THE EFFECT OF ACCOUNTING INFORMATION SYSTEM CHARACTERISTICS ON THE INTERNAL AUDIT EFFECTIVENESS AMONG COMPANIES TRADED IN IRAQI STOCK EXCHANGE: TESTING THE MODERATING ROLE OF EXPERIENCE

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UNIVERSITI PENDIDIKAN SULTAN IDRIS

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DEDICATION

Dedicated to my beautiful family.

To the most precious people in my life: my parents, brothers, sisters, sincere wife and

beloved daughter and sons.

ABSTRACT

The aim of this research was to investigate the effect of Accounting Information System (AIS) characteristics on the Internal Audit Effectiveness (IAE) in companies traded in Iraqi stocks exchange by focusing on the moderating effect of experience. The selected characteristics were reliability, flexibility, timeliness, integration, and relevance. The research theoretical foundation was built based on the agency and contingency theories. A quantitative approach using Structural Equation Modeling (SEM) was utilized as the main research design. The data was collected from a group of respondents comprising accountants (n=175), auditors (n=85), account managers (n=60), and audit managers (45) who were selected through a simple random sampling technique. The data was analyzed to determine the effects. A survey questionnaire was developed and verified for its construct validity based on judgments of eight experts. A pilot test was conducted to investigate the questionnaire reliability involving 40 respondents selected from several companies. Exploratory factorial analysis was conducted on 100 respondents in several companies to verify that the research variables that could be used in the actual study. The actual survey questionnaire was distributed to 365 respondents and the data were analyzed using confirmatory factorial analysis in order to determine the relationship between AIS and IAE variables. The research results indicated that all selected AIS characteristics have different significant effects on IAE. The significant effects were relevance (β =0.273, p<0.05), followed by flexibility (β =0.150, p<0.05), integration (β =0.109, p< 0.05), reliability (β =0.098, p<0.05) and timeliness (β =0.095, p<0.05). Moreover, experience moderated the relationships among flexibility (β =0.111, p<0.05) and integration (β =0.094, p<0.05). In conclusion, relevance is the most dominant AIS factor that affects IAE, and experience serves as an influential moderator between AIS and IAE. In implication, companies should focus on experience to enhance the effectiveness of AIS and IAE systems and to increase their accountants and auditors' knowledge and skills.

KESAN CIRI-CIRI SISTEM MAKLUMAT PERAKAUNAN TERHADAP KEBERKESANAN AUDIT DALAMAN SYARIKAT-SYARIKAT YANG BERDAGANG DI BURSA SAHAM IRAQ: MENGUJI PERANAN MODERASI PENGALAMAN

ABSTRAK

Tujuan penyelidikan ini adalah untuk mengkaji kesan ciri-ciri sistem maklumat perakaunan (AIS) ke atas keberkesanan audit dalaman (IAE) dalam kalangan syarikat yang berdagang di bursa saham Iraq dengan memberi tumpuan kepada peranan moderasi pengalaman. Ciri-ciri yang dipilih adalah kebolehpercayaan, kelenturan, mengikut peredaran masa, integrasi, dan kerelevanan. Asas teori yang digunakan untuk penyelidikan berdasarkan teori agensi dan teori kontingensi. Pendekatan kuantitatif menggunakan Model Persamaan Berstruktur (SEM) telah digunakan sebagai reka bentuk kajian utama. Pengumpulan data daripada sekumpulan responden yang terdiri daripada akauntan (n=175), juruaudit (n=85), pengurus akaun (n=60), dan pengurus audit (n=45) yang dipilih melalui teknik pensampelan rawak mudah. Data dianalisis untuk menentukan kesan pembolehubah-pembolehubah yang dikaji. Borang Soal selidik telah dibuat pengesahan konstruk oleh lapan pakar. Ujian rintis dijalankan untuk menentukan kebolehpercayaan borang soal selidik yang melibatkan 40 responden yang dipilih daripada beberapa syarikat. Analisis eksplorasi faktorial dilakukan terhadap 100 responden daripada beberapa syarikat untuk mengesahkan pembolehubah-pembolehubah penyelidikan yang digunakan dalam kajian sebenar. Soal selidik tinjauan sebenar telah diagihkan kepada 365 responden dan data telah dianalisis menggunakan analisis faktorial pengesahan untuk menentukan faktor-faktor yang memberi kesan kepada AIS dan IAE. Hasil penyelidikan menunjukkan bahawa ciri-ciri sistem maklumat perakaunan terpilih mempunyai kesan yang signifikan terhadap keberkesanan audit dalaman. Kesan yang paling signifikan adalah ciri kerelevanan (β =0.273, $p<0.05$), diikuti oleh kelenturan (β =0.150, $p<0.05$), integrasi (β =0.109, $p<0.05$), kebolehpercayaan (β =0.098, $p<0.05$) dan mengikut peredaran masa (β =0.095, $p<0.05$). Tambahan pula, pengalaman adalah faktor moderasi yang signifikan dalam hubungan kelenturan (β =0.111, $p<0.05$) dan integrasi (β =0.094, $p<0.05$). Kesimpulannya, kerelevanan adalah faktor AIS yang paling dominan mempengaruhi IAE, dan pengalaman adalah faktor moderator di antara AIS dan IAE. Implikasinya, syarikat perlu menfokus kepada faktor pengalaman untuk meningkatkan keberkesanan AIS dan IAE dan juga perlu meningkatkan pengetahuan dan kemahiran para akauntan dan juruaudit.

