the use of Information and Communications Technology (ICT) banking services and systems. Most of the banks in Jordan have now embarked on the use of IT based banking services and products like the use of internet banking, ATMs, Point of Sale Terminals (POS), mobile banking solutions, human resources solutions, and even computerized “financial accounting and reporting” (Tallaet et al., 2017). The liberalization of the banking licenses let to the development of new generations of Banks in Jordan and this implies that they had to compete for customers.

Based on the liberations which were made (Al-Zoubi, 2017), it was ascertained that some of the significant challenges that were confronting the aspect of e-banking in Jordan were classified into three major types namely poor sight, physical disability, illiteracy and ageing. On the other hand, the “operational constraints” that were known to affect the banks listed on the stock exchange in Jordan included among others the insecurity of the funds which had been transferred, the standardization of the channels, and fraud. The technical constraints were known to be founded on the absence of supporting infrastructures like erratic electricity supplies, the lack of encryption on the Short Messaging Services (SMS), and interdependence (Alshhadat& Stenka, 2017). That part, it was further asserted that some of the problems which can have a significant impact on the adoption of IT by the Banks in Jordan in their AIS were both behavioral and psychological. These included among others the issues of security, consumer awareness, resistance to change, accessibility to the

computers, the costs associated with adopting IT tools into the banks, security, and even preference for services which were personalized.

The issue of IT has indeed had a significant impact on the manner in which listed banks in operations carry on with their AIS (Hwang et al., 2017). This is quite true since it is through the use of IT that the bank processes can be automated, controlled, and information effectively produced through the use of computer systems, software, telecommunications, and even the ancillary IT tools such as the debit cards as well as the Automated Teller Machines (Le et al., 2017). The use of IT in the banking systems of listed banks in Jordan has greatly revolutionized the manner in which banking services are provided to their customers (Loumiotiet et al., 2017). This is quite true since it is true IT that communication technology in which the physical devices as well as the software which links numerous computer hardware elements are effectively made to transfer the data from one part to the other one.

According to some of the studies which were carried out with the aim of ascertaining the impact of automation on the banking services that were offered by the banks listed on the stock exchange, it was realized that the use of electronic banking by the financial institutions had greatly enhanced the services of most of the banks to the clients (Salim & Iskandar, 2017). However, it is prudent to note that the study was actually restricted towards the nerve centers of Jordan and only concentrated on a small number of banks. Upon carrying out a comparative analysis among the new and old banks, it was discovered that indeed, there was an enormous variation especially in the rate at which such institutions adopted or embraced automated services (Fiechter& Novotny-Farkas, 2017). An investigation carried out to ascertain how IT was applied in the Banks in Jordan indicated that the use of IT had indeed become the bank born of service delivery in most of the banks listed on the Jordanian stock exchange.

It was discovered that the Banks in Jordan listed on the stock exchange have actually performed better in regard to the use of IT systems and investment profiles as opposed to the rest of the

country's sectors (Wouters& Sandholzer, 2017). Indeed, it was ascertained that the banks which had been listed on the Jordanian stock exchange tended to have highly invested in the use of IT, had employed well skilled IT personnel, and had even more installed based for the WANs, LANs, and even PCs which had a better linkage and relation to the internet as opposed to other sectors of the country's economy. According to the study that was carried out (Periaet et al., 2017), it was ascertained that while most of the banks across the world had at least the use of one personal computer per one employee, the Banks in Jordan were strongly lagging behind in this issue (Qasimet et al., 2017).

The significant impact that was made by IT in the AIS of listed banks in Jordan were reflected to the ability of the banks to associate well with all the IT aspects such as all types of computers, the communication equipment, and the software which was ultimately used in the creation, storage, transmission, interpretation, and manipulation of information through various forms such as the voice conversations, business data, multimedia presentations, still images, and even the motion pictures (Asongu& Biekpe, 2017). The impact of IT has also been effectively depicted in the ability of the banks to use the "computerized database management systems" or DBMS as well as the "Management Information Systems". An investigation of the impact of IT on the listed banks in Jordan and more so on their AIS in dictated that it was prudent for banking institutions in Jordan to become IT compliant so as to have enhanced performances as well as long lasting client relationships (Resatogluet et al., 2017).

According to the studies which were executed with an aim of ascertaining the impact of IT and more so the use of ATMs on the profitability of the banks, cost savings, and even enhanced service provision for clients, it was discovered that the investing of banks in the use of ATMs by their clients highly reduced the costs of bank transactions, the number of staff that served the customers, and even led to a reduction in the number of the bank's branches (Alawaqleh& Al-Sohaimat, 2017). It was thus truly revealed that investments made in the ATMs by banks listed in the Jordanian stock

exchange highly increased the value associated with the deposit accounts which were actually cheaper in the aspects of the cost of funds as opposed to the other sources of income such as borrowing of funds from other institutions thus leading to the reduction of the general costs of funds. This is a clear indicator that indeed, there was a significant impact of IT in the profitability of the banks listed on the Jordanian stock exchange (Al-dalahmehet et al., 2017).

One of the studies carried out on the impact of IT on the AIS of listed banks in Jordan indicated that for such banks to effectively reap the benefits associated with embracing the use of IT, then there was need for them to carry out more orientation and campaigns to the clients (Maditheti & Gomes, 2017). This was quite essential since not only will it help the banks to create awareness among its customers but it will also ensure that they frequently patronize their facilities. It was further noted that the emergence of IT in the accounting sector is an innovative and beneficial system since most of the entities across the world are greatly supported by their respective AIS especially in the effective management of their operations. This is quite true since accounting is indeed a critical factor for any business entity since through only the touching of an IT button on the keyboard, the accuracy and speed of banking transactions is greatly enhanced (Perkovichet et al., 2017). This is quite beneficially since not only does it enhance the flexibility of such information but it also ensures that such information is kept safe. The use of IT is quite beneficial for the operations of listed banks in Jordan because the application of both computers as well as other relevant equipment in order to store, transmit, retrieve, and even manipulate banking data is now done at lightening speeds (Al-Hawary& Al- Hamwan, 2017). The use of the AIS by banking institutions listed on the stock exchange in Jordan implies that a set of “interrelated subsystems” can effectively work together in order to not only collect and process but to also store, change, transform, and even distribute such information that can be used for the purposes of planning, making decisions, and general control in the banking institutions. Through IT, AIS in the banks can effectively generate reliable and viable data that can be used for decision making processes in the banking sector (Price &Lankton, 2017).

From some of the available studies, it was indicated that over the past few years, organizations across the world have highly invested in the use of IT and information systems (Jones et al., 2017). This is significantly attributed to the fact that the investments in the use of information systems will highly enable such organizations to not only cut on costs but to also compete effectively and strategically. The use of IT has enabled organizations across the world, the listed Banks in Jordan included to effectively apply the use of both computing as well as communication technology to execute their business operations effectively in the wake of emerging markets as well as a strengthening international economy (Al-Enaziet et al., 2017). Ultimately, it was ultimately ascertained that the use of IT and IS exists mainly to aid organizations to accomplish or attain its set goals and objectives. An IS is tasked with the responsibility of taking raw facts which are subsequently manipulated, compiled, and then finally integrated into meaningful information that can be used by managers of an organization for decision making processes (Petrescu et al., 2017). Information systems should be capable of providing guidance to the employees of an organization to better equip them with the relevant knowledge and skills that can make them effectively accomplish the set organizational goals. Indeed, the use of IT in the listed banks in Jordan has a significant impact on all the organizational levels of the bank such as on the finance and accounting departments and even in the human resources and marketing departments (Hosseini et al., 2017). It is quite important for managers of the banks listed on the Amman stock exchange to effectively evaluate the performance of the use of IT and information systems in the banking sector. This is especially important in both the accounting and finance departments of banks because they have a significant impact on the profitability and even returns of such organizations.

It was quite evident from the numerous studies that the advent as well as development of IT and globalization in the contemporary world has been forced to use as well as apply the use of IT and information systems so as they can not only survive but also compete and excel in their respective fields (Ganguli&Guha Deb, 2017). Indeed, there is an “undeniable need” for the information system

practices in the Jordanian workplace so that they can enable their managers to both promote the application of IT and permit them to acquire as well as retain any forms of competitive that they may be having (Agunget et al., 2017).

Based on the studies which were carried out, it was ascertained that it was important for managers at the listed Banks in Jordan to effectively identify how effective the use of IT and systems were in their institutions and also ascertain how they can both shape and promote the employees' capabilities and aid them in the achievement on the organizational goals and objectives (Agunget et al., 2017). Ascertaining the extent at which the employees of the listed banks in Jordan used the IT tools in their AIS was quite important in order to ascertain its impacts (Zutteret et al., 2017). It was further ascertained that there were different kinds of IT tools in the actual world and it is therefore prudent to note all of them make use of software, hardware, and human resources in order to transform all the data resources into vital information products. It is prudent to note that while some individuals use manual information systems, others on the other hand are known to use simple tools like paper and pencils or even machines such as calculators (Francis, 2017).

It is quite apparent that the use of IT has indeed had a significant impact on the Banks in Jordan listed on the stock exchange in that they have become an important part and parcel component for any successful banking institution to embrace in order to succeed (Stiglitz, 2017). It was noted that the use of IT included the use of numerous resources such as hardware which includes the media and machines, the software which comprise of procedures and programs, and people which include users and specialists in order to carry out the inputs, processing, outputs, control, and storage activities which ultimately convert such data resources into viable information products (Momani, 2017). It is actually through the use of IT that banks listed on the Jordanian stock exchange can effectively make use of numerous systems which include among others the Transaction Processing systems, the management information systems, the decision support systems, the executive support systems, the knowledge-based information systems, the office automation systems, and the

electronic information systems (Khan & Islam, 2017).

It is prudent to note that even though information about the implementation of the AIS has been researched comprehensively, present literature depicts that there is slight evidence regarding AIS and the performance measures (Al-Hawary& Al-Smeran, 2017). Indeed, the use of IT on the AIS is capable of having a positive impact on the listed banks in Jordan due to numerous reasons. Apart from the fact that it can help such banks to better adapt to an ever-dynamic environment, it can also help them to have high degrees of competitiveness and smoother flow of information (Wilson &Veuger, 2017). IT enables organizations to have effective intercommunication between the various departments through system interaction. It was also noted that the successful and effectively integration of the AIS in the Banks in Jordan that are listed on the stock exchange are highly depended on the how well the other factors are effectively implemented in order to facilitate their operations (Lugmayr& Grueblbauer, 2017).

It was revealed that banking institutions such as those ones listed on the Jordanian stock exchange were capable of achieving higher performances especially when they were capable of implementing some specific technological developments such as IT tools. It was a genuine observation that indeed, the use of IT had a significant impact on the value of the banks both as businesses and as organizations (Alrabba& Ahmad, 2017). The use of IT enables effective flow of reliable and viable information which is quite crucial in the AIS and in the general success of the organizations, or banks in this aspect. It is important to note that even though the use of IT in AIS does increases the efficiency, performance, and profitability of the banks which are listed on the Jordanian stock exchange, it is also important to note that IT has made a significant impact on the accounting banks listed on the Jordanian stock exchange (Dunne et al., 2017). This is attributed to the fact that it can be used to both develop and computerize systems so that they can effectively track as well as record the financial transactions in the organization.

6.5 Conclusion

An accounting data framework gives precise and auspicious budgetary data for inner administration purposes. While these frameworks can incorporate paper manuals and records, most frameworks in the present business condition are based after accounting programming projects or applications. These frameworks give money related or operational reports to entrepreneurs to decide. An accounting data framework can likewise coordinate and satisfy departmental and vast targets. Focal Information Collection Accounting data frameworks gather data for different purposes in a business. Expansive associations regularly utilize this framework to assemble and sort out money related and other data from various business offices or divisions. An accounting framework can likewise profit associations with a few national or universal areas. This framework takes into consideration the electronic transference of data from numerous sources into a focal area where accountants accumulate and process this information. A few frameworks can likewise assemble data in an ongoing configuration. Accounting directors and administrators utilize a accounting data framework to isolate assignments and guarantee controls are set up for various accounting capacities. Records payable, money due, finance, departmental monetary information, settled resources and obtaining each work under partitioned modules in a propelled accounting framework and request singular taking care of procedures and methodology. Every one of these individual modules feed condensed information into the general record yet take into consideration framework balanced governance in route. Reports can be created from singular modules to guarantee exactness of information before being passed on to an organization's general record. Enhancing the stream of work in singular divisions frequently gets a lift by the usage of an accounting data framework. Offices outside of accounting must see how basic data is prepared through the organizations inside money related data framework for an assortment of reasons. Source records -, for example, solicitations, buy orders, worker cost reports, time cards for finance info, bills and resource procurement frames - should all discover their way from the originator to the accounting division.

Contingent on the product, the accounting framework requires an assortment of data for various parts of the procedure be physically contribution to the framework. This regularly decides the work stream of different offices with respect to handling budgetary information. Systems and procedures that unmistakably depict the required data, the means to process that data and the endorsement procedure, help in lessening excess work and guarantee that the accounting division has the fundamental endorsements to process monetary information.

On a general perspective, it is a bit difficult to measure the benefits and the cost of IT on the performance of an organization. This is because it presents a wide qualitative aspect that cannot be easily measured. Even though deployment of IT has the possibilities of bringing various positive changes in an organization, the whole aspect of familiarizing with the deployed technology has proved to be a major hurdle for organizations. In this regard, business organizations do not have any other alternative other than following up to date trends to make significant investment regarding technology that has the possibility of positively influencing the performance of an organization in the market.

CHAPTER 7: Conclusions, Contributions and Recommendations.

7.1 Introduction

The survey provides statistically significant results. IT has a statistically significant impact on the effectiveness of the AIS, also there is high relationship between variables. The use of IT explains 45.6% of the effectiveness of the AIS. Also, the use of databases has a statistically significant impact on the effectiveness of the AIS, shown as moderate relationship between variables. The use of databases explains 18.9% of the effectiveness of the AIS. Similarly, the use of networks has a statistically significant impact on the effectiveness of the AIS, also the correlation reflects moderate relationship between variables. The use of networks explains 31% of the effectiveness of the AIS. Also, the use of networks has a statistically significant impact on the effectiveness of the AIS and there is a moderate correlation between variables. The use of networks explains 31% of the effectiveness of the AIS. Similar results were noticed for the finance department.

This supports the thesis argument that IT with its various components has a significant impact on the suitability of AIS for the purpose of accounting frameworks. Such a study has not been previously done, making it a contribution to our understand of how to measure IT, databases and networks usage in AIS that is consistent with accounting framework requirements such as relevance, reliability, consistency, comparability, and understandability.

Based on the above information, it can be concluded that there is indeed a significant impact of IT on the AIS and more so on the listed banks in Jordan. It can also be concluded that the use of IT indeed has had a significant impact on not only the accounting systems of the listed banks in Jordan but also on their organizational performances (Choo & Shahryar, 2013). This is attributed to the fact that in the most recent times, most of the organizations in Jordan and more so listed banks in Jordan have had great desires of staying relevant in the contemporary markets through incorporation of IT into their day-to-day operations. It was noteworthy to observe that the listed banks in Jordan opted to go an extra mile by heavily investing in IT without necessarily being guaranteed of rich returns

which is quite definitely a huge and significant risk.

Based on the findings in this research work, it can be asserted that during both the implementation as well as the adoption of the IT systems in the listed banks in Jordan, not only the banks were relevant but also other aspects or external factors like beliefs, norms, social control and influences also determined the extent to which IT was adopted in the banking institutions (Glăvanet et al., 2010). As a method of adding to the current knowledge, this particular study was aimed at not only educating the managers of the listed banks in Jordan but also aimed at educating the Jordanian government, employees, and other relevant stakeholders.

This study will also serve as a platform through which managers in the listed banks in Jordan can be educated regarding this topic and further serve as way of providing essential information the employees of the specific banks on the impact of IT on their specific jobs as well as the manner in which they can effectively adjust to the dynamic changes.

7.2 Summary and Main Conclusions

This study investigated the impact of IT on banks listed on the Jordanian stock exchange, focusing on the hardware, software, and network aspects of IT to determine the qualitative characteristics of AIS that meet the requirements of accounting frameworks. It also determined whether the AIS can distinguish useful information for decision making and its impact on the internal control system that can be used to improve the business management decision making processes. Drawing on accounting theory, the particular qualitative characteristics it focused on are relevance, reliability, consistency, understandability, materiality, objectivity, and comparability of accounting information from IT-based AIS, and whether they provide a faithful representation of business data in AIS to enhance its quality for financial reporting that is consistent with accounting regulatory frameworks.

The research posed a number of questions. What is the impact of hardware on the qualitative characteristics of the AIS? and What is the impact of software on the qualitative characteristics of

the AIS? These results show that the impact of hardware and software on the qualitative characteristics of AIS is significant. It was found that users had a positive attitude to both the hardware and software used in AIS. It was also confirmed that IT has a statistically significant impact on the quality of AIS. This also addressed the third research questions: What is the impact of networks on the qualitative characteristics of the AIS? The fourth research question was: What is the impact of IT on the ability of the AIS to distinguish useful information? The fifth question was: What is the impact of IT- AIS on the internal control system that can be used to improve the decision-making processes? It was found that it is necessary to maintain close and routine control over IT systems and people to ensure quality accounting information provides by AIS. These research questions were examined through the research objectives which have been achieved.

Research objective one was to assess the use of IT in accounting information system to integrate disparate business functions. This was met through the questionnaire using the finance department sample and the three hypotheses. Research objective two was to critically examine the impact of IT on the qualitative characteristics of accounting information system, namely relevance, reliability, consistency, understandability, materiality, objectivity, and comparability for accounting information. This was met through the questionnaire using the IT sample and the three hypotheses. Research objective three and four involved cost savings and improving operational performance and financial disclosure and to examine the impact of IT- AIS on the internal control system that can be used to improve the decision making. These were met using both the IT sample and the finance department samples.

