



THE EFFECT OF E-ACCOUNTING ON THE  
PERFORMANCE OF SMALL MEDIUM  
ENTERPRISES (SMEs) IN BAGHDAD  
WITH INTERNAL CONTROL  
SYSTEM AS MEDIATOR



ALI MOHAMMED HUSSEIN JASIM

UNIVERSITI PENDIDIKAN SULTAN IDRIS

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ALI MOHAMMED HUSSEIN JASIM

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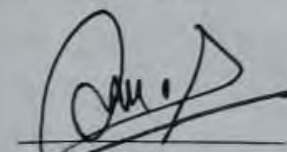
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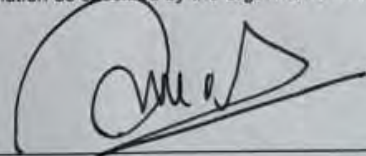
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## ABSTRACT

This study aims to investigate the relationships between e-accounting characteristics and the performance of Iraqi SMEs in Baghdad, as well as the mediating effect of the internal control system. The conceptual framework is based on the technology acceptance model (TAM), stewardship, and stakeholder theories. The random sampling technique is utilized to select the owners of SMEs to participate in the survey. Further, Smart PLS was used to analyse data that were retrieved from 345 questionnaires. Variables of the research include the information quality, cost reduction, fast decision-making, and easy-to-use characteristics of the operational dimension of e-accounting. The findings indicate that information quality is the highest level ( $M=4.49$ ), followed by easy to use ( $M=4.19$ ), fast decision making ( $M=4.18$ ), and cost reduction ( $M=4.03$ ). The main finding in this study reveals a significant effect of e-accounting characteristics on the performance of SMEs. Furthermore, the e-accounting characteristics significantly and positively affect the internal control system: the information quality ( $\beta = 0.333$ ,  $p < 0$ ), cost reduction ( $\beta = 0.111$ ,  $p < 0.031$ ), fast decision making ( $\beta = 0.234$ ,  $p < 0$ ), easy to use software ( $\beta = 0.261$ ,  $p < 0$ ). Bootstrapping analysis showed a positive and significant effect of the internal control system ( $\beta = 0.177$ ,  $p < 0.004$ ). This study is based on SMEs in Baghdad city, and hence the generalization of the findings is limited. The research should be conducted across several geographical regions and cultural settings, to generalize the association of e-accounting, internal control system, and performance. The findings provide new practical implications of e-accounting on the internal control systems and the mediating effects of the internal control system on the performance. The findings contribute to the e-accounting users in SMEs in developing economies. This is also the first study that investigated the mediating effects of e-accounting dimensions on the internal control system and the performance of the SMEs in Baghdad using the Smart PLS to test the hypotheses and produce the scores. This research provides useful information on the relationships between e-accounting characteristics and the performance of Iraqi SMEs in Baghdad and the mediating effect of the internal control system.





## PENGARUH E-PERAKAUNAN TERHADAP PRESTASI PERUSAHAAN KECIL SEDERHANA (PKS) DI BAGHDAD DENGAN SISTEM KAWALAN DALAMAN SEBAGAI MEDIATOR

### ABSTRAK

Kajian ini bertujuan untuk menyiasat hubungan antara ciri-ciri e-perakaunan dan prestasi PKS Iraq di Baghdad, serta kesan pengantaraan sistem kawalan dalaman. Rangka kerja konsep adalah berdasarkan model penerimaan teknologi (TAM), pengawasan, dan teori pihak berkepentingan. Teknik persampelan rawak digunakan untuk memilih pemilik PKS untuk mengambil bahagian dalam tinjauan. Selanjutnya, Smart PLS digunakan untuk menganalisis data yang diperoleh daripada 345 soal selidik. Pembolehubah penyelidikan termasuk kualiti maklumat, pengurangan kos, membuat keputusan yang cepat, dan ciri-ciri yang mudah digunakan untuk dimensi operasi e-perakaunan. Dapatan menunjukkan kualiti maklumat adalah tahap tertinggi ( $M=4.49$ ), diikuti dengan mudah digunakan ( $M=4.19$ ), membuat keputusan pantas ( $M=4.18$ ), dan pengurangan kos ( $M=4.03$ ). Penemuan utama dalam kajian ini mendedahkan kesan signifikan ciri-ciri e-perakaunan terhadap prestasi PKS. Tambahan pula, ciri-ciri e-perakaunan secara signifikan dan positif mempengaruhi sistem kawalan dalaman: kualiti maklumat ( $\beta = 0.333$ ,  $p < 0$ ), pengurangan kos ( $\beta = 0.111$ ,  $p < 0.031$ ), membuat keputusan yang cepat ( $\beta = 0.234$ ,  $p < 0$ ), perisian yang mudah digunakan ( $\beta = 0.261$ ,  $p < 0$ ). Analisis bootstrapping menunjukkan kesan positif dan signifikan sistem kawalan dalaman ( $\beta = 0.177$ ,  $p < 0.004$ ). Kajian ini berdasarkan PKS di bandar Baghdad, dan oleh itu generalisasi penemuan adalah terhad. Penyelidikan harus dijalankan merentasi beberapa wilayah geografi dan tetapan budaya, untuk menyamaratakan persatuan e-perakaunan, sistem kawalan dalaman, dan prestasi. Penemuan ini memberikan implikasi praktikal baharu e-perakaunan ke atas sistem kawalan dalaman dan kesan pengantaraan sistem kawalan dalaman terhadap prestasi. Penemuan ini menyumbang kepada pengguna e-perakaunan di PKS dalam ekonomi membangun. Ini juga merupakan kajian pertama yang menyiasat kesan pengantaraan dimensi e-perakaunan ke atas sistem kawalan dalaman dan prestasi PKS di Baghdad menggunakan Smart PLS untuk menguji hipotesis dan menghasilkan markah. Penyelidikan ini menyediakan maklumat berguna tentang hubungan antara ciri-ciri e-perakaunan dan prestasi PKS Iraq di Baghdad dan kesan pengantaraan sistem kawalan dalaman.