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LIST OF ABBREVIATIONS

AAA	American Accounting Association
AC	Audit Committee
AIS	Accounting Information System
AMOS	Analysis of Moment Structure
AVE	Average Variance Extracted
CFA	Confirmation Factor Analysis
CFI	Comparative Fit Index
CR	Composite Reliability
DEA	Data Envelopment Analysis
df	Degree Of Freedom
EDP	Electronic Data Processing
EFA	Exploratory Factor Analysis
ERP	Enterprise Resource Planning
FA	Factor Analysis
FAIS	Financial Accounting Information System
FASB	Financial Accounting Standards Board
GDP	Gross Domestic Product
GOF	Goodness of Fit
IAE	Internal Audit Effectiveness
IASB	International Accounting Standards Board

IES	International Education Standard
IFAC	International Federation of Accountants
IFI	Incremental Fit Indices
IIA	Institute of Internal Auditors
IMA	Institute of Management Accountant
IA	Internal Audit
IS	Information System
ISE	Iraqi Stock Exchange
IC	Internal Control
IT	Information Technology
MAIS	Management Accounting Information System
MCAS	Management Commitment and Support
MIS	Management Information System
PEU	Perceived Environmental Uncertainty
PLS	Partial Least Square
RMSEA	Root Mean Square Error
SEM	Structural Equation Modeling
SMA	Strategic Management Accounting
SMEs	Small and Medium Enterprises
SOEs	State Owned Enterprises
SPSS	Statistical Package for Social Science
TLI	Tucker-Lewis Index

APPENDIX LIST

A   Survey Questionnaire

CHAPTER 1

INTRODUCTION

1.1 Background

Internal audit is considered as a vital factor for organizations success, and it is an essential factor in ensuring rigorous financial reporting and preventing capital misuse. Internal audit is a crucial factor for settling financial crises and organization conflicts and consequently it can influence the corporate governance practices and increase their effectiveness (Elnafabi, 2019). Regarding this matter, Schneider (2003) contended that bankruptcy and financial problems happened to Enron, WorldCom and other companies expanded the requirement for business controlling. The author indicated that the failures of external audit related to these issues raise the role of internal auditing in business controlling. On the other hand, management of organizations is responsible for creating and preserving efficient internal control systems. These systems efficiently reduce the risks of achieving organization objectives. Thus, the internal control system

has a critical role in IA as the internal auditors may be regarded as specialists in administration control (Al-Jabali, Abdalmanam, & Ziadat, 2011). The practices of IA evaluate the efficiency of internal control systems, where the IA definition also comprises actions analysis of the management to fix conditions that are diverse with arranged result.

Prior to 1999, IA was seen as the accountancy profession less effective end (Albrecht & Sack, 2000). The IA was considered as a compulsory thing on organizations that cannot be overlooked. Then, a change happened to the IA image (Christodoulou, 2011). In 1999, the Turnbull report came out. It emphasized on the risk management for the entire organization. After companies like Enron and WorldCom took over the world, IA spread on a large scale. Smith report on Audit Committees-the Combined Code in 2002 in United Kingdom, and the Sarbanes-Oxley Act in 2002 in the USA were both established as new regulations. The Audit Committees-the Combined Code includes regulations to help organization boards make the appropriate arrangements for committees of the audit, and to help directors who serve on audit committees to carry out their function (Smith, 2003).