The study findings confirm the hypotheses about the impact of hardware, software, and networks on the quality of accounting information, and reveal a conceptual framework drawing on the variables of the tested hypotheses that enable an assessment of the impact of IT on the qualitative characteristics of AIS in terms of relevance, reliability, consistency, and comparability for accounting information. Thus, the research contributes knowledge about how IT has an impact on

the quality of accounting information in terms of relevance, reliability, consistency, and comparability. The conceptual framework also enables practitioners to assess the use of IT for AIS and to what extent the use of IT in AIS produces significant cost saving, improves operational performance, and financial disclosure. Crucially, it enables assessment of the impact of IT-based AIS on the internal control systems that can be used to improve decision making and effectiveness of Banks in Jordan.

Given the findings of this research, it is quite evident that the use of IT has significantly stimulated the expansion of most of the banking networks as well as a range of services in recent years. It can truly be ascertained that the use of IT has indeed become an important business resource since its absence can lead to poor decision making thus ultimately resulting to the failure of the business (Eija, 2011). It can truly be ascertained that the use of accounting IT is capable of improving the performance of the listed banks in Jordan.

It was ascertained that the use of IT in the listed banks in Jordan was capable of enhancing the performance of these institutions through not only the reduction of the operational costs but also through facilitating of transactions among the clients within a similar or even different network. It can also truly be concluded that the use of accounting IT is quite relevant because it helps in the simplification of issues and also in ensuring that there is provision of quality information in the listed banks in Jordan (Francis, 2013). This is indeed the major reason as to why the listed banks in Jordan are known to spend a significant amount of their time and even financial resources on the application of IT and indeed considered such applications as being a comparative edge in the banking industry which is now quite competitive.

It was quite apparent that each and every organization whether it is public or private, whether it is for profit or even non-profit making organization, whether it is for large scale or even small-scale production require the use of accounting information in order to make wise decisions. However, it is important to note the information needs of each and every organization may vary based on the

information that is required by every user. The advent of IT has now made it possible for accountants in the listed banks in Jordan to get at their disposal various tools that can help them in the simplification of issues and provision of quality information for the numerous banks that they are rendering their services to (Gartner, 2010). In this information age, most of the banking institutions are actually finding greater success or failure through having an increased dependence on the management as well as the use of information. It is therefore prudent to ensure that banks have an efficient information system which will enable an effective and efficient use of information in order to give them more competitive advantages.

One of the most obvious examples where IT has created a significant impact is the banking industry where various IT related services or products such as electronic payments, internet banking, information exchange, and security investments have now made it possible for banks to provide diverse services to their clients using little manpower. This makes it obvious to note that the use of accounting IT in organizations such as banks is capable of bringing about equal contributions to profits while the mismanagement of the same AIS results in both communication and technical problems. Based on that, such failure can ultimately result in low productivity, loss of confidential and vital data, and even the loss of AIS inventory.

7.3 Contribution to theory or knowledge

It is quite obvious that there is a significant relationship between the use of the accounting IT's relevance and the production of very high-quality information in the banking sector in Jordan. This is quite true since it was ascertained from the above information that the use of IT in AIS helps in the reduction of the operational costs of banking institutions and that it also makes it easier for such institutions to facilitate effective transactions among the clients within similar and even different networks. It can therefore never be denied that advancement in the sector of IT is indeed a necessary idea that can never be ignored in this current era (Greenstein-Prosch & Quick, 2008). There is need for listed banks in Jordan which are also business entities to not only adopt but also embrace new

viable technologies that can help them provide excellent and effective business services and operations to their customers (Reza et al, 2013). Listed banking industries in Jordan should not therefore be an exception in the adaptation. The emergence of both computers as well as the internet has made communication between clients and business firms to become even faster than ever before. The nature as well as the application of the different software for accounting is greatly bound to have a significant influence on the behavior of financial statements for the banks' users (Shanker, 2016). This is quite true since when there is no effective or even timely application of the accounting software in banks in Jordan, by both the auditors and the preparers of the financial reports, this will have a negative effect on the banks' performance before the invention of the online systems. It was quite apparent that the major reasons why most individuals in Jordan and in other parts of the world use the bank services is so that they can gain convenient cash to their services and even ensure that they get interest payments as well as other returns on their investments (James, 2012). Listed banks in Jordan should therefore serve the needs of their customers through provision of systems that enables their clients to effectively check on the account balances, make deposits, and even withdraw cash or make payments in a convenient manner. The system that should be used by the listed banks should thus not only be up to date, but it must also provide accurate information regarding the accounts of their customers (Maik&Hamann, 2013).

The introduction or invention of the accounting IT has greatly enhanced the quality of bank services which are offered to their clients. It is quite evident that most of the listed banks in Jordan have now been able to offer new services due to the impact of IT which has also made the issue of electronic banking to become a reality. This is quite true since the use of electronic banking has indeed become a norm in most of the corporate treasuries that use electronic links (James, 2013). Quite definitely, it is a common fact that most of the listed banks in Jordan have embraced the use of the electronic banking systems that comprises of an array of "automated services" which include among others the cross currency and cross border cash management and account reporting as well as online access

to numerous banking services which includes currency dealings, payments, account reconciliation, and trade finance (Yaw et al., 2013).

It is prudent for all and sundry to note that even though the listed banks in Jordan can have thousands of branches located in different geographical locations each performing numerous transactions, IT has had a significant impact on how such transactions are carried out. The account transactions for such banks which may involve the cash deposits and withdrawals, the standing orders, and the transfer cheques which may still require the verification through signatures, the major use of account IT in banking institutions has been generation and control of account information in databases. Unlike before when clients had to physically travel to the initial bank branches where they opened the account in order to withdraw their money, things have changed as a result of IT which has had a positive impact in the AIS of listed banks in Jordan (European Journal of Business and Social Sciences, 2016). Such clients were not only required to fill some specific forms and sign on them but they also had to present to such banks some viable identification documents that were used in the verification processes. However, the use of IT has had a significant impact on the information accounting systems. This is due to the fact that in the contemporary world, there has been the application of online computerized systems for most or all of the client accounts (Nzomo, 2013). This has made it easier for customers in listed banks in Jordan to check their balances, withdraw, deposit money, and even transfer their money at any of the branches in the banks. For instance, the invention of the Automatic Teller Machines or the ATMS have also added more convenience to the clients in that it has enabled many of the clients to execute numerous transactions such as paying bills, carrying out bank transfers between different accounts, and cash withdrawals 24 hours in a day. That apart, the initiation of internet banking has made it possible for most of the customers to execute bank transactions without necessarily leaving their offices or homes (Magloff, 2016). Before the use of IT and online computer systems in which clients were only required to withdraw money from the account numbers of the branches that they had opened the, it usually took one or

even two days for such funds to be received in the account, the use of IT has greatly changed the way in which business bank transactions are done. This is due to the fact that such bank transfers and transactions were manually processed using the clearing house that made use of the paper-based systems or transactions. IT has had a positive impact in the AIS since it has made sure that the each and every transaction that is made by the clients can directly be credited or debited into their respective accounts regardless of the ATMs or branches that are carrying out the transactions (Keller & Gracht, 2014).

7.4 Contribution to practice

It is quite apparent that the discussions above effectively highlight numerous vital issues which are associated to the issues of IT and accounting from the contingency theory perspective. It is apparent that the study effectively examined the issues of the unavailability of a “specified empirically study” that emphasized the relationship between the sophistication of IT and the “perceived usefulness” of the accounting information features in the listed banks in Jordan (Linus, 2012). The study appropriately depicted the fact that there was indeed a significant and positive relationship between the sophistication of the information and the perceived usefulness that was attached to the accounting “information characteristics”. It was also quite evident that the Banks in Jordan that were listed on the stock exchange had greatly reached maturity especially in terms of informational sophistication. This is due to the fact that majority of the listed banks in Jordan were making use of the basic applications of accounting such as accounts receivable, accounts payable, general ledger, and even applications that were more advanced.

It was ascertained that the information technologies which were used as both security and control tools for information were actually found in both large and high degree in the banks which had been listed on the stock exchange. The information technologies were expected to highly guarantee the control and security for the data transfer both within and outside the organization. This was achieved through ensuring that vital data for the banks was effectively protected from computer piracy and

spying for the benefit of the organizations' competitors. This ensures that the banks are protected against any forms of competition. From the information above, it can also be noted that the use of control and security tools ought to be dully restricted to only authorize people so that they can not only access it but also justify it and ensure that it is well protected from virus invasion and destruction. Quite evidently, the use of IT and the AIS have a significant impact on the success of the banks which have been listed on the stock exchange in Jordan. Despite the fact that the banks listed on the Jordanian stock exchange encountered some challenges in effectively running the Accounting Information Systems.

Based on the above information, it can also be concluded that the Banks in Jordan that are listed on the stock exchange are also well developed based on terms of IT and even in computerized information systems as compared to some of the banks in the Middle East. However, it can also be truly ascertained that the banks listed on the stock exchange in Jordan were actually less developed as compared to banks operating in developed countries such as in the United States and in Britain especially those which are known to use high computerized and modern information systems.

This will deliberate on discussing various theories developed by the scholars regarding system integration that has been developed by various scholars. On this basis, this literature review section will aim at expounding on various research works that have been conducted regarding the impact of IT on the AIS among various bank listed in Jordan. In particular, the literature review will evaluate on the extensive research that have been conducted on the impact of IT with a special respect to AIS among the listed banks in Jordan such as Bank of Jordan, Capital Bank, Cairo Amman Bank, Jordan Kuwait Bank, Invest Bank, Arab Jordan Investment Bank, Jordan Ahli Bank and The Housing Bank of Trade & Finance (Rahman, 2016). To be precise, this literature review section will majorly focus on deliberating on the previously conducted research work on the research topic. Therefore, it will delve much deeper into the issue of contention by focusing on the related subjects brought about by other researchers in their work. Furthermore, I have enriched my knowledge on

the issues of IT and AIS to have a concrete understanding of its application amongst banks in Jordan (Obeidat, 2016). To achieve this, the literature was comprehensively reviewed including standard textbooks, scholarly articles, and other relevant resources. By going through various scholarly articles on the impact of IT on AIS, I have developed a better understanding of the subject matter that need to be deliberated and expounded in this paper. Therefore, I aim at critically evaluating and appreciating every article to establish their similarities and the manner in which the respective research has been expounded.

7.5 Recommendations

The discussion in this section is based on the statistically significant results. By relating to existing literature, it proposes ways in which banks can make better use of IT systems to improve the suitability of AIS that are consistent with accounting frameworks. However, it should be noted that the ‘recommendations’ are discursive rather than immediately practicable. Notwithstanding this they will certainly be useful to banking professionals both in IT and accounting fields.

AIS can be an appropriate tool when it is correctly interlinked with IT Systems in a bank such that it helps in the effective management and control of banks financial and economic operations. This is further alluded to the fact that the proliferation of technology has increased the adoption and incorporation of IT in the operation platform of various organizations such as banks. However, it is imperative to note that the use of AIS plays a significant role in the daily operations of any organization regardless of whether is for the purposes of profit making or non-profit making organization. Essentially, AIS entails an integration of various related components assembled together for the purpose of collecting ordinary data, information and other significant raw data that can be transformed for various objective reasons deemed appropriate by an organization. Basing on the available extensive literature that has been documented, it is clear that accounting is defined by aspects such as information system, source of financial information and the language adopted by the business. In this essence, information is a crucial resource when it comes to the AIS because it

provides an organization with the ideal opportunity to take actions aimed at ensuring that an organization is on the right path of meeting all its significant obligations for normal operations. Therefore, success is dictated by the established association regarding the design of the AIS. It is vital to acknowledge that listed banks in Jordan have been at the forefront of deploying the use of AIS to interlink their banking services and the operation of departments aimed at boosting efficiency (Krishan, 2017). Besides, these have played a major role in the satisfaction of customers by being able to meet their needs effectively within a short timeframe and with minimal efforts. Going the proliferation of technology globally, accounting is a significant discipline that has also conformed to the need to embrace technological change through the AIS.

However, there is need for the financial and banking sector to expand its development with regard to information systems that are integrated in the AIS. This is majorly due to the assertion that AIS has the potential of helping any given organization to keep in line with the emerging development. Further, this ensures that there is maximum benefit accrued to an organization with regard to the services, facilities and the resultant advantages due to the emergence of technology and its use to enhance the delivery of services to customers. The adoption of AIS among most Islamic Banks in Jordan is deemed to provide appropriate information that can be deployed for decision making purposes as well as executing control and appraisal. Despite this, it has been articulated that the AIS deployed in Banks in Jordan should be effectively developed in line with appropriate IT standards to ensure and safeguard the security of the information resources under contention. For the last ten years, wide technological and economic changes up to including accounting have been witnessed globally. Such developments have necessitated the need to adopt AIS especially amongst the Banks in Jordan (Uyar, &Kuzey, 2017). Even though IT has led to significant and rapid changes in contemporary environment of conducting businesses, it is asserted that the banking sector should be highly responsive to such changes considering that there is intense competition among various elements in the banking sector both internationally and locally.

Alternatively, it is imperative to note that IT has led to significant development in the contemporary business environment, especially the banking sector that is characterized by rapid development. Basing on this assertion, it is articulated that it is necessary for the banking sector to expand broadly with regard to this by developing the folds of its information systems with respect to the AIS. This will hugely help to adjust to massive development being witnessed, thus leading to the realization of optimum benefit that will be provided by technology due to the improved services provided by the financial banks to their clients. On a similar note, it is asserted that deployment of IT in the AIS also has an impact of upgrading the foreign competitiveness of the banks in Jordan. Correspondingly, it is imperative to note that the AIS in Jordan's Islamic banks in this phase of technological development boldly represent a crucial pillar tasked with the responsibility of providing crucial information that can be utilized for the purpose of making decisions. Besides, the stored information can also be used for the purposes of performance appraisal and controlling the routine operations of a financial institution. This is attributed to the assertion that AIS have the capacity of holding crucial information utilized by Islamic banks. For this reason, IT should be seamlessly incorporated with the AIS to ensure that they meet the required threshold to maintain and uphold efficiency. It is for this reason that many researchers have deliberated their efforts towards evaluating the impact of AIS on Banks in Jordan with a special respect to IT. This has been achieved specifically by evaluating aspects such as reliability, simplicity, flexibility, and quality.

Therefore, in Jordan, much emphasis has been channeled towards the use of IT to boost the efficiency and the effectiveness of Accounting Information Systems. This is attributed to the reason that IT has an impact of making the AIS to function and operate optimally by providing the crucial information for decision making, thus helping most listed Banks in Jordan to adjust to the stiff competitiveness in the industry. This also facilitates widespread use of AIS on various IT platforms. As a matter of fact, AIS is defined as a specifically correlated group of components tasked with the responsibility of receiving, processing, collecting, saving and distributing essential information for

the purpose of controlling and facilitating the decision-making process in an organization. Alternatively, AIS also helps workers and the managers to examine any underlying problem within an organization and create new products based on the available information possessed by an organization. On the other hand, IT is electronic means that is deployed to process, collect, store and disseminate crucial information (Peppard & Ward, 2016).

On this basis, it is understood to be a modern phenomenon considering that there has been an increase in the use and adoption of technologically processed information for the purposes of serving various aspects at the societal level. Therefore, its deployment in line with the AIS among the listed Banks in Jordan has helped in the reduction of the operational costs with regard to Islamic banks operations. Given the increasing use of IT, it has become a little bit challenging to distinguish those entities that use IT for service and productive activities as well as those that use it as an alternative for manual systems. For this reason, it is articulated that efficient AIS are supposed to be flexible, reliable, and simple.

On a different note, it is important to note that legislators in Jordan have realized that the transformation of the banking sector from the traditional manual information systems to the current computerized AIS has become an urgent necessity for all the players in the banking industry, especially the listed Banks in Jordan. This has prompted the introduction of Article (92) of the Jordanian Bank Law that recognizes electronic data in most banking instances. Therefore, it is asserted by the article that financial banks operating and listed in Jordan need to adopt the use of AIS by using the mini-copy as opposed to other original records, books and statements. Despite this, (Chae, 2014) has extensively deliberated on various techniques and forms that can be deployed to evaluate the effectiveness of any given AIS as well as the potential development and utilization of a complex model for the purposes of evaluating the effectiveness of the designated AIS with respect to social, economic and technological aspects. On this basis, it has been concluded by the study that the characteristics possessed by an AIS may have diversified significance. Therefore, it can be

expressed both qualitatively and quantitatively. On a similar note, it is articulated that their use is strictly subject to the appropriate and correct selection of system components such as programs, devices, databases as well as highly qualified employees. Besides this, the results obtained by the study asserts that the effectiveness of any computer-based AIS can appropriately be represented in the use of a designated system in a successful manner meeting all the laid down requirements for users.

According to Haleem & Raisal (2016), speed and accuracy with regard to processing a given set of financial data into accounting information are the key components that can be used to establish whether an AIS is efficient and effective. This is attributed to the assertion that effectiveness and the efficiency of a given AIS will provide the management with the relevant accounting information for any purpose on time, thus ensuring that the management have access to vital information necessary for performing functions such as controlling, planning, evaluation, accuracy and speed when retrieving the stored descriptive and overall information. Furthermore, a study by Taber, Alaryan & Haija (2014) is one of the studies that have been conducted with a special focus on the Jordanian environment. On this basis, the study established that AIS were immensely affected by mechanical data processing used by Jordanian Custom Department. In this essence, it should be noted that the mechanical processing of data is attributed to the large requirements that have been set up for the purpose of international auditing standards that conform to the analysis of processing that occur in a mechanical environment and the study of the AIS. On an additional note, it has been established by the study that output that are used in the AIS should fulfill needs and the requirements of the designated decision makers.