**TABLE OF CONTENT**

	<b>Page</b>
<b>DECLARATION OF ORIGINAL WORK</b>	ii
<b>DECLARATION OF THESIS</b>	iii
<b>ACKNOWLEDGEMENT</b>	iv
<b>ABSTRACT</b>	v
<b>ABSTRAK</b>	vi
<b>TABLE OF CONTENTS</b>	vii
<b>LIST OF TABLES</b>	xiii
<b>LIST OF FIGURES</b>	xv
<b>LIST OF ABBREVIATIONS</b>	xvi
<b>LIST OF APPENDIXES</b>	xvii
<b>CHAPTER 1 INTRODUCTION</b>	
1.1 Introduction	1
1.2 Background of study	3
1.3 Problem statement	5
1.4 Research Questions	7
1.5 Research Objectives	8
1.6 Significance of study	8
1.7 Operation definition	10
1.8 Research Framework	14
1.9 Summary	17
<b>CHAPTER 2 LITERATURE REVIEW</b>	
2.1 Introduction	19
2.2 The SME	20





2.3	E- accounting	23
2.3.1	Information quality	28
2.3.2	Cost reduction	36
2.3.3	Fast decision making	41
2.3.4	Easy to use	47
2.4	Internal control system	51
2.5	Performance in SME	57
2.6	Underpinning theories	71
2.6.1	Technology Acceptance Model	72
2.6.2	Contingency theory and Stewardship theory	79
2.6.2.1	Contingency theory	80
2.6.2.2	Stewardship theory	82
2.7	Hypotheses development	85
2.7.1	E-accounting and internal control system	85
2.7.2	Internal control system and performance	91
2.7.3	E-accounting and SME performance in Bagdad	93
2.7.4	E-accounting, internal control system, and SME Performance	100
2.8	Summary	109

## CHAPTER 3 RESEARCH METHODOLOGY

3.1	Introduction	110
3.2	Research Design	110
3.3	Research population and sample size	113
3.3.1	Defining the target population and sample	114
3.3.2	Determination of sample size	115

3.3.3	Sampling unit	118
3.3.4	Sampling method	118
3.3.5	Data collection	119
3.4	Operationalization of constructs and instrument development	121
3.4.1	Translation of the research instrument	122
3.4.2	The structure of the questionnaire	124
3.4.3	Measurement of e-accounting characteristics	126
3.4.3.1	Information quality	127
3.4.3.2	Cost reduction	135
3.4.3.3	Fast decision making	138
3.4.3.4	Measurement of easy to use	141
3.4.4	Measurement of Internal control system	143
3.4.5	Measurement of performance in SME	146
3.5	Validity of Instrument	150
3.6	Pilot Study (Reliability Analysis)	151
3.7	Proposed method of hypothesis testing	153
3.8	Data analysis	154
3.8.1	Descriptive statistics	155
3.8.2	Structural equation modelling (SEM)	155
3.8.3	Stages of assessment with PLS-SEM	157
3.8.3.1	Stage I: Measurement model	158
3.8.3.2	Stage II: Structural model assessment	161
3.9	Normality Test of Data	165
3.10	Outliner	166