The Sarbanes Oxley Acts contains regulations that are a reaction to some major accounting and business scandals that includes WorldCom and Enron. Organizations have become more conscious of the worth of IA; a broad range of assurance is needed by executives and non-executives board members to do their work efficiently (Nixon,

2005). Corporations in the USA improved their IA budgets, employment skills, and gatherings with the audit committee (Carcello *et al*., 2005). Professionals drifted away from measuring and assessing the efficiency of internal control to auditing based on risk and consulting actions (Emnert & Johansson, 2010).

Many authors define effectiveness with regards to establishment of the internal audit objectives, in spite of interpreting them in various ways. For instance, Mihret and Yismaw (2007) defined Internal Audit Effectiveness (IAE) as the degree to which an internal audit office achieves its objectives or the degree of achieving the desired outcome. Karapetrovic and Willborn (2000) indicated that IAE include the auditor capability to perform an audit without mistakes. A general consensus has been developed about IA effectiveness measures which include IA status and structure, auditors' quality and work scope, their services and role, their competence, qualified skill, management support, and relationship with other parties (Barac *et al*., 2016).

In fact, the IAE is important for organization success, so IAE can increase top managers awareness of their accountability as for controls and risks (Anderson & Eubanks, 2015). Also, according to Sarens and De Beelde (2006), the IAE can perform as a consultant that monitors the information systems and detects weaknesses in control systems. On the other hand, IAE can support and help the external auditors and the audit board in their roles (Zain & Subramaniam, 2007). Generally, internal auditing is a fundamental function that helps organizations in attaining their objectives and

prevents asset loss (Popoola *et al*., 2016). Furthermore, many factors affect directly on the IAE namely; strategy, management commitment and support (MCAS), accounting information systems (AIS), organization structure, and regulations (Van Gansberghe, 2005).

The AIS gathers, stores, records, and handles progression of data to generate information that can help in decision-making (Susanto, 2008). The AIS also is provided by accounting through steps that begin with the setting of the required data, then designing the AIS according to the needs of users, recording economic data into the AIS, and ends with using the AIS (Hanifi & Taleei, 2015). The incorporation of AIS instrument in the sector of information technology systems intends to assist in managing and controlling the topics related to corporations' financial and economic region in decision-making. The development of innovation gave the opportunity to create and use AIS strategically (Mndzebele, 2013; Carolina, 2015). The importance of AIS has been increased, and information has become more vital to the management of the AIS (Romney & Stinbart, 2015).

Nowadays, organizations are interested in the information and computing age (Qatawneh, 2013). Information is the major resource in the recent era of most organizations (Xu, 2003). Information systems are widely used for improving the performance activities and efficiency of the Internal Audit. The AIS is one of the imperative components of the current information systems (Mitchell, Reid, & Smith,

2000). The quality of information is considered good if the information is relevant and reliable (Mitchell *et al*., 2000). Information that is used for decision-making is considered relevant information (Porter & Norton, 2011).

In addition, the quality of information from AIS affects the ability of management in making decisions in relation to the organization operation and the financial statements presentation that can be trusted (Hall, 2011). According to Romney (2009), the information is useful if it includes reliability, efficiency, integration, and flexibility. Researchers mentioned the critical success factors of AIS such as Heidmann *et al.* (2008) who mentioned integration, formalization, accessibility flexibility, and media richness as determinants of successful AIS. On other hand, Ong et al., (2009) and Wixom and Todd (2005) stated that a good AIS is defined by achieving the characteristics (dimensions): flexibility, integration, reliability, accessibility, and timeliness. Finally, Napitupulu *et al.,* (2016) used four factors to identify good and effective AIS: integration, reliability, flexibility and efficiency. For the matter of this research, some characteristics are adopted to classify the AIS variable. They are selected based on their most frequent use in the literature as explained in details in the next chapter.

There is a relation between the efficiency of internal controlling systems and AIS success. Having an efficient internal control system can reassure the suitability of data entries, processing practices, storage procedures, and how accurate the information

produced is (O Brien & Marakas, 2010). Internal controlling systems are designed to observe and maintain the quality as well as the security of all the activities of the information system in applying input and output actions (O Brien & Marakas, 2010). The internal control development in an AIS assists the management in protecting company assets from losses and fraud and to keep the company's financial information accurate (Jones & Rama, 2003).