Furthermore, Uyar, Gungormus&Kuzey (2017) in the conducted research asserts that the evaluation of AIS deployed by the Jordanian Islamic banks is vital when it comes to expanding their influence and upgrading their uses for the purpose of realizing strategic competitive advantage characterizing the operation of a bank. In this regard, it is emphasized that AIS are considered to be organizational

and technological channels that can be integrated with substantive management needs of the Islamic banks. As such, they have the capability to maximize the efficiency with regard to the intellectual capital by specifically connecting best brains of persons have high skills in IT. On the other hand, Uyar, Gungormus, &Kuzey (2017) articulates that there are various reasons that can be attributed to the fact that most Jordanian Islamic banks have been developing their respective AIS as well as increasing their investments in IT. As such, it is emphasized by author that banks should develop various e-commerce methods aimed at making them remain relevant in the market through the internet. As a result of this is pointed out that by investing in IT and by extension the AIS, banks will be able to reduce the costs incurred when rendering banking services. Besides this, it also helps banks to cope with both international and local competition, fulfilling the needs of clients and improving the delivery of services to customers.

Ostensibly, Uyar, Gungormus&Kuzey (2017) has extensively studied the possibilities of Jordanian Islamic banks to continue competing and operating in Jordan while not utilizing IT in the execution of their routine activities. Therefore, it has been established through the conducted study that IT plays a significant role in the optimal operation of AIS deployed for daily operation of Banks in Jordan. Besides this, it has also been pointed out that Banks in Jordan cannot carry on executing their routine operations in the absence of IT and by extension AIS. This implies that IT is core to the improved service delivery and seamless operation of banks. On a different perspective, Ibrahim (2016) has lengthily discussed economic justification and rationale with profit distribution practices among the financial institutions in Jordan. In this case, the desired arrangement of fund pools was analyzed and mobilized with regard to the respective funds under consideration with the aim of upholding the dictates stipulated by Sharia laws with regard to the distribution of profit by the financial institutions that complied with the designated sharia laws. The framework considered for the study entailed the principle of fair and true view of financial information, justice to humankind and the adoption of fund accounting approach in the whole process of distributing profit. On this

basis, it is established that there are unjustifiable practices that are perpetrated when it comes to distributing the accrued profits by various practitioners in the economy. As such, the research has deliberated on providing a guideline aimed at ensuring and upholding fair play with regard to business activities conducted by financial institutions complying with the sharia laws.

Besides this, Komala, (2017) in his study deliberates on evaluating the performance of AIS with regard to behavioral and human dimensions in Jordanian shareholding industrial companies. In this essence, it is apparent that the AIS are highly effective when it comes to achieving the set objectives and also flexible in the sense that improvements and amendments can be implemented to enable them adapt to user needs and the surrounding environment. On an additional note, it is pointed out that the AIS can also be integrated internally to perform different functions with other systems. However, all this should be governed with procedures and rules aimed at supporting their accuracy and making them highly reliable when it comes to carrying out various tasks in the environment of a financial institution. Observably, this study is conspicuously different from other previously conducted studies in the sense that it addresses AIS and by extension IT among Banks in Jordan holistically. This is based on the premise that the output of AIS represents an engine tasked with the responsibility of running potential development regarding the quality of the offered banking services given that they have a significant impact on the decision-making process at the level of investors and the management or even the requesters of various banking services. Furthermore, it is pointed out that the use of IT, especially with regard to e-commerce has led to the emergence of various challenges faced holistically by banks with respect to their AIS. Besides this, it has been articulated that AIS serves as the backbone of information systems deployed by Banks in Jordan. This is attributed to the assertion that they provide crucial accounting information that summarizes the operations and the events carried out in a bank with any given specified span of time. Therefore, this helps in the provision of reasonable results that may be necessary when it comes of effective decision-making process by the designated management in a financial institution.

In the article *The Effect of Applying Accounting Information System on the Profitability of Commercial Banks in Jordan*, Lu'ay& Abdel-Rahman (2012) opines that financial banks have remarkably expanded their functions and work to the new aspects that have emerged due to the diversity of banking services and business globally. For this reason, it is articulated those banks have changed their strategies by adopting the use of AIS to provide expected returns and the funds for the clients, thus helping them to increase their returns. Despite this, it is essential to note that the application of AIS have advanced and evolved due to proliferation of technology globally. Therefore, Jordan is one of the states globally whose banks have incorporated the use of AIS. As such, it is being deployed to help to provide data and information deemed suitable for variables in financial and economic market globally. Besides, it helps in the provision of crucial financial information to banks for accounting purposes as well as for the sake of decision-making, controlling and planning. Besides this, Sori (2009) examined the use of AIS by ZBMS Sdn. Bhd as well as its contribution to the organization's strategic roles and management. In this regard, it is articulated that the ZMBS, a construction company registered in Kuala Lumpur used the automated AIS known as "Contact Plus-Financial &Project Accounting". Therefore, this greatly helped the company in decision-making process with regard to various individuals that were involved in running the operations of the company. On the other note, Xiang &Yin (2011) asserts that the environment for accounting has greatly changed due to the revolution in modern IT due to the assertion that traditional systems for accounting information does not have the capacity the satisfy the personalized needs and the diversity of enterprise stakeholders. On this basis, it has been pointed out that there is need to introduce event vouchers in cases of operational process and economic transaction basing on the contained accounting and event information.

Moreover, Seif & No fan (2016) in the article *Impact of IT on Competitive Advantage in Jordanian Commercial Banks. Accounting Information System Effectiveness as a Mediating Variable* points out that AIS plays a crucial role in providing decision makers with credible information that can be

utilized for making informed administrative decisions. On this basis, it is emphasized that the AIS helps in supporting and rationalizing economic decisions which may have a significant impact on the wealth and the resources of communities. On a different perspective, it has been made clear that accounting system is closely related to other core administrative processes, given that it provides a platform for satisfying the management requirements of an organization.

There are other extensive researches on the impact that has been caused by the accounting data frameworks in the vast majority of the Banks in Jordan in light of the contemporary innovative improvements through the assessment of some of models like unwavering quality, adaptability, quality, and straightforwardness of such frameworks. The exploration will point raising the productivity of such frameworks through influencing them to wind up noticeably more equipped for arrangement of fundamental data to the procedure of basic leadership in the cutting-edge world that is set apart with firm rivalry and a sweeping utilization of AIS in the present contemporary data innovation implies (Tayeh, Al-Jarrah, & Tarhini, 2015). Data frameworks is characterized just like a "corresponded gathering" of parts that are entrusted with the obligation of gathering, accepting, handling, sparing, and conveyance of data that is utilized as a part of offering backing to the procedure of basic leadership and control in a particular association. Notwithstanding that, the utilization of data frameworks is very vital in preparing foundations since it helps the two laborers and administrators in such associations to adequately analyze the issues confronting their associations and, in this manner, grow new items and administrations that will help in the settling of such issues. Then again, data innovation is viewed as the electronic route through which data is gathered and prepared as well as put away and spread to applicable or fitting beneficiaries. Data Technology (IT) is therefore viewed as being one of the contemporary issues that are known to profoundly portray the significance of utilizing "innovatively prepared data" in serving various societal viewpoints.

The utilization of data innovation in the AIS and all the more particularly in the banks in Jordan has

prompted the diminishment of the general expenses of the Islamic operations in this way making it very evident and simple for one to separate associations utilizing data innovation in their creation administrations activities and those which are as yet utilizing the manual frameworks. Accounting frameworks that are esteemed to be effective are known to be set apart by various qualities and these incorporate among others framework unwavering quality, adaptability, and straightforwardness.

Different investigations did were of the view that there was diverse criticalness in the attributes related with "mechanized accounting data frameworks" can genuinely be communicated through both subjective and quantitative estimations and along these lines the accomplishment of their application is typically subject to the suitable determination of framework segments that incorporates among others the projects, gadgets, database, and also laborers who are profoundly qualified. For the accounting frameworks to be considered as being both productive and compelling, at that point their speed of handling and additionally their exactness of evolving preparing "monetary information" into accounting data ought to be very quick keeping in mind the end goal to give an association's administration the significant accounting data on a convenient way (Lutfi, Idris&Mohamad,2016). Notwithstanding that, for example, framework ought to have the capacity to give the association's administration the important data that can empower it to successfully play out the speed, exactness, control, and arranging capacities in a convenient way and guarantee that there is simple recovery of put away data at whatever point it is required.

There is critical need to guarantee that there is an assessment of the PC based data frameworks which are utilized as a part of the Islamic banks in Jordan. This is very helpful in light of the fact that it will empower such banks to overhaul their utilizations as well as extend their own particular impacts with the goal that they can without much of a stretch accomplish the "key upper hands" that are very distinct for any saving money foundation. This is very genuine on the grounds that the utilization of automated frameworks shapes the authoritative and innovative reason for more advances and in addition savvy data frameworks to end up noticeably coordinated with the

substantive needs of the majority of the Banks in Jordan (Melhem& Saleh, 2016). In fact, there are various reasons in the matter of why the vast majority of the Banks in Jordan have begun to build up their accounting data frameworks and in addition guarantee that their interests in electronic correspondences and additionally innovation are improved.

It is of incredible advantage to take note that the utilization of accounting frameworks by a portion of the recorded banks in Jordan drive the potential for advancement and guaranteed that there is arrangement of keeping money benefits that have huge impact not just on the procedure of basic leadership in such banks yet in addition at financial specialist and administrative administrations and also requesters of managing an account administration. It is basic for one and all to end up noticeably mindful that the utilization of data innovation particularly in web-based business has included noteworthy difficulties all banks and in addition on their frameworks of accounting to be particular. For a portion of the banks in Jordan, the issue of accounting data frameworks has been viewed just like the foundation of the data frameworks in the majority of the banks. This is ascribed to the way that AISs are known to exhibit accounting frameworks that are equipped for outlining the operations and occasions which occurred in the bank hence giving both sensible and levelheaded outcomes that can empower them to settle on hierarchical choices successfully.

Accounting data frameworks have been utilized generally by various associations over the world to both computerize and incorporate their individual business operations. The significant points with respect to why a portion of the recorded banks in Jordan receive the utilization of Accounting Information frameworks are that they need to improve their business effectiveness as well as need to upgrade their intensity. One of the subjective trademarks that are related with a particular Accounting Information System is that it ought to be successfully kept up in view of the inner control arrangement of a particular association.

It is very evident that the utilization of AIS in Banks in Jordan is of awesome noteworthiness and significance since it helps in the readiness of value accounting data for various clients inside and

outside such associations. It in this way can genuinely be found out that the use of data innovation in reality significantly affects the general operations of Banks that have been recorded on the Jordanian Stock Exchange. It is hence essential for such foundations or associations to viably appreciate the part which is played by innovation in their separate associations and furthermore comprehend the part that it plays on their authoritative procedures. This examination paper will look to show that any accounting framework that is all around upheld by a viable data innovation framework is undoubtedly a fundamental necessity for an association's best administration particularly in the contemporary business conditions. That separated, it is indispensable for managing account foundations in Jordan to wind up noticeably mindful that the nature of any accounting data is exceedingly relied upon the uprightness of its accounting data frameworks as well as on its connection or relationship with other pertinent business regions. The utilization of Integrated Business Applications or IBA is very basic on the AIS in Jordan since it helps in the expansion of significant worth to such business ventures.

The application or utilization of the AIS has been very much bolstered through significant IT is very useful for recorded banks in Jordan since it brings about the minimization of accounting expenses and generation of data. It is additionally very helpful for such firms since it not just prompts sparing of vitality and time yet it likewise brings about an expanded trust in the accounting data that is being utilized by such firms by their important partners. Truly, the utilization of accounting data frameworks is ordinarily seen and discovered through the improvement of data innovation. In that viewpoint, it is not bizarre to take note of that a portion of the study comes about over the world are known to delineate that a portion of the associations change or adjust their accounting data frameworks, for example, in the cost accounting field with a specific end goal to react to the advancement of new data and correspondence advances and changes in the earth. It is judicious to take note of that comparative changes have likewise happened in the administrative accounting field also. It's a well-known fact that that a portion of the "observational review comes about" in Jordan

portray that a portion of the ensured accountants high associate the utilization of data technology.

The utilization of accounting data is very gainful due to the part that it plays in supporting various business choices in the recorded banks in Jordan. Then again, it is imperative for all sundry to take note of that the across-the-board application or utilization of data innovation in the recorded banks in Jordan extraordinarily upgrades their accounting capacities along these lines making them to end up plainly proficient as well as viable in supplementing of accounting related data. Note that PC based accounting frameworks, for example, the AIS encourages clients to influence more exact announcing and furthermore to process a lot of hierarchical exchanges. It likewise brings about creation of more important detailing that is utilized for examination. In any case, despite the fact that various advantages have been credited to the utilization of AIS, it was learned that little and additionally medium undertakings or SMEs have been known to fall behind on the utilization of Accounting Information frameworks. That, accounting data is imperative for business substances in Jordan since it empowers them to deal with any short-range issues. This is on account of it gives hierarchical directors pertinent data that can both help the control and also checking of capacities in various basic office, for example, costing, use, income.

The money related employment of any accounting data framework (AIS) in any association is for the capable administration of hierarchical monetary resources which incorporates among others stock, criticism, and different resources that can be utilized as a part of the association of Returns On Investment (ROI) and in addition the aggregate an incentive for the offers. The accounting data frameworks for an association, for example, a bank are entrusted with the duty of testing the income and the advantages of the bank and getting to of its outer data. It would thus be able to genuinely be stated that both the monetary and accounting data frameworks in an association are the ones that can adequately store an organization's money related resources and even furnish it with "long haul conjectures". Using data innovation, recorded banks in Jordan can gather and record as well as equipped for putting away and dealing with information keeping in mind the end goal to give

essential data to the bank's chiefs utilizing either propelled innovation or even basic frameworks. (Romney & Steinbart, 2012)

Besides this, accounting data is additionally fit for "encouraging long range key arranging" for the greater part of the business firms which are running in a domain that is profoundly unique and focused. In the contemporary world, the utilization of Information innovation designs a coordinated and also concentrated part in the way in which a large portion of the accounting data are executed. The significance that is related to the utilization of IT to listed banks in Jordan has been viewed just like the best method for upgrading most if the accounting capacities in such associations. The proper or successful utilization of IT in recorded banks in Jordan significantly affects them since it helps in guaranteeing that there are exact and opportune accounting reports and in addition other fundamental budgetary data for the supervisors of an association with respect to the effects or impacts of their basic leadership process and additionally the business operations comes about on the execution of the firm.

Alternatively, before making a basic examination on how the utilization of data innovation affects the accounting data frameworks of a portion of the recorded banks in Jordan, it is judicious to find out a portion of the key qualities of such accounting data.

It is reasonable to take note that for many years, a large portion of the organizations over the world have fundamentally put resources into the utilization of data frameworks or IS and in fact, it is accepted generally that such interests in the zone of data frameworks will incredibly help such firms to cut expenses as well as wind up noticeably compelling and contend deliberately. A data framework alludes to the use of registering and also correspondence innovation or IT with the goal that organizations are equipped for confronting the developing markets and in this manner adequately fortify the worldwide economy. Data frameworks essentially exist with a point of helping associations adequately achieve or accomplish their destinations. Subsequently an accounting data framework ought to have the capacity of taking crude actualities which are

otherwise called information, control them, incorporate them, lastly coordinate them into important assets that are significant for chiefs or administrators. (Wilkinson, etc, 2000)

Great accounting data frameworks utilized as a part of Jordanian associations, for example, banks should in this way be equipped for giving direction to the workers of the association with the goal that they can be better aided the achievement or consummation of their set objectives or destinations. The utilization of Information Systems for sure significantly affects every single authoritative level, for example, on the vital, strategic, and operational levels. Then again, it is additionally critical to take note of that IS likewise significantly affect all the association's practical ranges, for example, in assembling and generation, in HR, in back and accounting, and even in fund and accounting. Amran, Rahman, Yusof& Mohamed (2014) opines that it is very basic to complete an assessment on the effect of Information innovation on the AIS on recorded banks in Jordan since it will give fundamental data that will be used by organization's clients, representatives, and chiefs for the general advantages of such an association. Such data is particularly very essential and gainful in both the accounting and back useful regions of money related associations, for example, banks since such capacities are equipped for influencing both the profits and the benefits of such associations. It is very vital for this examination concentrate to reveal every one of the sorts of the automated data frameworks and in addition the data innovation that is utilized as a part of the Jordanian managing an account division. This is credited to the way that the everyday operations of such banks is exceedingly depended to a bigger degree on the accessibility, uprightness, exactness, and unwavering quality of data which is the key focus of all the mechanized data frameworks on the planet.

It is critical to take note of that the appearance and also the advancement of data frameworks combined with globalizations have constrained a large portion of the Jordanian associations and in addition others on the planet to utilize and apply the utilization of information.

To conclude, it is evident that all these articles have played a significant role in helping me develop

my literature review on the impact of IT on AIS, specifically focusing on the listed banks in Jordan. By evaluating the previously conducted study, I have been able to enrich my understanding regarding the respective underlying assignment as well as identifying prospective areas that can be expounded for further research regarding the impact of IT on AIS in Banks in Jordan.

7.6 Limitations recognized

This investigation has some limitations. In the first place, it was problematical to gauge the level of the authoritative adequacy of the organizations in the Banks in Jordan with restricted subjectivity. The scholar depended on survey reactions to gauge the authoritative adequacy of the organizations under investigation. In addition, time was restricted. Maybe other information accumulation strategies, for example, auxiliary information examination and meetings or focused and personal correspondence would have been utilized and the objective populace would have been extended to incorporate more organizations.