In terms of the accounting information value, the profession of the managers are the most important part, no matter what are the information results from managerial or financial accounting (Oprea, 1999). Managers have to comprehend information accounting by reporting it for the reason that it will be used for, also establishing with clear aims developed in terms of managerial accounting (Belverde *et al*., 2000).

The experience of the accountant' staff and accounting managers is one of the most significant aspects that enhances the internal audit process, consequently, allow the top management to make precise decisions. Accountants and auditors high levels of experience indicate that the organisation is better in comparison than others who have lower experience levels (Classen *et al.*, 2012). The reason for this is that the audit management skills play a big role in the organisation decision making (Datta & Iskandar-Datta, 2014). A wide range of experience has a large impact on the dynamic abilities of companies, development of new product and services, as well as the internal competitiveness (Saatcioglu *et al*., 2012; Vasudevan & Chawan, 2014; Von den

Driesch *et al*., 2015). This research assumes the corporations that were traded in the Iraqi Stock Exchange (ISE) must focus their attention on the economic and security conditions while facing challenges in the business environment (Trading Economies, 2017; Iraqi Stock Exchange, 2017). Iraq securities commission was established to achieve the stable and sustainable economic development in Iraq through strengthening the infrastructure investment and encouraging the capital formation process. On the other hand, the revitalization of shares trading is considered as a basic cornerstone in the development of Iraq in the future (Iraqi Stock Exchange, 2016).

This research is essential for traded companies of ISE, which require information that deals with higher vulnerability levels in the highly competitive environment. Therefore, there is a necessity to enhance the organization system and the ability of information processing to coordinate the data needed to invest in staff training, improving products quality and internal procedures as well as increasing the investments of AIS. Communication technologies cover a wide range of areas, so this research focuses on a particular part of the accounting data systems that shows computerized accounting instruments are related to the financial and economic outcomes in the traded companies of ISE that indicates a burden on the internal auditing. Because of the challenges that are facing the traded companies of ISE and the competition worldwide, large levels of legal proceedings affect the business risk in a significant way, which can be mitigated to an extent by more experienced members of the audit committee (Arthur Andersen, 1998; Howard, 1998; Trading Economies,

2017). This research concentrates on the role of accounting data systems in influencing the internal audit efficiency of traded companies in the ISE.

1.1.1 Iraq Stock Exchange Companies

A stock exchange, or bourse, is a means by which securities such as stock and bonds and other financial documents can be bought and sold by traders and stock brokers. Stock exchanges also deliver services for issuing and redemption of such securities, documents and capital comprising the payment of income and shares. Listed securities comprise shares delivered by registered companies, deposit funds, derivatives, consolidated investment bonds and products. Stock exchanges regularly act as constant auction markets with buyers and sellers doing transactions in a central location such as the stock market floor. Several stock exchanges nowadays utilize electronic trading rather than trading traditional securities (Lins & Lemke, 2014).

Iraq stock exchange (ISE), the official stock exchange of Baghdad, is a stock exchange in Baghdad capital of Iraq formed by the coalition provisional authority (CPA) Order No. 74 as a self-governing non-profit organization (International Business Publications, 2013). On April 18, 2004, the Iraq securities commission and an Iraq depositary are also created by this order. The stock exchange was part of the country development from an implicit strategic economy to a free market economy over an active private sector (Talmon, 2013). The Iraq stock exchange was established on June

24, 2004 (Michaels, 2008) under the supervision of the commission of Iraq securities, which is an independent committee like the securities and exchange commission of USA. This body that oversees the governors' board firstly was a bridge between the country's previous state-owned stock exchange and the new independent stock exchange. The adviser of the stock exchange is the American June Reed (Iraqi Stock Exchange, 2017).

Prior to the USA invasion of Iraq in 2003, the Iraq stock exchange was called Baghdad stock exchange under the supervision of Ministry of Finance of Iraqi. Now it is an independent organization like the stock exchange of New York, which is owned by 50 member brokers. . When ISE market opened in June 2004, there were only 15 companies listed on the market. In December 2004, the number increased to 78. The number of the registered companies are subject to change based on market activity and the diversity of investment fields. Table 1.1 shows the number of registered companies during different periods (Al-Janabi. 2013; Hisham & Emad, 2018).

Table 1.1: *Registered Companies in ISE*

Year	Number of Registered Companies
2006	93
2007	94
2008	94
2009	91
2010	85
2011	87
2012	85
2014	74
2015	76
2016	70
2017 September	120

Iraq stock exchange market is an economic market with financial and administrative independence not linked to a party. It is managed by a council consisting of nine members representing the various economic sectors of the investment segment called the board of governors (Hamid & Khantal, 2017).

1.2 Problem Statement

The trading volume of traded companies in the ISE has dropped to 426.8 billion Iraqi dinars in 2016 as compared to 456.2 billion Iraqi dinars in 2015 with percentage ratio

6.4%, the fiscal deficit expanding from 5.6 % points of gross domestic product (GDP) in 2014 to 20.0 % of GDP in 2016 (Trading Economies, 2017; Iraqi Stock Exchange, 2017). Publicly held corporations are the largest around the world and their efficiency is essential to investors, world-class institutes and government officials (Forbes, 2013). Iraq is one of the developing countries and it has been exposed to major performance reduction due to the instability in the Middle East region and the refugee crisis. This indicates that the trading volume of traded companies in ISE is in a decreasing trend (Trading Economies, 2017).

There is a lack of a clear and specific program for internal auditing in the companies listed in the Iraq Stock Exchange that can be adopted as a basis in evaluating its performance and contributing to resolve the dispute that may arise between the management and the audit committee when exercising financial supervision and consequently contributing to enhance its performance (Abdul Amir & Mohammed, 2017). Most ISE companies have a department of internal audit, however very few companies strive to develop their internal audit staff competency, which helps to reduce the manipulation of earnings in the practices of management (Alzabari *et al.*, 2018). According to the scientific conference of Iraqi Law College (2017), Iraq occupation by US increased corruption of management and administration rampant in all aspects of Iraq including the private and non-private companies. The corruption affected all institutions, regardless of the type and complexity of the institutions and whether they are ancient or new. For the private economic institutions, Iraq achieved a high rank in

the spread of financial and administrative corruption. Consequently, the transparent international organization has classified the Iraqi state as the top of corruption compared to other states (Abdal Ameer & Alkhazrajy, 2017).

The use of the AIS is one of the important means in the recent era. The growth of organizations, size, services, products variety and what they provide, also the large number of their financial operations, have directed organizations to pay attention for the AIS (Sambasivan, 2013). AISs are used to deliver financial reports on a daily basis and to supply important data needed for decision making as well as the overall performance of the whole corporation (Sajady *et al.,* 2008). Moreover, they supply adequate control to assure that the processing and recording of data is accurate (Qasim, 2010).

Although there were several studies on the effect of AIS, no one inspected the relation between AIS and internal auditors. AIS is essential for internal auditors because it contains the financial records auditors need in their work. The main role of internal audit is helping organizations reach their goals by assessing the effectiveness of risk management, control, and governance (Tan, 2016). One of the first research studied relation between AIS and IA is conducted by (Tan, 2016). The author investigated the effect of AIS on IA in several companies in the industrial sector in Turkey. However, he did not investigate the AIS qualitative characteristics effect in his study. Al-Qadi (2016) study in Jordan investigated the effect of AIS relevancy and reliability on

internal audit quality in Jordanian Private Hospitals. The results indicate a significant effect of relevancy and reliability on the internal audit quality.

Internal audit is important for the organizations sustainability, so auditors have to acquire and build up their abilities in order to be capable of fulfilling their tasks in a qualified manner as obligated by their expert associations. Several problems face the internal audit such as the administrative disruption, financial excesses, intentional and unintentional excesses, disruption of the organization systems and its resources. This leads to lack of confidence in the AIS then exposes organizations to bankruptcy risk, loss, and liquidation also increases the charge on internal audit (Bazmi, *et al*., 2016). In the context of the required skill, the International Federation of Accountants (IFAC) issued the International Education Standard (IES) Competence Requirements for Audit Professionals which shows the knowledge content of the training and advancement programs (Arnold & Sutton, 1998; Curtis & Payne, 2008; Janvrin *et al.*, 2009).