The key limitation of the study research is to collect the reliable adequacy of the banks in Jordan. Finalize the strategies and method for the research is complicated. Also, the time was also the key problem for the completing the research.

Specifically, the chi square test may be incorrectly misinterpreted. Franke et al. (2012) argue that researchers may inadvertently misapply the results of chi-square tests by ‘over interpret’ or ‘incorrectly interpret’ the results. This results in statements with limited or no statistical support based on the analyses preformed. Using their suggested strategies such misinterpretation and over statement is avoided in this research. They also recommend ensuring that each hypothesis is treated independently to ensure appropriate interpretation of the Chi Square results, which has been done in this research. Additionally, it should be noted that an individual survey is not good at following trends over time. Consequently, changes in the Jordanian banking sector may not be shown in the results of this research.

7.7 Further Research

In light of the findings and recommendations of the current study, the researcher proposes the following further research:

To study AIS of both the industrial and service sectors by providing an appropriate tool to collect data on the levels of IT applied in each sector because the researcher is unable to measure technology levels in each of these sectors.

Taking every dimension of the current study, and expanding it, in order to determine the impact of each part of the IT on the effectiveness of the AIS and enable different facilities to determine the best alternative in the event of limited options because of material resources or other parameters that firms may face.

Studying the financial statements of a number of establishments for two or more periods and making appropriate comparisons to determine the accuracy and adequacy of the data, and the extent of the impact of technological development on the expansion of accounting disclosure.

These further studies would contribute to developing better and more robust accounting frameworks which can be used to drive better AIS for financial and accounting reporting.

In light of these results, it is recommended that:

- a) There is need for enterprises to increase their investments in IT and to maintain advanced technological levels because of the reflection on the effectiveness of the accounting information.
- b) There is need for the presence of specialist staff in IT working in the establishment in order to be able to meet any quality standards and respond to emergencies that may lead to a defect in the AIS, which affects the credibility of the entire bank.
- c) There is need to meet the challenges and problems faced by IT and work to solve them, especially in terms of training accountants and keep them updated on the latest technological developments, and send them on internal and external courses so that they can learn about the latest advances in technology.

- d) There is need to enhance the interest of the companies by appointing individuals who hold certificates specialized in accounting and computer information systems as new specialism in Jordanian so that the advantage gained in the field of computer and software in the accounting work will be utilized maximally.
- e) There is a need to develop the local legislations and laws necessary to ensure the greatest possible use of IT by exempting all inputs related to the technological sector from any fees or taxes in order to enhance the benefit of the facilities of this vital sector.
- f) There is a need to increase coordination and standardization of efforts with relevant governmental and private institutions and institutions such as the bank Authority and the Association of Banks to serve the banking through supporting the trends that lead to the achievement of the greatest benefit, and the results are reflected in the end to serve the public good.

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Bank listed of Amman Stock Exchange at 31/12/2017

| No . | Name | P.O.Box | Postal Code | Telephone | Fax. | E-mail |
|-------------|---------------------------------------|----------------|--------------------|------------------|--------------|--|
| 1. | Arab Bank PLC. | 950545 | 11195 Amman | 5607231 | 5606793 | corpcomm@arabbank.com.jo |
| 2. | Arab Banking Corporation (Jordan) | 926691 | 11190 Amman | 5664183 | 5614629 1 | info@arabbanking.com.jo |
| 3. | Arab Jordan Investment Bank | 8797 | 11121 Amman | 5607146 | 5681482 | info@ajib.com |
| 4. | Bank of Jordan PLC | 2140 | 1981 Amman | 5696277 | 5696291 | boj@bankofjordan.com.jo |
| 5. | Cairo Amman Bank | 950661 | 11195 Amman | 4616910 | 4642890 | info@cab.jo |
| 6. | Capital Bank of Jordan | 941283 | 11194 Amman | 5694250 | 5692062 | info@efbank.com.jo |
| 7. | Jordan Commercial Bank | 9989 | 11191 Amman | 5603931 | 5664110 | jcb@jcbank.com.jo |
| 8. | Jordan Investment and Finance Bank | 950601 | 11195 Amman | 5665145 | 5681410 | investment@jifbank.com |
| 9. | Jordan Kuwait Bank | 9776 | 11191 Amman | 5688814 | 5695604 | webmaster@jkbank.com.jo |
| 10. | Jordan Ahli Bank JAB | 3103 | 1981 Amman | 5622282 | 5622281 | Info@ahlibank.com.jo |
| 11. | Societe Generale de Banque / Jordanie | 560 | 1198 Amman | 5600300 | 5693410 | sgbj@sgbj.com.jo |
| 12. | The Housing Bank for Trade & Finance | 7693 | 1198 Amman | 5607315 | 5678121 | info@hbtbf.com.jo |
| 13. | Union Bank for Saving & Investment | 35104 | 1980 Amman | 5607011 | 5666149 | retail@unionbankjo.com |
| 14. | Jordan Islamic Bank | 926225 | 11190 Amman | 5666325 | 5666326 | Jordanislamicbank.com |

Appendix A: Banks list for population study

Names of the software companies that relied by the study for the purposes of the preparation of the questionnaire on information technology:

| No . | Name | P.O Box | Postal Code | Telephone | Fax | E-mail |
|------|--|---------|-------------|-----------|-----------|--|
| 1. | Abu Ghazaleh& Co. | 921100 | 11192 Amman | 5100 900 | 5100 901 | tagi@tagi.com |
| 2. | Aspire services | 840098 | 1118 Amman | 5163046 | 5163042 | admin@aspire-services.com |
| 3. | Cisco System | 35116 | 11180 Amman | 460 4400 | 462 3322 | |
| 4. | ESKADENIA Software | 1555 | 11821 Amman | 5510717 | 5510719 | Sales@eskadenia.com |
| 5. | Estarta Solutions | 941934 | 11192 Amman | 5330751 | 5330752 | levant@estartasolutions.com |
| 6. | Extensya | 36874 | 1118 Amman | 577 77 00 | 577 77 01 | info@extensya.com |
| 7. | Fourth Dimension System | 25432 | 8112 Amman | 46204542 | 46204542 | |
| 8. | Golden Programs for Sites Development | 3645 | 11771 Amman | 58727828 | 58727828 | |
| 9. | Intel Corporation | 8722 | 11192 Amman | 46875400 | 46875400 | |
| 10. | IT Security training and Solutions(ITS2) | 3697 | 1118 Amman | 56045210 | 56045210 | |
| 11. | In4ma Software | 2314 | 11192 Amman | 585-2686 | 585-2686 | Hamed@in4ma.com |
| 12. | Jvalley Software Solution | 5689 | 1118 Amman | 58563110 | | |
| 13. | Oasis 500 | 851222 | 11185 Amman | 5805680 | 5805462 | info@oasis500.com |
| 14. | Oracle System Ltd. | 24524 | 11192 | 5200860 | 5200860 | |

| | | | | | | |
|-----|--|------------|--------------------|----------|--------------|-----------------------|
| | | | Amma n | | | |
| 15. | Rubicon holding | 42401 | 1118 Amma n | 58436473 | 5843647 3 | |
| 16. | Orange | 56574 | 11192 Amma n | 46821241 | 4682124 1 | |
| 17. | Signal Communication s | 54247 | 1118 Amma n | 43846875 | 4384687 5 | |
| 18. | Specialized Technical Services (STS) | 95074 5 | 11174 Amma n | 580 2626 | 582 9213 | |
| 19. | Spring Web Technology | 64544 | 11192 Amma n | 462 2536 | 462 2536 | hello@hellospring.net |
| 20. | Zain | 61111 | 1118 Amma n | 52607984 | 5260798 4 | |
| 21. | Telecom Enterprise | 3222 | 11192 Amma n | 58894241 | 5889424 1 | |

Appendix B Questionnaire A



Dear,

Please kindly answer the questions this the questionnaire, which aims to identify the impact of the information technology of the accounting information system

Wishing you to provide information to enrich the value of this research note that the information you give will be treated confidentially and that it will only be used for the purposes of scientific research and study only.

With many thanks and appreciation to your efforts and your time

Please kindly put a sign (X) in the appropriate box to answer:

Part 1:

Personal Information:

1. Gender

☐

Male

☐

Female

2. Qualification

☐

Less than Bachelor

☐

Bachelor

☐

Higher Diploma

☐

Master Degree

☐

Ph.D. Degree

3. Specialization

☐

Computer Science

☐

Computer Information System

☐

Software engineering

☐

Computer engineering

other: Mentioned

4. Years of experience in the field of information technology

☐

Less than 5 years

☐

5 years and less than 10 years

☐

10 years and less than 15 years

☐

15 years and less than 20 years

☐

More than 20 years

5. Job Title

☐

Director of Information Technology Department

☐

Director of Programming

☐

Programmer

☐

Programming Analyst

Other: Mentioned

Part2:

Please indicate the extent of the impact of each of the following items on the effectiveness of accounting information system.

1- Items related to hardware and software of Computer.

| Items | Score | | | | |
|---|------------------|-------------|---------------|------------|-----------------|
| | Very high | high | Medium | Low | Very low |
| 1. The number of computers in the section regarding to the number of members. | | | | | |
| 2. The storage capacity of a computer | | | | | |
| 3. Kind of Computer Brand | | | | | |
| 4. Application software used in computer | | | | | |
| 5. CPU speed of the computer | | | | | |
| 6. The size of RAM in the computer | | | | | |
| 7. Operating system used in computer | | | | | |

2- Items related to Database.

| Items | Score | | | | |
|---|------------------|-------------|---------------|------------|-----------------|
| | Very high | high | Medium | Low | Very low |
| 8. The existence of the databases in the computer | | | | | |
| 9. How to organize files in the database | | | | | |
| 10. Method of data security in database | | | | | |
| 11. Way of structuring the data in the database | | | | | |
| 12. Kind of Software Database | | | | | |
| 13. The cost of database software | | | | | |
| 14. The database features | | | | | |

3- Items related to Network.

| Items | Score | | | | |
|---|-----------|------|--------|-----|----------|
| | Very high | high | Medium | Low | Very low |
| 15. Network used in Section | | | | | |
| 16. Network operating system in place | | | | | |
| 17. Communication style or Kind of communication line | | | | | |
| 18. Way to transfer data through the network, such as circuit, packet or message. | | | | | |
| 19. Type of technology used to provide Internet service such as ADSL, ISDN, and Fiber. | | | | | |
| 20. Type of operating system used in the network system such as windows server 2010, windows server 2016. | | | | | |
| 21. The brand of hardware used in the network such as Cisco | | | | | |
| 22. The type of security in network used | | | | | |
| 23. Bandwidth used in network | | | | | |

Do you think there is any extra points relating information technology and affect the effectiveness of the accounting information system are not mentioned: No ☐ Yes: Please mentioned ☐

[illegible]

Part3:

Please kindly answer the following points, which aim to measure the use of information technology, applied in the accounting information system at the firm:

Note: If there is more than one answer to the following questions, please put the sign

(X) In the box, which represents the majority of its answer most use?

Items related to hardware and computer software:

1. How much is the ratio of the number of to the number of members in the accounting department section:

☐ %95 and more ☐ %94-%80 ☐ %79 and less

2. What is the Hard disk capacity (HDD) in a single computer that used in the accounting department

☐ 500GB and more ☐ 200-GB-499GB ☐ 199 GB and less Other: Mentioned

3. What is the kind of the processor computer used in the accounting department

☐ Intel Core i7 ☐ Intel Core i5 ☐ Intel Corei3 and less: Mentioned

4. Are software applications used in the accounting department:

☐ International ☐ Locally ☐ By the firm (internally) ☐ other: Mentioned

5. What is the speed of CPU of computers that used in the accounting department:

☐ 2GH and less ☐ 4GH ☐ 6GH and more other: Mentioned

6. How many of RAM used in computers in the accounting department:

☐ 4816 and more ☐ other: Mentioned

7. What is the capacity of RAM used in computers in the accounting department:

☐ 4GB and less ☐ 8GB ☐ 16GB and more ☐ other: Mentioned

8. What is the operating system applied in the computers that used in the accounting department:

☐ Windows ☐ Mac ☐ UNIXOther: Mentioned

9. If your answer "windows", what is kind of?

☐ Windows 7 ☐ Windows 8 ☐ Windows10Other: Mentioned

Do you think there are other points related to hardware and software affect the work of the accounting information system are not mention ☐ No ☐ Yes PleaseMentioned

Items related to Database:

1. What is the method used to save the data in the accounting department:

☐ Files Format ☐ Database Format

Note: If your choice is files format do not answer the remaining questions but if your choice is databases format completed answer the following questions:

2. Is there a database administrator (DBA) in the firm:

☐ Yes ☐ No

3. What is the method used in the firm to organize files (files are stored in the storage media of the Cds and tapes)

☐ DAF ☐ ISAM ☐ SA Other: Mentioned

4. What is the method used to ensure the security and privacy of data in the accounting department:

☐ Organization Data ☐ Isolation Data ☐ Encryption Data Other: Mentioned

5. What is the model used to define data structures for the mutual relations of the entities in the database:

☐ Relational ☐ Network ☐ Hierarchical Other: Mentioned

6. What is the DB software that is used to develop the database in the accounting department:

☐ Oracle ☐ SQL Server ☐ Access Other: Mentioned

Do you think there are other points related to Database that affect the work of the accounting information system are not mentioned: ☐ No ☐ Yes: Please mentioned

Items related to communication networks:

Note: If there is more than one answer to the following questions, please put the sign (X) In the box, which represents the majority of its answer most use?

1. What kind of network used in the accounting department:

☐ WAN ☐ MAN LAN ☐ Other: Mentioned

2. What is a network operating system used in the accounting department:

☐ Windows ☐ UNIX ☐ Novell Netware ☐ Other: Mentioned

3. What kind of line of communication (communication style), which is data transmission through it:

☐ Full duplex ☐ half duplex ☐ Simplex Other: Mentioned

4. What is the method in which to transfer data through the network used in the Department of Accounting

☐ Circuit ☐ Packet ☐ Message Other: Mentioned

5. What is the technology type used to provide Internet service in the Department of accounting

☐ Leased line ☐ FIBER ☐ ADSL Other: Mentioned

6. What type of operating system used in the management of the network (Server)

☐ Windows 2010 ☐ Windows 2016NT4 ☐ Other: Mentioned

Do you think there are other points related to Networks that affect the work of the accounting information system are not mentioned: ☐ No ☐ Yes: Please mentioned

4:Factors related for the accountinginformation system:

Under the IT used, what extent you see that the accounting information system applied in the bank achieve the following points:

| Items | Score | | | | |
|---|-----------|------|--------|-----|----------|
| | Very high | high | Meduim | low | Very low |
| 1. Accounting information system provides information in time for decision makers to make decisions. | | | | | |
| 2. Accounting information system produces accurate information. | | | | | |
| 3. Accounting information system gives reliable(free from bias) information for users. | | | | | |
| 4. Accounting information system presentes information in a useful and intelligible format. | | | | | |
| 5. Accounting information system make information concistency for users. | | | | | |
| 6. Accounting information system allow users to comparability the information. | | | | | |
| 7. Accounting information system makes information available to users when they need it and in a format they can use. | | | | | |
| 8. Accounting information system giveability toverify the information for users. | | | | | |
| 9. Accounting information system produces complete information for users. | | | | | |
| 10. Accounting information system reduces uncertairty of information. | | | | | |
| 11. Accounting information system improves decision making. | | | | | |
| 12. Accounting information system confirms and corrects prior expectations. | | | | | |

Appendix C Questionnaire B



Dear,

Please kindly answer the questions this the questionnaire, which aims to identify the impact of the using of information technology on the accounting information system

Wishing you to provide information to enrich the value of this research note that the information you give will be treated confidentially and that it will only be used for the purposes of scientific research and study only.