As a result of high levels of management corruption in Iraqi organizations, the level of employees' turnover has been increased, which has a significant effect on making the right decisions. In addition, most of the new employees were recruited according to the quotas of government parties, regardless of the availability of necessary expertise, which negatively impacted the performance of institutions significantly. On the other hand, experience is still in the infancy stage in business researches, it even is an important factor to keep companies alive. A high level of

experience helps the management make the right decisions. The upper management experience was not satisfactorily inspected in the AIS literature (Saatcioglu *et al*., 2012; Vasudevan and Chawan, 2014; Von den Driesch *et al.,* 2015). However, researchers who investigated the performance of IAE of public listed companies have focused mainly on factors related to the field of capital, governance, and board characteristic (Ibrahim & Samad, 2011; Shukeri *et al*., 2012; Vieito, 2012).

Few have included AIS, IAE and experience as moderator among the variables of the studies (Harris, Cortvriend & Hyde, 2007; Tippe & Syarifudin, 2013; Boediono, 2014). According to this research literature, it became apparent that the existing information about the relationship between AIS and IAE was an attractive subject for many researchers who study it in a general form (Neogy, 2014; Napitupulu *et al*., 2016). To solve this issue, this research examines the effect of AIS's characteristics on the IAE among companies traded on ISE with considering the moderating effect of experience between them.

Eventually, the problem statement can be summarized to define the research gap as introduced in the following.

• The spread of administrative and financial corruption in all the Iraq facilities at all levels

• There is a lack of clear and specific program for internal auditing in the companies listed in the Iraq Stock Exchange the scope of the research

• Although there were several studies on AIS and IA, very few researches inspect the

relation between AIS and internal auditors.

• Experience is not studied to moderate the relation between AIS's characteristics and
IA.

1.3   Research Objectives

This research aims for a better comprehension of AIS's role and to enhance the IAE of

Iraq companies. Specifically, the following objectives are aimed to be achieved in this

research:

1. To examine the effect of AIS characteristics (integration, flexibility, reliability,

    relevance and timeliness) on IAE among companies traded on ISE.

2. To examine whether experience moderate the effect AIS characteristics

    (integration, flexibility, reliability, relevance and timeliness) on IAE among

    companies traded on ISE.

1.4   Research Questions

This research raised the following questions:

1. What is the effect of AIS characteristics (integration, flexibility, reliability,

    relevance and timeliness) on IAE among companies traded on ISE.?

2. Does the experience moderate the effect of AIS characteristics (integration, flexibility, reliability, relevance and timeliness) on IAE among companies traded on ISE?

1.5 The research Conceptual Model

This research intends to inspect the effects of AIS characteristics on IAE with considering the effects of experience in this case. Therefore, the research develops a hypothesized conceptual model as illustrated in Figure 1.1.
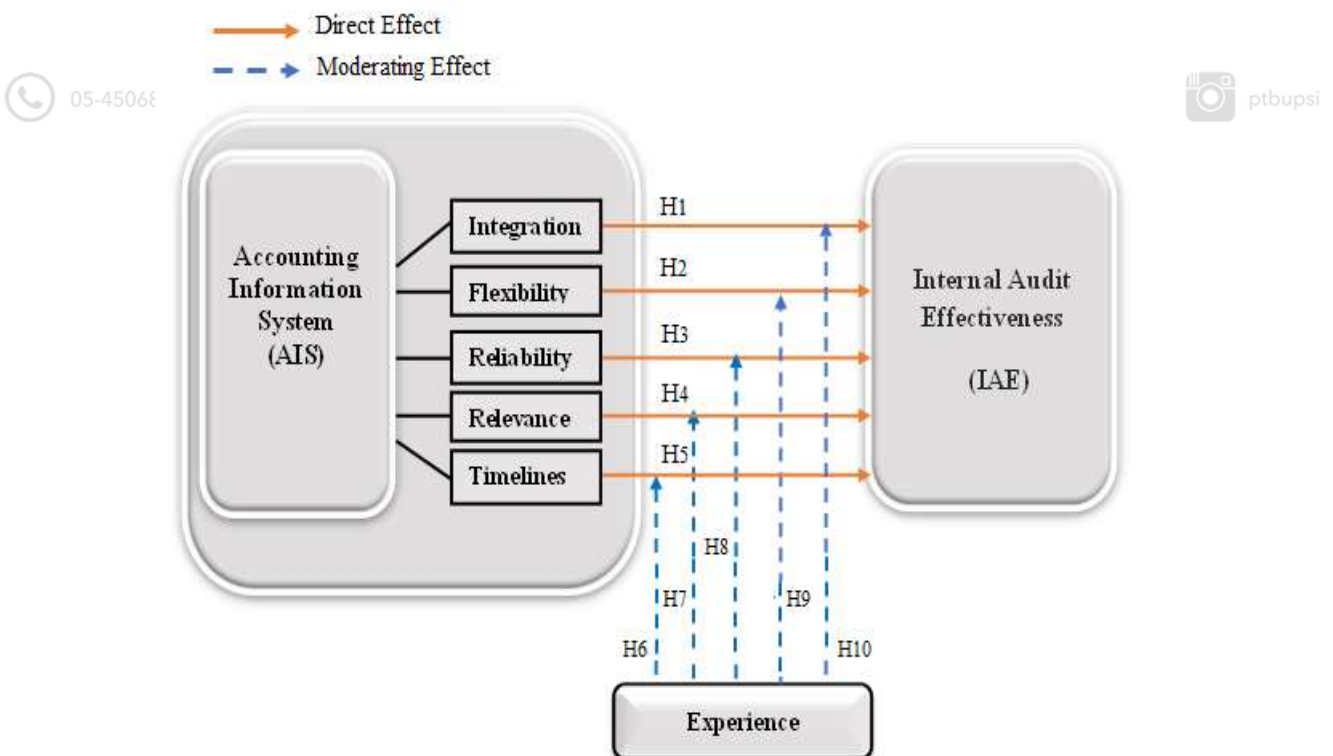
Figure 1.1. The Research Conceptual Model

1.6   Research Hypotheses

Based on the conceptual model illustrated in Figure 1.1, the research suggests several hypotheses to measure the relations among the research variables. The hypotheses include direct hypotheses for the effect of AIS characteristics on the IAE, and moderating hypotheses for the effect of experience on the AIS's characteristics and IAE relation.

Direct Effect Hypotheses:

1. H1: There is a significant and positive effect of AIS integration on the internal audit effectiveness

2. H2: There is a significant and positive effect of AIS flexibility on the internal audit effectiveness

3. H3: There is a significant and positive effect of AIS reliability on the internal audit effectiveness

4. H4: There is a significant and positive effect of AIS relevance on the internal audit effectiveness

5. H5: There is a significant and positive effect of AIS timeliness on the internal audit effectiveness

Moderating Effect Hypotheses:

6. H6: The experience moderates the effect of AIS timelines on the internal audit effectiveness

7. H7: The experience moderates the effect of AIS relevance on the internal audit effectiveness

8. H8 : The experience moderates the effect of AIS reliability on the internal audit effectiveness

9. H9: The experience moderates the effect of AIS flexibility on the internal audit effectiveness

10. H10: The experience moderates the effect of AIS integration on the internal audit effectiveness

1.7 Research Significance

This research seeks to add to and complement the previous studies, which were presented from the perspective of their researchers. It aims to investigate the effect of AIS and its characteristics on the IAE with studying the moderating effect of auditors and accountants' experience on such relation. However, the previous studies are scarce and the topic receives less attention in linking the components of AIS, which affects the organisation sustainability with the implementation of accounting data characteristics and the efficiency of the development of the internal audit as a whole.

Theoretically, this research is important because it incorporates a new variable such as experience,while previous studies focused on other factors such as software and other components, governance, and paid up capital (Ibrahim & Samad, 2011; Shukeri, Shin & Shaari, 2012; Vieito, 2012).

From an empirical perspective, the research proposed a hypothesized conceptual model to identify the relation between the research variables. The hypotheses will be tested by a quantitative approach. Depending on the outcomes of the experiment, the hypotheses might be supported, rejected or may need to be modified and subjected to further testing.

From practical perspective, the research provides empirical results necessary for the target companies to consider the knowledge and experience of their accountants and auditors to ensure good decision-making process and achieve the companies' success.

1.8 Research Scope

The research relays on the usage of a survey questionnaire to investigate vital issues in relation to accounting data system characteristics and their effect on the efficiency of the internal audit. Moreover, the research investigates the effect of experience on the target relation. The characteristics (integration, reliability, flexible, relevance,

timeliness) are used as criteria to evaluate the AIS quality. The research relies on the

agency and contingency theories to provide the theoretical foundation for this research.