With many thanks and appreciation to your efforts and your time

Please kindly put a sign (X) in the appropriate box to answer:

Part 1:

Personal Information:

1. Gender

☐

Male

☐

Female

2. Qualification

☐

Less than Bachelor

☐

Bachelor

☐

Higher Diploma

☐

Master Dergee

☐

Ph.D. Degree

3. Specialization

☐

Science in Finance and Banking

☐

Financial management

☐

Banks Accounting

☐

Other: Mentioned

4. Years of experience in the field of information technology

☐

Less than 5 years

☐

5 years and less than 10 years

☐

10 years and less than 15 years

☐

15 years and less than 20 years

☐

More than 20 years

5. Job Title

☐

Financial Manager

☐

Senior Accountant

☐

Accountant

☐

Head of Accounting Department

Other: Mentioned

Part 2: Initial Data: Factors associated with the effectiveness of the accounting information system:

Factors associated with hardware and software

Under the hardware and software used, to what extent you see that the accounting information system applied in the firm achieves the following points:

| Items | Score | | | | |
|--|-----------|------|--------|-----|----------|
| | Very high | high | Medium | low | Very low |
| 1. System's ability to provide accurate information about the financial position of the firm. | | | | | |
| 2. System's ability to provide senior management with financial information in a timely manner | | | | | |
| 3. Difficulty penetrating the accounting system. | | | | | |
| 4. The ability to provide an easy flow of economic events data of the firm from its sources. | | | | | |
| 5. Provide the necessary financial information to achieve control over the firm's activities. | | | | | |
| 6. The ability to retrieve stored data quickly. | | | | | |
| 7. Low cost of dealing with input, processing and output Components. | | | | | |
| 8. Reduced time spent in the operations of the system's input, processing and output. | | | | | |
| 9. The ability to validate the data stored. | | | | | |
| 10. Provide management with the necessary information to assist in planning for business purposes and firm's activities. | | | | | |
| 11. The ability to provide feedback. | | | | | |
| 12. The ability to track firm's assets and obligations in order to ensure the achievement of the internal control. | | | | | |
| 13. The ability to respond and adapt to any emergency changes facing the firm. | | | | | |

| Items | Score | | | | |
|---|-----------|------|--------|-----|----------|
| | Very high | high | Medium | low | Very low |
| 14. The ability to achieve integration with other information systems in the firm for the servicing planning Functions, implementation and control. | | | | | |
| 15. The ability to determine the outcome of the financial operations of the during multiple periods. | | | | | |
| 16. The ability to prepare financial reports quickly to serve the management objectives. | | | | | |
| 17. The System ability to achieve a high degree of speed when its handling of the economic events. | | | | | |
| 18. The ability to provide the necessary information for the making different decisions purposes. | | | | | |

Factors associated with Database:

Under the database used, to what extent do you see that the accounting information system applied in the facility achieves the following points?

| Items | Score | | | | |
|--|-----------|------|--------|-----|----------|
| | Very high | high | Medium | low | Very low |
| 1. Low redundant entered data, which deals with the accounting system. | | | | | |
| 2. Data integration with the accounting system data to other systems in the firm. | | | | | |
| 3. Easy access and handle to accounting data. | | | | | |
| 4. The system's ability to cope with any changes facing the firm. | | | | | |
| 5. System's ability to maintain financial data from damage, loss and theft. | | | | | |
| 6. Reduce the time spent in getting the results. | | | | | |
| 7. The independence of the accounting data that is handled on the application software. | | | | | |
| 8. Accuracy of the results that are drawn from the handle of the accounting system. | | | | | |
| 9. Achieve share in data files and do not need to provide frequent copies. | | | | | |
| 10 Logical relationships between the different types of records in different files to achieve reliability. | | | | | |
| 11. System's ability to control and manage a huge amount of data. | | | | | |

Factors associated with communication networks

Under the network connection used. To what extent do you see that the accounting information system applied in the facility achieves the following points.

| Items | Score | | | | |
|--|-----------|------|--------|-----|----------|
| | Very high | high | Medium | low | Very low |
| 1. Verification of data sources for economic events with which it deals easily | | | | | |
| 2. Handle speed and response between the accounting system and other systems in the enterprise | | | | | |
| 3.How much easy to Access all the data established in the entity | | | | | |
| 4.Reduce the cost by achieving participation in the use of devices and data | | | | | |
| 5. Provide oversight through the ability to track sources of financial statements | | | | | |
| 6. Easy to publish Accounting data in different departments. | | | | | |
| 7. The ability to secure distributed processing on any amendments to the accounting data | | | | | |
| 8. The ability to participate in physical sources and terminals | | | | | |

Factors related for the accounting information system:

Under the IT used, what extent you see that the accounting information system applied in the bank achieves the following points:

| Items | Score | | | | |
|---|-----------|------|--------|-----|----------|
| | Very high | high | Medium | low | Very low |
| 1. Accounting information system provides information in time for decision makers to make decisions. | | | | | |
| 2. Accounting information system produces accurate information. | | | | | |
| 3. Accounting information system gives reliable (free from bias) information for users. | | | | | |
| 4. Accounting information system presents information in a useful and intelligible format. | | | | | |
| 5. Accounting information system makes information consistency for users. | | | | | |
| 6. Accounting information system allows users to compare the information. | | | | | |
| 7. Accounting information system makes information available to users when they need it and in a format they can use. | | | | | |
| 8. Accounting information system gives ability to verify the information for users. | | | | | |
| 9. Accounting information system produces complete information for users. | | | | | |
| 10. Accounting information system reduces uncertainty of information. | | | | | |
| 11. Accounting information system improves decision making. | | | | | |
| 12. Accounting information system confirms and corrects prior expectations. | | | | | |

Problems which accompany use of information technology and influence the effectiveness of the accounting information system

See the extent of the effect of the following items on the effectiveness of the accounting information system applied in the firm.

| Items | Score | | | | |
|---|-----------|------|--------|-----|----------|
| | Very high | high | Medium | low | Very low |
| 1. High relative cost of buying and running an accounting information system based on the technology software and hardware. | | | | | |
| 2. The need for a specialist in the field of information technology and communication. | | | | | |
| 3. The response of the accountants of the computerized accounting system. | | | | | |
| 4. The need for rehabilitation of accountants to be able to deal with the accounting system. | | | | | |
| 5. Breach of confidentiality and penetrate the accounting system. | | | | | |
| 6. Increasing rapidly in technology and communication domain. | | | | | |
| 7. Need for maintenance of files and devices frequently. | | | | | |

Appendix D SPSS Analysis

Frequencies

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|----------------|-----------------------|--|
| Output Created | | 28-JUL-2019 19:50:52 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 53 |
| | Data File | |
| Missing Value | Definition of Missing | User-defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | Statistics are based on all cases with |
| | | valid data. |
| Syntax | | FREQUENCIES |
| | | VARIABLES=gender |
| | | /ORDER=ANALYSIS. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.01 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Statistics

gender

| | | |
|---|---------|----|
| N | Valid | 53 |
| | Missing | 0 |

| Gender | | | | |
|--------------|-----------|---------|---------------|--------------------|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| Male | 40 | 75.5 | 75.5 | 75.5 |
| Valid Female | 13 | 24.5 | 24.5 | 100.0 |
| Total | 53 | 100.0 | 100.0 | |

DATASET ACTIVATE DataSet1.
 FREQUENCIES VARIABLES=gender
 /ORDER=ANALYSIS.

Frequencies

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|----------------|-----------------------|--|
| Output Created | | 28-JUL-2019 19:51:57 |
| Comments | | |
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| | Active Dataset | DataSet1 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 56 |
| | Data File | |
| Missing Value | Definition of Missing | User-defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | Statistics are based on all cases with |
| | | valid data. |
| Syntax | | FREQUENCIES |
| | | VARIABLES=gender |
| | | /ORDER=ANALYSIS. |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Statistics

gender

| | | |
|---|---------|----|
| N | Valid | 56 |
| | Missing | 0 |

Gender

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------------|-----------|---------|---------------|--------------------|
| Male | 44 | 78.6 | 78.6 | 78.6 |
| Valid Female | 12 | 21.4 | 21.4 | 100.0 |
| Total | 56 | 100.0 | 100.0 | |

DATASET ACTIVATE DataSet0.
FREQUENCIES VARIABLES=academic
/ORDER=ANALYSIS.

Frequencies

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|----------------|-----------------------|--|
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| Comments | | |
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| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 53 |
| | Data File | |
| Missing Value | Definition of Missing | User-defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | Statistics are based on all cases with |
| | | valid data. |
| Syntax | | FREQUENCIES |
| | | VARIABLES=academic |
| | | /ORDER=ANALYSIS. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.00 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Statistics

academic

| | | |
|---|---------|----|
| N | Valid | 53 |
| | Missing | 0 |

Academic

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Less than Bachelor | 2 | 3.8 | 3.8 | 3.8 |
| BA | 35 | 66.0 | 66.0 | 69.8 |
| Valid Higher Diploma | 3 | 5.7 | 5.7 | 75.5 |
| M.A. | 12 | 22.6 | 22.6 | 98.1 |
| Ph.D. | 1 | 1.9 | 1.9 | 100.0 |
| Total | 53 | 100.0 | 100.0 | |

DATASET ACTIVATE DataSet1.
 FREQUENCIES VARIABLES=academic
 /ORDER=ANALYSIS.

Frequencies

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|--------------------------------|-----------------------|---|
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| Comments | | |
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| Active Dataset | | DataSet1 |
| Filter | | <none> |
| Weight | | <none> |
| Split File | | <none> |
| N of Rows in Working Data File | | 56 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| | Cases Used | Statistics are based on all cases with valid data. |
| Syntax | | FREQUENCIES VARIABLES=academic /ORDER=ANALYSIS. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Statistics

academic

| | | |
|---|---------|----|
| N | Valid | 56 |
| | Missing | 0 |

academic

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------|-----------|---------|---------------|--------------------|
| Less than Bachelor | 1 | 1.8 | 1.8 | 1.8 |
| BA | 35 | 62.5 | 62.5 | 64.3 |
| Valid Higher Diploma | 2 | 3.6 | 3.6 | 67.9 |
| M.A. | 17 | 30.4 | 30.4 | 98.2 |
| Ph.D. | 1 | 1.8 | 1.8 | 100.0 |
| Total | 56 | 100.0 | 100.0 | |

DATASET ACTIVATE DataSet0.

DATASET ACTIVATE DataSet0.

SAVE OUTFILE='D:\Desktop\dr qatawneh banks.sav'
/COMPRESSED.

FREQUENCIES VARIABLES=academic

/ORDER=ANALYSIS.

FREQUENCIES VARIABLES=Specialization
/ORDER=ANALYSIS.

Frequencies

| Notes | |
|------------------------|--|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time |

| Notes | | |
|------------------------|--|---|
| Output Created | | 28-JUL-2019 20:07:14 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File | D:\Desktop\dr qatawneh banks.sav DataSet0 <none> <none> <none> 53 |
| Missing Value Handling | Definition of Missing Cases Used | User-defined missing values are treated as missing. Statistics are based on all cases with valid data. |
| Syntax | | FREQUENCIES VARIABLES=Specialization /ORDER=ANALYSIS. |
| Resources | Processor Time Elapsed Time | 00:00:00.00 00:00:00.01 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Statistics

Specialization

| | | |
|---|---------|----|
| N | Valid | 53 |
| | Missing | 0 |

Specialization

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|------------------------------|---------|---------------|--------------------|
| Valid | Information Systems | 17 | 32.1 | 32.1 |
| | Systems analysis programming | 9 | 17.0 | 49.1 |
| | Computer Engineering | 16 | 30.2 | 79.2 |
| | Other | 9 | 17.0 | 96.2 |
| | Total | 2 | 3.8 | 100.0 |
| | | 53 | 100.0 | |
| | | | 100.0 | |

DATASET ACTIVATE DataSet1.

FREQUENCIES VARIABLES=Specialization

/ORDER=ANALYSIS.

Frequencies

Notes

| | |
|------------------------|----------------------------------|
| Output Created | |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| Missing Value Handling | N of Rows in Working Data File |
| | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--------------------------------|---|
| Output Created | | 28-JUL-2019 20:09:51 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh financial.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 56 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| | Cases Used | Statistics are based on all cases with valid data. |
| Syntax | | FREQUENCIES VARIABLES=Specialization /ORDER=ANALYSIS. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Statistics

Specialization

| | | |
|---|---------|----|
| N | Valid | 56 |
| | Missing | 0 |

Specialization

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------------------------|-----------|---------|---------------|--------------------|
| Information Systems | 8 | 14.3 | 14.3 | 14.3 |
| Systems analysis programming | 8 | 14.3 | 14.3 | 28.6 |
| Valid Computer Engineering | 2 | 3.6 | 3.6 | 32.1 |
| Other | 36 | 64.3 | 64.3 | 96.4 |
| Total | 2 | 3.6 | 3.6 | 100.0 |
| | 56 | 100.0 | 100.0 | |

Frequencies

Notes

| | |
|------------------------|--|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time |

Notes

| | | |
|------------------------|--|---|
| Output Created | | 28-JUL-2019 20:19:29 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File | D:\Desktop\dr qatawneh banks.sav DataSet0 <none> <none> <none> 53 |
| Missing Value Handling | Definition of Missing Cases Used | User-defined missing values are treated as missing. Statistics are based on all cases with valid data. |
| Syntax | | FREQUENCIES VARIABLES=experience /ORDER=ANALYSIS. |
| Resources | Processor Time Elapsed Time | 00:00:00.00 00:00:00.01 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Statistics

experience

| | | |
|---|---------|----|
| N | Valid | 53 |
| | Missing | 0 |

experience

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|----------------------------------|-----------|---------|---------------|--------------------|
| less than 5 Years | 8 | 15.1 | 15.1 | 15.1 |
| 5 Years and less than 10 Years | 30 | 56.6 | 56.6 | 71.7 |
| 10 Years and less than 15 Years | 5 | 9.4 | 9.4 | 81.1 |
| Valid Year | | | | |
| 15th Years and less than 20 Year | 7 | 13.2 | 13.2 | 94.3 |
| 20 Years and over | 3 | 5.7 | 5.7 | 100.0 |
| Total | 53 | 100.0 | 100.0 | |

Frequencies

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--------------------------------|---|
| Output Created | | 28-JUL-2019 20:27:55 |
| Comments | | |
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| Active Dataset | | DataSet1 |
| Filter | | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 56 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| | Cases Used | Statistics are based on all cases with valid data. |
| Syntax | | FREQUENCIES VARIABLES=experience /ORDER=ANALYSIS. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Statistics

experience

| | | |
|---|---------|----|
| N | Valid | 56 |
| | Missing | 0 |

experience

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|--|-----------|---------|---------------|--------------------|
| less than 5 Years | 8 | 14.3 | 14.3 | 14.3 |
| 5 Years and less than 10 Years | 17 | 30.4 | 30.4 | 44.6 |
| 10 Years and less than 15 Years | 17 | 30.4 | 30.4 | 75.0 |
| Valid 15th Years and less than 20 Year | 10 | 17.9 | 17.9 | 92.9 |
| 20 Years and over | 4 | 7.1 | 7.1 | 100.0 |
| Total | 56 | 100.0 | 100.0 | |

DATASET ACTIVATE DataSet0.

DATASET ACTIVATE DataSet0.

SAVE OUTFILE='D:\Desktop\dr qatawneh banks.sav'

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/COMPRESSED.
DATASET ACTIVATE DataSet0.

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/COMPRESSED.
FREQUENCIES VARIABLES=Job_title
/ORDER=ANALYSIS.

```

Frequencies

| Notes | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

| Notes | | |
|----------------|-----------------------|--|
| Output Created | | 28-JUL-2019 20:34:40 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 53 |
| | Data File | |
| Missing Value | Definition of Missing | User-defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | Statistics are based on all cases with |
| | | valid data. |
| Syntax | | FREQUENCIES |
| | | VARIABLES=Job_title |
| | | /ORDER=ANALYSIS. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.00 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Statistics

Job title

| | | |
|---|---------|----|
| N | Valid | 53 |
| | Missing | 0 |

| Job title | | | | |
|------------------------------------|-----------|---------|---------------|--------------------|
| | Frequency | Percent | Valid Percent | Cumulative Percent |
| Director of Information Department | 8 | 15.1 | 15.1 | 15.1 |
| Programming Manager | 10 | 18.9 | 18.9 | 34.0 |
| Valid programmer | 17 | 32.1 | 32.1 | 66.0 |
| Software Analyst | 16 | 30.2 | 30.2 | 96.2 |
| other | 2 | 3.8 | 3.8 | 100.0 |
| Total | 53 | 100.0 | 100.0 | |

DATASET ACTIVATE DataSet0.

SAVE OUTFILE='D:\Desktop\dr qatawneh banks.sav'
/COMPRESSED.

DATASET ACTIVATE DataSet1.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='D:\Desktop\dr qatawneh financial.sav'
/COMPRESSED.
DATASET ACTIVATE DataSet1.

SAVE OUTFILE='D:\Desktop\dr qatawneh financial.sav'
/COMPRESSED.
FREQUENCIES VARIABLES=Job_title
/ORDER=ANALYSIS.

Frequencies

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|----------------|-----------------------|--|
| Output Created | | 28-JUL-2019 20:37:44 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh financial.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 56 |
| | Data File | |
| Missing Value | Definition of Missing | User-defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | Statistics are based on all cases with |
| | | valid data. |
| Syntax | | FREQUENCIES |
| | | VARIABLES=Job_title |
| | | /ORDER=ANALYSIS. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Statistics

Job title

| | | |
|---|---------|----|
| N | Valid | 56 |
| | Missing | 0 |

Job title

| | Frequency | Percent | Valid Percent | Cumulative Percent |
|------------------------------------|-----------|---------|---------------|--------------------|
| Director of Information Department | 14 | 25.0 | 25.0 | 25.0 |
| Programming Manager | 10 | 17.9 | 17.9 | 42.9 |
| Valid programmer | 14 | 25.0 | 25.0 | 67.9 |
| Software Analyst | 9 | 16.1 | 16.1 | 83.9 |
| other | 9 | 16.1 | 16.1 | 100.0 |
| Total | 56 | 100.0 | 100.0 | |

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| Q1 | 53 | 1 | 5 | 3.68 | 1.140 |
| Q2 | 53 | 1 | 5 | 3.64 | .982 |
| Q3 | 53 | 1 | 5 | 3.57 | 1.065 |
| Q4 | 53 | 1 | 5 | 3.64 | 1.021 |
| Q5 | 53 | 1 | 5 | 3.64 | 1.039 |
| Q6 | 53 | 1 | 5 | 3.38 | .860 |
| Q7 | 53 | 2 | 5 | 3.92 | .937 |
| Hardware | 53 | 2.14 | 5.00 | 3.6388 | .58205 |
| Valid N (listwise) | 53 | | | | |

Reliability

Notes

| | |
|------------------------|---|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File Matrix Input |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time |

Notes

| | | |
|------------------------|--------------------------------|---|
| Output Created | | 29-JUL-2019 15:50:03 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 53 |
| | Matrix Input | |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Missing Value Handling | Cases Used | Statistics are based on all cases with valid data for all variables in the procedure. |
| | | RELIABILITY |
| | | /VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 |
| Syntax | | /SCALE('ALL VARIABLES') ALL |
| | | /MODEL=ALPHA. |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.06 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 53 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 53 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .665 | 7 |

Descriptives

Notes

| | |
|------------------------|--------------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| Input | Filter |
| | Weight |
| | Split File |
| | N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing |
| | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--------------------------------|--|
| Output Created | | 29-JUL-2019 15:50:56 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| Input | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 53 |
| Missing Value Handling | Definition of Missing | User defined missing values are treated as missing. |
| | Cases Used | All non-missing data are used. |
| Syntax | | DESCRIPTIVES VARIABLES=Q8 Q9 Q10 Q11 q12 q13 q14 Database /STATISTICS=MEAN STDDEV MIN MAX. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.01 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|-----------------------|----|---------|---------|--------|-------------------|
| Q8 | 53 | 2 | 5 | 3.74 | .880 |
| Q9 | 53 | 2 | 5 | 3.94 | .842 |
| Q10 | 53 | 1 | 5 | 3.60 | .947 |
| Q11 | 53 | 1 | 5 | 3.92 | .829 |
| q12 | 53 | 2 | 5 | 3.94 | .691 |
| q13 | 53 | 2 | 5 | 4.21 | .567 |
| q14 | 53 | 1 | 5 | 3.66 | .876 |
| Database | 53 | 2.57 | 5.00 | 3.8598 | .46586 |
| Valid N (listwise) | 53 | | | | |

Reliability

Notes

| | |
|---------------------------|---|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File Matrix Input |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time |

Notes

| | | |
|------------------------|--------------------------------|---|
| Output Created | | 29-JUL-2019 15:51:09 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| | Weight | <none> |
| Input | Split File | <none> |
| | N of Rows in Working Data File | 53 |
| | Matrix Input | |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| | Cases Used | Statistics are based on all cases with valid data for all variables in the procedure. |
| Syntax | | RELIABILITY /VARIABLES=Q8 Q9 Q10 Q11 q12 q13 q14 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.02 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 53 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 53 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .658 | 7 |

Descriptives

Notes

| | |
|------------------------|-----------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working |
| | Data File |
| Missing Value Handling | Definition of Missing |
| | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |
| | ZSco01 |
| | ZSco02 |
| | ZSco03 |
| | ZSco04 |
| Variables Created or | ZSco05 |
| Modified | ZSco06 |
| | ZSco07 |
| | ZSco08 |
| | ZSco09 |
| | ZSco10 |

Notes

| | | |
|------------------------|-----------------------|---|
| Output Created | | 29-JUL-2019 15:54:00 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 53 |
| | Data File | |
| Missing Value Handling | Definition of Missing | User defined missing values are treated as missing. |
| | Cases Used | All non-missing data are used. |
| | | DESCRIPTIVES VARIABLES=q15 |
| | | q16 q17 q18 q19 q20 q21 q22 q23 |
| Syntax | | Network |
| | | /SAVE |
| | | /STATISTICS=MEAN STDDEV |
| | | MIN MAX. |
| Resources | Processor Time | 00:00:00.02 |

| | | |
|-------------------------------|--------------|-----------------|
| Variables Created or Modified | Elapsed Time | 00:00:00.03 |
| | ZSco01 | Zscore(q15) |
| | ZSco02 | Zscore(q16) |
| | ZSco03 | Zscore(q17) |
| | ZSco04 | Zscore(q18) |
| | ZSco05 | Zscore(q19) |
| | ZSco06 | Zscore(q20) |
| | ZSco07 | Zscore(q21) |
| | ZSco08 | Zscore(q22) |
| | ZSco09 | Zscore(q23) |
| | ZSco10 | Zscore(Network) |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| q15 | 53 | 1 | 5 | 3.45 | 1.367 |
| q16 | 53 | 2 | 5 | 4.30 | .607 |
| q17 | 53 | 2 | 5 | 4.19 | .681 |
| q18 | 53 | 2 | 5 | 3.77 | .869 |
| q19 | 53 | 3 | 5 | 4.06 | .691 |
| q20 | 53 | 3 | 5 | 4.25 | .677 |
| q21 | 53 | 1 | 5 | 4.06 | .842 |
| q22 | 53 | 3 | 5 | 4.45 | .667 |
| q23 | 53 | 3 | 5 | 4.23 | .669 |
| Network | 53 | 3.00 | 4.78 | 3.9455 | .32072 |
| Valid N (listwise) | 53 | | | | |

Reliability

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| | Matrix Input |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|----------------|-----------------------|---|
| Output Created | | 29-JUL-2019 15:54:05 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 53 |
| | Data File | |
| | Matrix Input | |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Missing Value | | Statistics are based on all cases with valid data for all variables in the procedure. |
| Handling | Cases Used | RELIABILITY |
| | | /VARIABLES=q15 q16 q17 q18 q19 q20 q21 q22 q23 |
| Syntax | | /SCALE('ALL VARIABLES') ALL |
| | | /MODEL=ALPHA. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.01 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Scale: ALL VARIABLES

Case Processing Summary

| | | N | % |
|-------|-----------------------|----|-------|
| Cases | Valid | 53 | 100.0 |
| | Excluded ^a | 0 | .0 |
| | Total | 53 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .767 | 9 |

Reliability

Notes

| | |
|------------------------|----------------------------------|
| Output Created | |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| Missing Value Handling | N of Rows in Working Data File |
| | Matrix Input |
| | Definition of Missing Cases Used |
| Syntax | |
| | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--------------------------------|---|
| Output Created | | 29-JUL-2019 16:01:35 |
| Comments | | |
| Input | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 53 |
| Missing Value Handling | Matrix Input | |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Syntax | Cases Used | Statistics are based on all cases with valid data for all variables in the procedure. |
| | | RELIABILITY |
| | | /VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 q12 q13 q14 q15 q16 q17 q18 q19 q20 q21 q22 q23 |
| | | /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.01 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 53 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 53 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .742 | 23 |

Descriptives

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|----------------|-----------------------|----------------------------------|
| Output Created | | 29-JUL-2019 16:05:01 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 53 |
| | Data File | |
| Missing Value | Definition of Missing | User defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | All non-missing data are used. |
| | | DESCRIPTIVES VARIABLES=a1 a2 |
| | | a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 |
| Syntax | | AI5 |
| | | /STATISTICS=MEAN STDDEV MIN |
| | | MAX. |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.04 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| a1 | 53 | 3 | 5 | 4.21 | .743 |
| a2 | 53 | 3 | 5 | 4.15 | .718 |
| a3 | 53 | 1 | 5 | 3.72 | 1.183 |
| a4 | 53 | 1 | 5 | 3.62 | 1.023 |
| a5 | 53 | 3 | 5 | 4.19 | .652 |
| a6 | 53 | 1 | 5 | 3.70 | 1.030 |
| a7 | 53 | 1 | 5 | 3.89 | .751 |
| a8 | 53 | 1 | 5 | 3.62 | .814 |
| a9 | 53 | 2 | 5 | 3.87 | .735 |
| a10 | 53 | 1 | 5 | 3.68 | .827 |
| a11 | 53 | 1 | 5 | 3.74 | .788 |
| a12 | 53 | 2 | 5 | 3.66 | .783 |
| AIS | 53 | 2.75 | 4.67 | 3.8365 | .45847 |
| Valid N (listwise) | 53 | | | | |

RELIABILITY

```

/VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA.

```

Reliability

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| | Matrix Input |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|---------------------------|---|---|
| Output Created | | 29-JUL-2019 16:05:16 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File Matrix Input | D:\Desktop\dr qatawneh banks.sav DataSet0 <none> <none> <none> |
| Missing Value Handling | Definition of Missing Cases Used | 53 User-defined missing values are treated as missing. Statistics are based on all cases with valid data for all variables in the procedure. |
| Syntax | | RELIABILITY /VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA. |
| Resources | Processor Time Elapsed Time | 00:00:00.02 00:00:00.01 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 53 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 53 | 100.0 |

a. Listwise deletion based on all
variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|---------------------|------------|
| .778 | 12 |

RELIABILITY

```

/VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 q12 q13 q14 q15 q16 q17 q18 q19 q20
q21 q22 q23 a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA.

```

Reliability

| Notes | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| Missing Value | N of Rows in Working Data |
| | File |
| | Matrix Input |
| Handling | Definition of Missing |
| Syntax | Cases Used |
| Resources | Processor Time |
| | Elapsed Time |

| Notes | |
|----------------|-----------------------|
| Output Created | 29-JUL-2019 16:05:32 |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| Missing Value | N of Rows in Working |
| | Data File |
| | Matrix Input |
| Handling | Definition of Missing |
| Syntax | Cases Used |
| | |
| Resources | Processor Time |
| | Elapsed Time |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 53 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 53 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .844 | 35 |

NPAR TESTS

/K-S(NORMAL)=hardware Database Network AIS
/MISSING ANALYSIS.

NPar Tests

Notes

| | |
|----------------|--------------------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| | Processor Time |
| Resources | Elapsed Time |
| | Number of Cases Allowed ^a |

Notes

| | | |
|------------------------|--------------------------------------|--|
| Output Created | | 29-JUL-2019 16:05:49 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 53 |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Missing Value Handling | Cases Used | Statistics for each test are based on all cases with valid data for the variable(s) used in that test. |
| | | NPART TESTS |
| Syntax | | /K-S(NORMAL)=hardware |
| | | Database Network AIS |
| | | /MISSING ANALYSIS. |
| | Processor Time | 00:00:00.00 |
| Resources | Elapsed Time | 00:00:00.01 |
| | Number of Cases Allowed ^a | 112347 |

a. Based on availability of workspace memory.

[DataSet0] D:\Desktop\dr qatawneh banks.sav

One-Sample Kolmogorov-Smirnov Test

| | | hardware | Database | Network | AIS |
|----------------------------------|----------------|----------|----------|---------|--------|
| N | | 53 | 53 | 53 | 53 |
| Mean | | 3.6388 | 3.8598 | 3.9455 | 3.8365 |
| Normal Parameters ^{a,b} | Std. Deviation | .58205 | .46586 | .32072 | .45847 |
| Absolute | | .118 | .139 | .147 | .097 |
| Most Extreme Differences | Positive | .068 | .106 | .095 | .097 |
| | Negative | -.118 | -.139 | -.147 | -.073 |
| Kolmogorov-Smirnov Z | | .858 | 1.013 | 1.070 | .703 |
| Asymp. Sig. (2-tailed) | | .453 | .256 | .203 | .707 |

a. Test distribution is Normal.

b. Calculated from data.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

```

/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT AIS
/METHOD=ENTER hardware Database Network.

```

Regression

| Notes | |
|------------------------|--------------------------------|
| Output Created | |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| Missing Value Handling | N of Rows in Working Data File |
| | Definition of Missing |
| | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |
| | Memory Required |
| | Additional Memory Required for |
| | Residual Plots |

Notes

| | | |
|------------------------|---|---|
| Output Created | | 29-JUL-2019 16:06:17 |
| Comments | | |
| Input | Data | D:\Desktop\dr qatawneh |
| | Active Dataset | banks.sav |
| | Filter | DataSet0 |
| | Weight | <none> |
| | Split File | <none> |
| Missing Value Handling | N of Rows in Working Data File | 53 |
| | Definition of Missing | User-defined missing values are treated as missing. |
| | Cases Used | Statistics are based on cases with no missing values for any variable used. |
| Syntax | | REGRESSION |
| | | /MISSING LISTWISE |
| | | /STATISTICS COEFF OUTS R |
| | | ANOVA |
| | | /CRITERIA=PIN(.05) |
| Resources | | POUT(.10) |
| | | /NOORIGIN |
| | | /DEPENDENT AIS |
| | | /METHOD=ENTER hardware |
| | | Database Network. |
| | Processor Time | 00:00:00.03 |
| | Elapsed Time | 00:00:00.02 |
| | Memory Required | 2748 bytes |
| | Additional Memory Required for Residual Plots | 0 bytes |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|--|-------------------|--------|
| 1 | Network, hardware, Database ^b | | .Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .675 ^a | .456 | .423 | .34829 |

a. Predictors: (Constant), Network, hardware, Database

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 4.986 | 3 | 1.662 | 13.702 | .000 ^b |
| | Residual | 5.944 | 49 | .121 | | |
| | Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Network, hardware, Database

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | -.403 | .669 | | -.602 | .550 |
| | hardware | .212 | .102 | .269 | 2.084 | .042 |
| | Database | .159 | .131 | .161 | 1.215 | .230 |
| | Network | .723 | .156 | .506 | 4.640 | .000 |

a. Dependent Variable: AIS

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA COLLIN TOL

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT AIS

/METHOD=ENTER hardware Database Network.

Regression

Notes

| | |
|----------------|--------------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| Input | Filter |
| | Weight |
| | Split File |
| | N of Rows in Working Data File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| | Processor Time |
| | Elapsed Time |
| Resources | Memory Required |
| | Additional Memory Required for |
| | Residual Plots |

Notes

| | | |
|----------------|--------------------------------|---------------------------------|
| Output Created | | 29-JUL-2019 16:06:23 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh |
| | Active Dataset | banks.sav |
| Input | Filter | DataSet0 |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | <none> |
| | Definition of Missing | 53 |
| Missing Value | | User-defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | Statistics are based on cases |
| | | with no missing values for any |
| | | variable used. |
| Syntax | | REGRESSION |
| | | /MISSING LISTWISE |
| | | /STATISTICS COEFF OUTS R |
| | | ANOVA COLLIN TOL |
| | | /CRITERIA=PIN(.05) |
| | | POUT(.10) |
| | | /NOORIGIN |
| | | /DEPENDENT AIS |
| | | /METHOD=ENTER hardware |
| | | Database Network. |
| | Processor Time | 00:00:00.05 |
| | Elapsed Time | 00:00:00.06 |
| Resources | Memory Required | 2748 bytes |
| | Additional Memory Required for | 0 bytes |
| | Residual Plots | |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|--|-------------------|--------|
| 1 | Network, hardware, Database ^b | | .Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .675 ^a | .456 | .423 | .34829 |

a. Predictors: (Constant), Network, hardware, Database

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 4.986 | 3 | 1.662 | 13.702 | .000 ^b |
| | Residual | 5.944 | 49 | .121 | | |
| | Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Network, hardware, Database

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|-------------------------|
| | | B | Std. Error | Beta | | | Tolerance |
| 1 | (Constant) | -.403 | .669 | | -.602 | .550 | |
| | hardware | .212 | .102 | .269 | 2.084 | .042 | .664 |
| | Database | .159 | .131 | .161 | 1.215 | .230 | .629 |
| | Network | .723 | .156 | .506 | 4.640 | .000 | .933 |

Coefficients^a

| Model | | Collinearity Statistics | |
|-------|------------|-------------------------|-------|
| | | VIF | |
| 1 | (Constant) | | |
| | hardware | | 1.506 |
| | Database | | 1.591 |
| | Network | | 1.072 |

a. Dependent Variable: AIS

Collinearity Diagnostics^a

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions | | | |
|-------|-----------|------------|-----------------|----------------------|----------|----------|---------|
| | | | | (Constant) | hardware | Database | Network |
| 1 | 1 | 3.973 | 1.000 | .00 | .00 | .00 | .00 |
| | 2 | .017 | 15.074 | .04 | .54 | .01 | .09 |
| | 3 | .007 | 24.621 | .05 | .41 | .99 | .03 |
| | 4 | .003 | 36.021 | .91 | .05 | .00 | .87 |

a. Dependent Variable: AIS

REGRESSION