These theories are introduced in chapter two. To analyse the connection between the

AIS and its components and the IAE, factor analysis is used to test the research

hypotheses and formalize a structural equation model. Several tests are used such as

regression, correlation and reliability tests. The research is conducted in Iraq and

particularly on traded companies of ISE. The audit and accounting staff in the target

companies are the respondents of this research and are selected using a simple random

sampling technique.

1.9 Operational Definitions

The terminologies operative definitions that are used in this research are introduced in

the following subsections:

1.9.1 Accounting Information System (AIS)

AIS is a collection of resources, such as people and equipment that are designed to

transform financial and other data into information (Neogy, 2014). This information

achieves powerful, flexible organization environment to continuance change in an

organization culture (Alsharayri, 2011; Sari *et al.,* 2016). The measurement of the AIS

quality is done by several qualitative features, which have a tendency to enhance its efficacy and understandability (Bukenya, 2014).

1.9.2 Internal Audit Effectiveness

The effectiveness of the internal audit is the capability of an auditor to perform a free of error audit, compliance with policies, plans, laws and regulations to achieve a group of goals appropriately (Karapetrovic & Willborn, 2000, Alzeban & Gwilliam, 2014).

1.9.3 Experience

Experience is the cumulative knowledge learned by individuals (accountants or auditors) through work tenure, training to get the related skill and knowledge (Medina *et al.*, 2014, Elnafabi, 2019; Prasanti *et al.*, 2019).

1.9.4 Reliability

It is the ability of accounting information to be representational and faithful with no deliberate or systematic bias, and material error (Bukenya, 2014).

1.9.5 Relevance

It is the relevancy of accounting information to users' responsibilities and tasks and its ability to asses past, current or future events that affect economic decisions of users (Bukenya, 2014).

1.9.6 Timeliness

It is the availability of required accounting information to the suitable person at the suitable time for the correct activities to be taken. It is the degree to which information is up to date (Bukenya, 2014).

1.9.7 Flexibility

It is the extent to which an AIS can adjust to a diversity of consumers' needs and the constant changing circumstances (Heidmann, 2008).

1.9.8 Integration

Integration is the extent to which an AIS simplifies the mixture of information from different sources and the areas to assist corporate decisions (Wixom & Todd, 2005; Heidmann, 2008).

1.10 Research Guidelines

This thesis is structured into five chapters as in the following order:

Chapter 1: Introduction

This chapter presents an introduction to the research. The chapter provides background information on this research topic and highlights the issues and the problem statement as well as the purpose of this study. The chapter likewise introduces the research questions and objectives. The research significance is demonstrated in addition to the research scope.

Chapter 2: Literature Review

The chapter introduces an outline of the conceptual definition of AIS, internal audit, experience concept and the related studies of the same area, as well as the discussion of what previous studies have been done. It also demonstrates the related theories and a conceptual model for the hypotheses development.

Chapter 3: Research Methodology

The chapter explains the adopted methodologies by the research. The chapter explains the research design and approach, the questionnaire construction and contents, as well as provides a review on the validation process. The validation includes experts' judgment and a pilot study. Finally, data collection and analysis are demonstrated.

Chapter 4: Research Findings

The chapter provides the research findings. The collected data by the questionnaires are analysed using the SPSS and AMOS. The SPSS is used to conduct the EFA through a set of statistical methods to ensure that all items are actually measuring their constructs. Then, AMOS is used to conduct the confirmatory factor analysis (CFA) in order to develop the structural equation model (SEM), and test the hypotheses.

Chapter 5: Discussion and Recommendation

This chapter exhibits the conclusion and recommendations of the research. It concentrates on indicating how the research results are related to the pointed questions and objectives of the research. Then, the chapter displays a summary of the research findings. The chapter additionally exhibits the practical and theoretical implications of this research and provides some recommendations for future work to extend the findings. Finally, it introduces the research limitations and conclusions.

1.11   Summary of the chapter

The purpose of this research is to investigate an advance understanding of the relationships between the AIS and on the IAE and the moderator effect of auditors and accountants experience in Iraq trading companies. Accordingly, this chapter has provided the background of this research and discussed the issue of AIS and its effect on the internal audit of companies in general. The chapter has introduced and discussed the problem statement, the questions aroused by the research and the target objectives. The significance of this research is discussed along with the scope. The operational definitions are elaborated along with the conceptual definitions of the terms. The next chapter introduces the literature review including the AIS, IA, experience concepts. It also introduces the associated theories, developing a conceptual model, and hypotheses development.