```

/MISSING LISTWISE
/STATISTICS COEFF OUTS R ANOVA
/CRITERIA=PIN(.05) POUT(.10)
/NOORIGIN
/DEPENDENT AIS
/METHOD=ENTER hardware.

```

Regression

Notes

| | |
|------------------------|--------------------------------|
| Output Created | |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| Missing Value Handling | N of Rows in Working Data File |
| | Definition of Missing |
| | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |
| | Memory Required |
| | Additional Memory Required for |
| | Residual Plots |

Notes

| | | |
|------------------------|---|---|
| Output Created | | 29-JUL-2019 16:06:34 |
| Comments | | |
| Input | Data | D:\Desktop\dr qatawneh |
| | Active Dataset | banks.sav |
| | Filter | DataSet0 |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 53 |
| Missing Value Handling | Definition of Missing | User-defined missing values are treated as missing. |
| | Cases Used | Statistics are based on cases with no missing values for any variable used. |
| Syntax | | REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) /POUT(.10) /NOORIGIN /DEPENDENT AIS /METHOD=ENTER hardware. |
| Resources | Processor Time | 00:00:00.05 |
| | Elapsed Time | 00:00:00.05 |
| | Memory Required | 2196 bytes |
| | Additional Memory Required for Residual Plots | 0 bytes |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|-----------------------|-------------------|--------|
| 1 | hardware ^b | | .Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .386 ^a | .149 | .132 | .42704 |

a. Predictors: (Constant), hardware

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|-------|-------------------|
| 1 Regression | 1.630 | 1 | 1.630 | 8.936 | .004 ^b |
| Residual | 9.301 | 51 | .182 | | |
| Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), hardware

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | Beta | | |
| 1 (Constant) | 2.730 | .375 | | 7.282 | .000 |
| hardware | .304 | .102 | .386 | 2.989 | .004 |

a. Dependent Variable: AIS

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT AIS

/METHOD=ENTER Database.

Regression

Notes

| | |
|------------------------|--|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time Memory Required Additional Memory Required for Residual Plots |

Notes

| | |
|----------------|----------------------|
| Output Created | 29-JUL-2019 16:06:46 |
|----------------|----------------------|

| | | |
|------------------------|---|---|
| Comments | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| Input | N of Rows in Working Data File | 53 |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Missing Value Handling | Cases Used | Statistics are based on cases with no missing values for any variable used. |
| | | REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA /CRITERIA=PIN(.05) /POUT(.10) /NOORIGIN /DEPENDENT AIS /METHOD=ENTER Database. |
| Syntax | Processor Time | 00:00:00.03 |
| | Elapsed Time | 00:00:00.09 |
| Resources | Memory Required | 2196 bytes |
| | Additional Memory Required for Residual Plots | 0 bytes |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|-----------------------|-------------------|--------|
| 1 | Database ^b | | .Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .435 ^a | .189 | .173 | .41681 |

a. Predictors: (Constant), Database

ANOVA^a

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|-------|----------------|----|-------------|---|------|
|-------|----------------|----|-------------|---|------|

| | | | | | | |
|---|------------|--------|----|-------|--------|-------------------|
| 1 | Regression | 2.070 | 1 | 2.070 | 11.913 | .001 ^b |
| | Residual | 8.860 | 51 | .174 | | |
| | Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Database

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.184 | .482 | | 4.527 | .000 |
| | Database | .428 | .124 | .435 | 3.452 | .001 |

a. Dependent Variable: AIS

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT AIS

/METHOD=ENTER Network.

Regression

Notes

| | |
|------------------------|---|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time Memory Required Additional Memory Required for Residual Plots |

Notes

| | | |
|------------------------|---|---|
| Output Created | | 29-JUL-2019 16:06:55 |
| Comments | | |
| Input | Data | D:\Desktop\dr qatawneh |
| | Active Dataset | banks.sav |
| | Filter | DataSet0 |
| | Weight | <none> |
| | Split File | <none> |
| Missing Value Handling | N of Rows in Working Data File | 53 |
| | Definition of Missing | User-defined missing values are treated as missing. |
| | Cases Used | Statistics are based on cases with no missing values for any variable used. |
| Syntax | | REGRESSION |
| | | /MISSING LISTWISE |
| | | /STATISTICS COEFF OUTS R ANOVA |
| | | /CRITERIA=PIN(.05) |
| | | POUT(.10) |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.06 |
| | Memory Required | 2196 bytes |
| | Additional Memory Required for Residual Plots | 0 bytes |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|----------------------|-------------------|--------|
| 1 | Network ^b | | Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .557 ^a | .310 | .297 | .38447 |

a. Predictors: (Constant), Network

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 3.391 | 1 | 3.391 | 22.944 | .000 ^b |
| | Residual | 7.539 | 51 | .148 | | |
| | Total | 10.930 | 52 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Network

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .695 | .658 | | 1.056 | .296 |
| | Network | .796 | .166 | .557 | 4.790 | .000 |

a. Dependent Variable: AIS

T-TEST

/TESTVAL=3

/MISSING=ANALYSIS

/VARIABLES=Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8 Q9 Q10 Q11 q12 q13 q14 q15 q16 q17 q18 q19 q20 q21 q22 q23 a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12

/CRITERIA=CI(.95).

T-TEST

/TESTVAL=3

/MISSING=ANALYSIS

/VARIABLES=hardware Database Network AIS

/CRITERIA=CI(.95).

T-Test

Notes

| | |
|------------------------|----------------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--------------------------------|--|
| Output Created | | 29-JUL-2019 17:25:56 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh banks.sav |
| | Active Dataset | DataSet0 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 53 |
| | Definition of Missing | User defined missing values are treated as missing. |
| Missing Value Handling | Cases Used | Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis. |
| Syntax | | T-TEST /TESTVAL=3 /MISSING=ANALYSIS /VARIABLES=hardware Database Network AIS /CRITERIA=CI(.95). |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.01 |

[DataSet0] D:\Desktop\dr qatawneh banks.sav

One-Sample Statistics

| | N | Mean | Std. Deviation | Std. Error Mean |
|----------|----|--------|----------------|-----------------|
| hardware | 53 | 3.6388 | .58205 | .07995 |
| Database | 53 | 3.8598 | .46586 | .06399 |
| Network | 53 | 3.9455 | .32072 | .04405 |
| AIS | 53 | 3.8365 | .45847 | .06298 |

One-Sample Test

| | Test Value = 3 | | | | | |
|----------|----------------|----|-----------------|-----------------|---|--------|
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| Hardware | 7.990 | 52 | .000 | .63881 | .4784 | .7992 |
| Database | 13.437 | 52 | .000 | .85984 | .7314 | .9882 |
| Network | 21.462 | 52 | .000 | .94549 | .8571 | 1.0339 |
| AIS | 13.283 | 52 | .000 | .83648 | .7101 | .9628 |

DATASET ACTIVATE DataSet0.

SAVE OUTFILE='D:\Desktop\dr qatawneh banks.sav'
/COMPRESSED.

DATASET ACTIVATE DataSet1.

DATASET ACTIVATE DataSet1.

SAVE OUTFILE='D:\Desktop\dr qatawneh financial.sav'
/COMPRESSED.

DATASET ACTIVATE DataSet1.

SAVE OUTFILE='D:\Desktop\dr qatawneh financial.sav'
/COMPRESSED.

DATASET ACTIVATE DataSet1.

SAVE OUTFILE='D:\Desktop\dr qatawneh financial.sav'
/COMPRESSED.

DATASET ACTIVATE DataSet1.

DATASET CLOSE DataSet0.

DATASET CLOSE DataSet2.

COMPUTE hardware=MEAN(a1 to a18).

EXECUTE.

COMPUTE Database=MEAN(b1 to b11).

EXECUTE.

COMPUTE communication=MEAN(c1 to c8).

EXECUTE.

COMPUTE Problems=MEAN(d1 to d7).

EXECUTE.

COMPUTE AIS=MEAN(e1 to e12).

EXECUTE.

NPART TESTS

/K-S(NORMAL)=hardware Database communication AIS

/MISSING ANALYSIS.

NPar Tests

Notes

| | |
|----------------|--------------------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| | Processor Time |
| Resources | Elapsed Time |
| | Number of Cases Allowed ^a |

Notes

| | | |
|----------------|-----------------------|---|
| Output Created | | 29-JUL-2019 19:49:50 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh financial.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 56 |
| | Data File | |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Missing Value | | Statistics for each test are based on |
| Handling | Cases Used | all cases with valid data for the |
| | | variable(s) used in that test. |
| Syntax | | NPART TESTS |
| | | /K-S(NORMAL)=hardware |
| | | Database communication AIS |
| | | /MISSING ANALYSIS. |
| | Processor Time | 00:00:00.00 |
| Resources | Elapsed Time | 00:00:00.13 |
| | Number of Cases | 112347 |
| | Allowed ^a | |

a. Based on availability of workspace memory.

[DataSet1] D:\Desktop\dr qatawneh financial.sav

One-Sample Kolmogorov-Smirnov Test

| | | hardware | Database | communication | AIS |
|----------------------------------|----------------|----------|----------|---------------|--------|
| N | | 56 | 56 | 56 | 56 |
| Normal Parameters ^{a,b} | Mean | 3.8304 | 4.0812 | 3.8438 | 4.0536 |
| | Std. Deviation | .54034 | .48126 | .64370 | .53664 |
| Most Extreme Differences | Absolute | .079 | .085 | .114 | .075 |
| | Positive | .073 | .085 | .101 | .075 |
| | Negative | -.079 | -.061 | -.114 | -.071 |
| Kolmogorov-Smirnov Z | | .590 | .635 | .851 | .565 |
| Asymp. Sig. (2-tailed) | | .877 | .815 | .463 | .907 |

a. Test distribution is Normal.

b. Calculated from data.

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT AIS

/METHOD=ENTER hardware Database communication.

Regression

Notes

| | |
|------------------------|--|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time Memory Required Additional Memory Required for Residual Plots |

Notes

| | | |
|------------------------|---|---|
| Output Created | | 29-JUL-2019 19:50:37 |
| Comments | | |
| Input | Data | D:\Desktop\dr qatawneh |
| | Active Dataset | financial.sav |
| | DataSet1 | |
| | Filter | <none> |
| | Weight | <none> |
| Missing Value Handling | Split File | <none> |
| | N of Rows in Working Data File | 56 |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Syntax | Cases Used | Statistics are based on cases with no missing values for any variable used. |
| | | REGRESSION |
| | | /MISSING LISTWISE |
| | | /STATISTICS COEFF OUTS R ANOVA |
| | | /CRITERIA=PIN(.05) |
| Resources | | POUT(.10) |
| | | /NOORIGIN |
| | | /DEPENDENT AIS |
| | | /METHOD=ENTER hardware Database communication. |
| | | |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.93 |
| | Memory Required | 3188 bytes |
| | Additional Memory Required for Residual Plots | 0 bytes |
| | | |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|--|-------------------|--------|
| 1 | communication, hardware, Database ^b | | Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .778 ^a | .606 | .583 | .34660 |

a. Predictors: (Constant), communication, hardware, Database

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 9.592 | 3 | 3.197 | 26.617 | .000 ^b |
| | Residual | 6.247 | 52 | .120 | | |
| | Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), communication, hardware, Database

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|---------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .424 | .416 | | 1.020 | .313 |
| | hardware | .124 | .111 | .125 | 1.116 | .270 |
| | Database | .585 | .136 | .524 | 4.314 | .000 |
| | communication | .200 | .092 | .239 | 2.175 | .034 |
| | n | | | | | |

a. Dependent Variable: AIS

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA COLLIN TOL

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT AIS

/METHOD=ENTER hardware Database communication.

Regression

Notes

| | |
|------------------------|---|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time Memory Required Additional Memory Required for Residual Plots |

Notes

| | | |
|------------------------|---|--|
| Output Created | | 29-JUL-2019 19:50:49 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File | D:\Desktop\dr qatawneh financial.sav DataSet1 <none> <none> <none> |
| Missing Value Handling | Definition of Missing Cases Used | 56 User-defined missing values are treated as missing. Statistics are based on cases with no missing values for any variable used. |
| Syntax | | REGRESSION /MISSING LISTWISE /STATISTICS COEFF OUTS R ANOVA COLLIN TOL /CRITERIA=PIN(.05) POUT(.10) /NOORIGIN /DEPENDENT AIS /METHOD=ENTER hardware Database communication. |
| Resources | Processor Time Elapsed Time Memory Required Additional Memory Required for Residual Plots | 00:00:00.05 00:00:00.09 3188 bytes 0 bytes |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|--|-------------------|--------|
| 1 | communication, hardware, Database ^b | | .Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .778 ^a | .606 | .583 | .34660 |

a. Predictors: (Constant), communication, hardware, Database

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 9.592 | 3 | 3.197 | 26.617 | .000 ^b |
| | Residual | 6.247 | 52 | .120 | | |
| | Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), communication, hardware, Database

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|---------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .424 | .416 | | 1.020 | .313 |
| | hardware | .124 | .111 | .125 | 1.116 | .270 |
| | Database | .585 | .136 | .524 | 4.314 | .000 |
| | communication | .200 | .092 | .239 | 2.175 | .034 |

Coefficients^a

| Model | | Collinearity Statistics | |
|-------|---------------|-------------------------|-------|
| | | Tolerance | VIF |
| 1 | (Constant) | | |
| | hardware | .603 | 1.658 |
| | Database | .513 | 1.948 |
| | communication | .626 | 1.598 |

a. Dependent Variable: AIS

Collinearity Diagnostics^a

| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions | | |
|-------|-----------|------------|-----------------|----------------------|----------|----------|
| | | | | (Constant) | hardware | Database |
| 1 | 1 | 3.971 | 1.000 | .00 | .00 | .00 |
| | 2 | .014 | 16.818 | .23 | .04 | .00 |
| | 3 | .009 | 20.495 | .49 | .73 | .00 |
| | 4 | .005 | 27.768 | .28 | .23 | 1.00 |

Collinearity Diagnostics^a

| Model | Dimension | Variance Proportions | |
|-------|-----------|----------------------|--|
| | | communication | |
| 1 | 1 | .00 | |
| | 2 | .81 | |
| | 3 | .05 | |
| | 4 | .14 | |

a. Dependent Variable: AIS

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT AIS

/METHOD=ENTER hardware.

Regression

Notes

| | |
|----------------|--------------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| Input | Filter |
| | Weight |
| | Split File |
| | N of Rows in Working Data File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| | Processor Time |
| | Elapsed Time |
| Resources | Memory Required |
| | Additional Memory Required for |
| | Residual Plots |

Notes

| | | |
|----------------|--------------------------------|---------------------------------|
| Output Created | | 29-JUL-2019 19:52:26 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh |
| | Active Dataset | financial.sav |
| Input | Filter | DataSet1 |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | <none> |
| | Definition of Missing | 56 |
| Missing Value | | User-defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | Statistics are based on cases |
| | | with no missing values for any |
| | | variable used. |
| Syntax | | REGRESSION |
| | | /MISSING LISTWISE |
| | | /STATISTICS COEFF OUTS R |
| | | ANOVA |
| | | /CRITERIA=PIN(.05) |
| | | POUT(.10) |
| | | /NOORIGIN |
| | | /DEPENDENT AIS |
| | | /METHOD=ENTER hardware. |
| | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.02 |
| Resources | Memory Required | 2636 bytes |
| | Additional Memory Required for | 0 bytes |
| | Residual Plots | |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|-----------------------|-------------------|--------|
| 1 | hardware ^b | | .Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .562 ^a | .315 | .303 | .44808 |

a. Predictors: (Constant), hardware

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 4.997 | 1 | 4.997 | 24.889 | .000 ^b |
| | Residual | 10.842 | 54 | .201 | | |
| | Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), hardware

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.917 | .432 | | 4.432 | .000 |
| | hardware | .558 | .112 | .562 | 4.989 | .000 |

a. Dependent Variable: AIS

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT AIS

/METHOD=ENTER Database.

Regression

Notes

| | |
|----------------|--------------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| Input | Filter |
| | Weight |
| | Split File |
| | N of Rows in Working Data File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| | Processor Time |
| | Elapsed Time |
| Resources | Memory Required |
| | Additional Memory Required for |
| | Residual Plots |

Notes

| | | |
|----------------|--------------------------------|---------------------------------|
| Output Created | | 29-JUL-2019 19:52:37 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh |
| | Active Dataset | financial.sav |
| Input | Filter | DataSet1 |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | <none> |
| | | 56 |
| Missing Value | Definition of Missing | User-defined missing values are |
| Handling | | treated as missing. |
| | Cases Used | Statistics are based on cases |
| | | with no missing values for any |
| | | variable used. |
| Syntax | | REGRESSION |
| | | /MISSING LISTWISE |
| | | /STATISTICS COEFF OUTS R |
| | | ANOVA |
| | | /CRITERIA=PIN(.05) |
| | | POUT(.10) |
| | | /NOORIGIN |
| | | /DEPENDENT AIS |
| | | /METHOD=ENTER Database. |
| | Processor Time | 00:00:00.05 |
| | Elapsed Time | 00:00:00.06 |
| Resources | Memory Required | 2636 bytes |
| | Additional Memory Required for | 0 bytes |
| | Residual Plots | |

[DataSet1] D:\Desktop\dr qataweh financial.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|-----------------------|-------------------|--------|
| 1 | Database ^b | | .Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .742 ^a | .551 | .543 | .36289 |

a. Predictors: (Constant), Database

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 8.728 | 1 | 8.728 | 66.280 | .000 ^b |
| | Residual | 7.111 | 54 | .132 | | |
| | Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), Database

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .675 | .418 | | 1.617 | .112 |
| | Database | .828 | .102 | .742 | 8.141 | .000 |

a. Dependent Variable: AIS

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT AIS

/METHOD=ENTER communication.

Regression

Notes

| | |
|----------------|--------------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| Input | Filter |
| | Weight |
| | Split File |
| | N of Rows in Working Data File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| | Processor Time |
| | Elapsed Time |
| Resources | Memory Required |
| | Additional Memory Required for |
| | Residual Plots |

Notes

| | | |
|----------------|--------------------------------|---------------------------------|
| Output Created | | 29-JUL-2019 19:52:44 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh |
| | Active Dataset | financial.sav |
| Input | Filter | DataSet1 |
| | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | <none> |
| | | 56 |
| Missing Value | Definition of Missing | User-defined missing values are |
| Handling | | treated as missing. |
| | Cases Used | Statistics are based on cases |
| | | with no missing values for any |
| | | variable used. |
| Syntax | | REGRESSION |
| | | /MISSING LISTWISE |
| | | /STATISTICS COEFF OUTS R |
| | | ANOVA |
| | | /CRITERIA=PIN(.05) |
| | | POUT(.10) |
| | | /NOORIGIN |
| | | /DEPENDENT AIS |
| | | /METHOD=ENTER |
| | | communication. |
| | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.05 |
| Resources | Memory Required | 2636 bytes |
| | Additional Memory Required for | 0 bytes |
| | Residual Plots | |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Variables Entered/Removed^a

| Model | Variables Entered | Variables Removed | Method |
|-------|----------------------------|-------------------|--------|
| 1 | communication ^b | | Enter |

a. Dependent Variable: AIS

b. All requested variables entered.

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .610 ^a | .372 | .361 | .42906 |

a. Predictors: (Constant), communication

ANOVA^a

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|-------|------------|----------------|----|-------------|--------|-------------------|
| 1 | Regression | 5.898 | 1 | 5.898 | 32.039 | .000 ^b |
| | Residual | 9.941 | 54 | .184 | | |
| | Total | 15.839 | 55 | | | |

a. Dependent Variable: AIS

b. Predictors: (Constant), communication

Coefficients^a

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|-------|---------------|-----------------------------|------------|---------------------------|-------|------|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.098 | .350 | | 5.991 | .000 |
| | communication | .509 | .090 | .610 | 5.660 | .000 |

a. Dependent Variable: AIS

DESCRIPTIVES VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 a13 a14 a15 a16 a17 a18 hardware

/STATISTICS=MEAN STDDEV MIN MAX.

Descriptives

Notes

| | |
|------------------------|--|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time |

Notes

| | | |
|------------------------|--|--|
| Output Created | | 29-JUL-2019 19:53:01 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File | D:\Desktop\dr qatawneh financial.sav DataSet1 <none> <none> <none> 56 |
| Missing Value Handling | Definition of Missing Cases Used | User defined missing values are treated as missing. All non-missing data are used. DESCRIPTIVES VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 a13 a14 a15 a16 a17 a18 hardware /STATISTICS=MEAN STDDEV MIN MAX. |
| Syntax | | |
| Resources | Processor Time Elapsed Time | 00:00:00.02 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|-----------------------|----|---------|---------|--------|-------------------|
| a1 | 56 | 1 | 5 | 3.96 | 1.008 |
| a2 | 56 | 2 | 5 | 3.73 | 1.000 |
| a3 | 56 | 1 | 5 | 3.73 | 1.000 |
| a4 | 56 | 1 | 5 | 3.68 | 1.046 |
| a5 | 56 | 1 | 5 | 3.63 | 1.054 |
| a6 | 56 | 1 | 5 | 3.45 | .952 |
| a7 | 56 | 2 | 5 | 3.89 | 1.003 |
| a8 | 56 | 2 | 5 | 3.79 | .909 |
| a9 | 56 | 2 | 5 | 4.05 | .818 |
| a10 | 56 | 1 | 5 | 3.73 | .904 |
| a11 | 56 | 1 | 5 | 4.00 | .853 |
| a12 | 56 | 2 | 5 | 4.02 | .700 |
| a13 | 56 | 2 | 5 | 4.27 | .587 |
| a14 | 56 | 1 | 5 | 3.82 | .897 |
| a15 | 56 | 1 | 5 | 3.13 | 1.176 |
| a16 | 56 | 2 | 5 | 4.21 | .563 |
| a17 | 56 | 2 | 5 | 4.09 | .695 |
| a18 | 56 | 2 | 5 | 3.77 | .786 |
| Hardware | 56 | 2.72 | 5.00 | 3.8304 | .54034 |
| Valid N (listwise) | 56 | | | | |

DESCRIPTIVES VARIABLES=b1 b2 b3 b4 b5 b6 b7 b8 b9 b10 b11 Database
/STATISTICS=MEAN STDDEV MIN MAX.

Descriptives

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|----------------------------------|--|
| Output Created | | 29-JUL-2019 19:53:17 |
| Comments | | |
| Data | | D:\Desktop\dr qatawneh financial.sav |
| Active Dataset | | DataSet1 |
| Filter | | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working Data File | 56 |
| Missing Value Handling | Definition of Missing Cases Used | User defined missing values are treated as missing. All non-missing data are used. DESCRIPTIVES VARIABLES=b1 b2 b3 b4 b5 b6 b7 b8 b9 b10 b11 |
| Syntax | | Database /STATISTICS=MEAN STDDEV MIN MAX. |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.02 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| b1 | 56 | 3 | 5 | 4.02 | .674 |
| b2 | 56 | 3 | 5 | 4.23 | .660 |
| b3 | 56 | 1 | 5 | 3.95 | .903 |
| b4 | 56 | 3 | 5 | 4.41 | .654 |
| b5 | 56 | 3 | 5 | 4.20 | .672 |
| b6 | 56 | 3 | 5 | 4.25 | .745 |
| b7 | 56 | 3 | 5 | 4.20 | .724 |
| b8 | 56 | 1 | 5 | 3.86 | 1.151 |
| b9 | 56 | 1 | 5 | 3.77 | 1.027 |
| b10 | 56 | 3 | 5 | 4.25 | .667 |
| b11 | 56 | 1 | 5 | 3.77 | 1.044 |
| Database | 56 | 3.00 | 5.00 | 4.0812 | .48126 |
| Valid N (listwise) | 56 | | | | |

DESCRIPTIVES VARIABLES=c1 c2 c3 c4 c5 c6 c7 c8
/STATISTICS=MEAN STDDEV MIN MAX.

DESCRIPTIVES VARIABLES=c1 c2 c3 c4 c5 c6 c7 c8 communication
/STATISTICS=MEAN STDDEV MIN MAX.

Descriptives

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|----------------|-----------------------|--------------------------------------|
| Output Created | | 29-JUL-2019 19:53:35 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh financial.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 56 |
| | Data File | |
| Missing Value | Definition of Missing | User defined missing values are |
| Handling | Cases Used | treated as missing. |
| | | All non-missing data are used. |
| Syntax | | DESCRIPTIVES VARIABLES=c1 c2 |
| | | c3 c4 c5 c6 c7 c8 communication |
| | | /STATISTICS=MEAN STDDEV MIN |
| | | MAX. |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.02 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| c1 | 56 | 1 | 5 | 4.00 | .786 |
| c2 | 56 | 1 | 5 | 3.71 | .868 |
| c3 | 56 | 2 | 5 | 3.98 | .774 |
| c4 | 56 | 1 | 5 | 3.82 | .855 |
| c5 | 56 | 1 | 5 | 3.82 | .834 |
| c6 | 56 | 2 | 5 | 3.82 | .811 |
| c7 | 56 | 1 | 5 | 3.75 | .815 |
| c8 | 56 | 1 | 5 | 3.84 | .869 |
| communication | 56 | 2.00 | 5.00 | 3.8438 | .64370 |
| Valid N (listwise) | 56 | | | | |

DESCRIPTIVES VARIABLES=d1 d2 d3 d4 d5 d6 d7 Problems
/STATISTICS=MEAN STDDEV MIN MAX.

DATASET ACTIVATE DataSet1.

SAVE OUTFILE='D:\Desktop\dr qatawneh financial.sav'
/COMPRESSED.

COMPUTE Problems=MEAN(d1 to d7).

EXECUTE.

DESCRIPTIVES VARIABLES=d1 d2 d3 d4 d5 d6 d7 Problems
/STATISTICS=MEAN STDDEV MIN MAX.

Descriptives

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--|---|
| Output Created | | 29-JUL-2019 19:54:53 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File | D:\Desktop\dr qatawneh financial.sav DataSet1 <none> <none> <none> 56 |
| Missing Value Handling | Definition of Missing Cases Used | User defined missing values are treated as missing. All non-missing data are used. DESCRIPTIVES VARIABLES=d1 d2 d3 d4 d5 d6 d7 Problems /STATISTICS=MEAN STDDEV MIN MAX. |
| Syntax | | |
| Resources | Processor Time Elapsed Time | 00:00:00.02 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|--------------------|----|---------|---------|--------|----------------|
| d1 | 56 | 1 | 5 | 3.84 | .848 |
| d2 | 56 | 2 | 5 | 3.91 | .837 |
| d3 | 56 | 2 | 5 | 4.05 | .749 |
| d4 | 56 | 2 | 5 | 3.98 | .751 |
| d5 | 56 | 2 | 5 | 4.11 | .705 |
| d6 | 56 | 3 | 5 | 4.14 | .645 |
| d7 | 56 | 1 | 5 | 3.82 | .876 |
| Problems | 56 | 2.86 | 5.00 | 3.9796 | .56649 |
| Valid N (listwise) | 56 | | | | |

DESCRIPTIVES VARIABLES=e1 e2 e3 e4 e5 e6 e7 e8 e9 e10 e11 e12 AIS
/STATISTICS=MEAN STDDEV MIN MAX.

Descriptives

Notes

| | |
|------------------------|---|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time |

Notes

| | | |
|------------------------|---|--|
| Output Created | | 29-JUL-2019 19:55:23 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File | D:\Desktop\dr qatawneh financial.sav DataSet1 <none> <none> <none> 56 |
| Missing Value Handling | Definition of Missing Cases Used | User defined missing values are treated as missing. All non-missing data are used. DESCRIPTIVES VARIABLES=e1 e2 e3 e4 e5 e6 e7 e8 e9 e10 e11 e12 AIS /STATISTICS=MEAN STDDEV MIN MAX. |
| Syntax | | |
| Resources | Processor Time Elapsed Time | 00:00:00.02 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Descriptive Statistics

| | N | Minimum | Maximum | Mean | Std. Deviation |
|-----------------------|----|---------|---------|--------|----------------|
| e1 | 56 | 2 | 5 | 3.73 | .842 |
| e2 | 56 | 2 | 5 | 4.05 | .818 |
| e3 | 56 | 2 | 5 | 4.09 | .837 |
| e4 | 56 | 3 | 5 | 4.07 | .710 |
| e5 | 56 | 1 | 5 | 3.80 | .862 |
| e6 | 56 | 1 | 5 | 4.20 | .699 |
| e7 | 56 | 2 | 5 | 4.04 | .713 |
| e8 | 56 | 2 | 5 | 4.09 | .880 |
| e9 | 56 | 1 | 5 | 4.02 | .981 |
| e10 | 56 | 1 | 5 | 4.11 | .867 |
| e11 | 56 | 2 | 5 | 4.20 | .699 |
| e12 | 56 | 3 | 5 | 4.25 | .477 |
| AIS | 56 | 3.00 | 5.00 | 4.0536 | .53664 |
| Valid N (listwise) | 56 | | | | |

RELIABILITY

/VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 a13 a14 a15 a16 a17 a18 b1 b2 b3 b4 b5 b6 b7 b8 b9 b10 b11 c1 c2 c3 c4 c5 c6 c7 c8 d1 d2 d3 d4 d5 d6 d7 e1 e2 e3 e4 e5 e6 e7 e8 e9 e10 e11 e12

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA.

Reliability

Notes

| | |
|------------------------|---|
| Output Created | |
| Comments | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File Matrix Input |
| Missing Value Handling | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time Elapsed Time |

Notes

| | | |
|------------------------|-----------------------|--|
| Output Created | | 29-JUL-2019 19:55:53 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh financial.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| | Weight | <none> |
| Input | Split File | <none> |
| | N of Rows in Working | 56 |
| | Data File | |
| | Matrix Input | |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Missing Value Handling | Cases Used | Statistics are based on all cases with valid data for all variables in the procedure. |
| | | RELIABILITY |
| | | /VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 a13 a14 a15 a16 a17 a18 b1 b2 b3 b4 b5 b6 b7 b8 b9 b10 b11 c1 c2 c3 c4 c5 c6 c7 c8 d1 d2 d3 d4 d5 d6 d7 e1 e2 e3 e4 e5 e6 e7 e8 e9 e10 e11 e12 |
| Syntax | | /SCALE('ALL VARIABLES') ALL |
| | | /MODEL=ALPHA. |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.04 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 56 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 56 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .955 | 56 |

RELIABILITY

```

/VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 a13 a14 a15 a16 a17 a18
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA.

```

Reliability

| Notes | |
|------------------------|----------------------------------|
| Output Created | |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| Missing Value Handling | N of Rows in Working Data File |
| | Matrix Input |
| | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--|--|
| Output Created | 29-JUL-2019 19:56:57 | |
| Comments | | |
| Input | Data | D:\Desktop\dr qatawneh financial.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| Missing Value Handling | N of Rows in Working Data File | 56 |
| | Matrix Input | |
| | Definition of Missing Cases Used | User-defined missing values are treated as missing. Statistics are based on all cases with valid data for all variables in the procedure. |
| Syntax | RELIABILITY /VARIABLES=a1 a2 a3 a4 a5 a6 a7 a8 a9 a10 a11 a12 a13 a14 a15 a16 a17 a18 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA. | |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 56 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 56 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .895 | 18 |

DATASET ACTIVATE DataSet1.

SAVE OUTFILE='D:\Desktop\dr qatawneh financial.sav'
/COMPRESSED.

RELIABILITY

/VARIABLES=b1 b2 b3 b4 b5 b6 b7 b8 b9 b10 b11
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA.

Reliability

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| | Matrix Input |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--|--|
| Output Created | | 29-JUL-2019 19:57:20 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File Matrix Input | D:\Desktop\dr qatawneh financial.sav DataSet1 <none> <none> <none> |
| Missing Value Handling | Definition of Missing Cases Used | 56 User-defined missing values are treated as missing. Statistics are based on all cases with valid data for all variables in the procedure. |
| Syntax | | RELIABILITY /VARIABLES=b1 b2 b3 b4 b5 b6 b7 b8 b9 b10 b11 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA. |
| Resources | Processor Time Elapsed Time | 00:00:00.00 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 56 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 56 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .803 | 11 |

RELIABILITY

```

/VARIABLES=c1 c2 c3 c4 c5 c6 c7 c8
/SCALE('ALL VARIABLES') ALL
/MODEL=ALPHA.

```

Reliability

Notes

| | |
|----------------|---------------------------|
| Output Created | |
| Comments | |
| | Data |
| | Active Dataset |
| | Filter |
| Input | Weight |
| | Split File |
| | N of Rows in Working Data |
| | File |
| | Matrix Input |
| Missing Value | Definition of Missing |
| Handling | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|----------------|-----------------------|---|
| Output Created | | 29-JUL-2019 19:57:37 |
| Comments | | |
| | Data | D:\Desktop\dr qatawneh financial.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| Input | Weight | <none> |
| | Split File | <none> |
| | N of Rows in Working | 56 |
| | Data File | |
| | Matrix Input | |
| | Definition of Missing | User-defined missing values are treated as missing. |
| Missing Value | | Statistics are based on all cases with valid data for all variables in the procedure. |
| Handling | Cases Used | RELIABILITY |
| | | /VARIABLES=c1 c2 c3 c4 c5 c6 c7 c8 |
| Syntax | | /SCALE('ALL VARIABLES') ALL |
| | | /MODEL=ALPHA. |
| Resources | Processor Time | 00:00:00.02 |
| | Elapsed Time | 00:00:00.01 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Scale: ALL VARIABLES

Case Processing Summary

| | | N | % |
|-------|-----------------------|----|-------|
| Cases | Valid | 56 | 100.0 |
| | Excluded ^a | 0 | .0 |
| | Total | 56 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .907 | 8 |

RELIABILITY

/VARIABLES=e1 e2 e3 e4 e5 e6 e7 e8 e9 e10 e11 e12

/SCALE('ALL VARIABLES') ALL

/MODEL=ALPHA.

Reliability

Notes

| | |
|------------------------|----------------------------------|
| Output Created | |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| | N of Rows in Working Data |
| Missing Value Handling | File |
| | Matrix Input |
| | Definition of Missing Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--|--|
| Output Created | | 29-JUL-2019 19:58:02 |
| Comments | | |
| Input | Data Active Dataset Filter Weight Split File N of Rows in Working Data File Matrix Input | D:\Desktop\dr qatawneh financial.sav DataSet1 <none> <none> <none> |
| Missing Value Handling | Definition of Missing Cases Used | 56 User-defined missing values are treated as missing. Statistics are based on all cases with valid data for all variables in the procedure. |
| Syntax | | RELIABILITY /VARIABLES=e1 e2 e3 e4 e5 e6 e7 e8 e9 e10 e11 e12 /SCALE('ALL VARIABLES') ALL /MODEL=ALPHA. |
| Resources | Processor Time Elapsed Time | 00:00:00.02 00:00:00.00 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

Scale: ALL VARIABLES

Case Processing Summary

| | N | % |
|-----------------------------|----|-------|
| Valid | 56 | 100.0 |
| Cases Excluded ^a | 0 | .0 |
| Total | 56 | 100.0 |

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .893 | 12 |

T-TEST

/TESTVAL=3

/MISSING=ANALYSIS

/VARIABLES=hardware Database communication Problems AIS

/CRITERIA=CI(.95).

T-Test

| Notes | |
|------------------------|--------------------------------|
| Output Created | |
| Comments | |
| Input | Data |
| | Active Dataset |
| | Filter |
| | Weight |
| | Split File |
| Missing Value Handling | N of Rows in Working Data File |
| | Definition of Missing |
| | Cases Used |
| Syntax | |
| Resources | Processor Time |
| | Elapsed Time |

Notes

| | | |
|------------------------|--------------------------------|--|
| Output Created | | 29-JUL-2019 20:06:06 |
| Comments | | |
| Input | Data | D:\Desktop\dr qatawneh financial.sav |
| | Active Dataset | DataSet1 |
| | Filter | <none> |
| | Weight | <none> |
| | Split File | <none> |
| Missing Value Handling | N of Rows in Working Data File | 56 |
| | Definition of Missing | User defined missing values are treated as missing. |
| | Cases Used | Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis. |
| Syntax | | T-TEST /TESTVAL=3 /MISSING=ANALYSIS /VARIABLES=hardware Database communication Problems AIS /CRITERIA=CI(.95). |
| Resources | Processor Time | 00:00:00.00 |
| | Elapsed Time | 00:00:00.02 |

[DataSet1] D:\Desktop\dr qatawneh financial.sav

One-Sample Statistics

| | N | Mean | Std. Deviation | Std. Error Mean |
|--------------|----|--------|----------------|-----------------|
| hardware | 56 | 3.8304 | .54034 | .07221 |
| Database | 56 | 4.0812 | .48126 | .06431 |
| communicatio | 56 | 3.8438 | .64370 | .08602 |
| n | | | | |
| Problems | 56 | 3.9796 | .56649 | .07570 |
| AIS | 56 | 4.0536 | .53664 | .07171 |

One-Sample Test

| | Test Value = 3 | | | | |
|--------------|----------------|----|-----------------|-----------------|---|
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference |
| | | | | | Lower |
| Hardware | 11.500 | 55 | .000 | .83036 | .6857 |
| Database | 16.812 | 55 | .000 | 1.08117 | .9523 |
| communicatio | 9.809 | 55 | .000 | .84375 | .6714 |
| n | | | | | |
| Problems | 12.940 | 55 | .000 | .97959 | .8279 |
| AIS | 14.692 | 55 | .000 | 1.05357 | .9099 |

One-Sample Test

| | Test Value = 3 | |
|---------------|---|--|
| | 95% Confidence Interval of the Difference | |
| | Upper | |
| Hardware | .9751 | |
| Database | 1.2101 | |
| communication | 1.0161 | |
| Problems | 1.1313 | |
| AIS | 1.1973 | |