3.10.1	Common Method Bias	166
3.11	Multicollinearity Analysis	167
3.12	Summary	168

## CHAPTER 4 RESEARCH FINDINGS

4.1	Introduction	170
4.2	Data collection and response rate	171
4.3	Respondents' features and demographic profiles	172
4.4	Descriptive statistics	174
4.4.1	Descriptive results of e- accounting characteristics	174
4.4.2	Descriptive results of internal control system	178
4.4.3	Descriptive results of the performance in SME	179
4.5	Structural Equation Modelling (SEM)	179
4.5.1	Measurement model	180
4.5.1.1	Convergent validity	181
4.5.2	Structural model	186
4.6	Coefficient of determination (R <sup>2</sup> )	192
4.6.1	Effect size f <sup>2</sup>	193
4.6.2	Predictive relevance Q <sup>2</sup> of structural Model	194
4.7	Mediation test	195
4.8	Summary	198

## CHAPTER 5 DISCUSSIONS AND RECOMMENDATIONS

5.1	Introduction	200
5.2	Overview of the research	201
5.3	Discussions on the research findings	206
5.3.1	E- accounting as antecedents of internal control	206

system

5.3.1.1	Information quality and the internal control system	207
5.3.1.2	Cost reduction and the internal control system	210
5.3.1.3	Fast decision making and the internal control system	212
5.3.1.4	Easy to use and the internal control system	215
5.3.2	Easy to use and the internal control system	217
5.3.3	E- accounting as antecedents of the performance	219
5.3.3.1	Information quality and SME performance in Baghdad	219
5.3.3.2	Cost reduction and SME performance in Baghdad	222
5.3.3.3	Fast decision making and SME performance in Baghdad	224
5.3.3.4	Easy to use and SME performance in Baghdad	227
5.3.4	E-accounting characteristics, internal control system, and SME performance	230
5.3.4.1	Information quality, internal control system and SME performance	230
5.3.4.2	Cost reduction, internal control system and SME performance	232
5.3.4.3	Fast decision making, internal control system and SME performance	235
5.3.4.4	Easy to use, internal control system and SME performance	238
5.4	Implications of the study	240
5.4.1	Theoretical implications	240
5.4.2	Practical implications	244

5.5	Limitations of the study	248
5.6	Recommendations	249
5.7	Suggestion for future research	250
5.8	Conclusion	251
<b>REFERENCES</b>		253
<b>APPENDIX</b>		289





## LIST OF TABLES

Table No		Page
3.1	Sample size recommendation in PLS-SEM based on power analysis	117
3.2	All the items of information quality	133
3.3	Measurement of the information quality	134
3.4	All the items of cost reduction	135
3.5	Measurement of cost reduction	137
3.6	All the items of fast decision making	138
3.7	Measurement of fast decision making	140
3.8	All the items of ease to use	141
3.9	Measurement of easy to use	143
3.10	All the items of internal control system	144
3.11	Measurement of internal control system	146
3.12	All the items of the Performance	147
3.13	Measurement of the performance	149
3.14	The names of specialists	150
3.15	Cornbrash's alpha values obtained by the pilot study	155
3.16	Data analysis for each research objective	165
3.17	Result of normality test	166
3.18	Result of outlier test	167
3.19	Result of common-method variance	168
4.1	Response rate	171
4.2	Frequency and percentage distribution of demographic characteristics	173
4.3	Descriptive statistics related to information quality	175
4.4	Descriptive statistics related to cost reduction	176





4.5	Descriptive statistics related to fast decision making	176
4.6	Descriptive statistics related to easy use	177
4.7	Descriptive statistics related to internal control system	178
4.8	Descriptive statistics related to the performance	179
4.9	The result of convergent validity	182
4.10	Correlation of latent variables and discriminant validity (Fornell-Larcker)	184
4.11	Correlation of latent constructs and discriminant validity (HTMT method)	184
4.12	Cross loading of constructs for discriminant validity	185
4.13	List of hypotheses and relative paths	187
4.14	List of hypotheses and relative paths for the first model	191
4.15	Results of coefficient of determination ( $R^2$ )	193
4.16	Results of effect size $f^2$ for both endogenous variables	194
4.17	Results of predictive relevance ( $Q^2$ )	195
4.18	Test of indirect effects using bootstrapping	196
4.19	Total (Direct and Indirect) effects information quality, cost reduction, fast decision-making, and ease to use on performance.	197
4.20	List of hypotheses and relative Paths	197
5.1	Summary of research objectives & questions, hypotheses, and results	204





## LIST OF FIGURES

<b>Figures No</b>		<b>Page</b>
1.1	Conceptual framework	17
2.1	Technology Acceptance Model (TAM) Davis (1989)	73
3.1	The two-stage process of PLS-SEM analysis. Hair et al. (2017)	158
3.2	The summary of assessment criteria for the measurement model	164
4.1	Path model (PLS Algorithm) Measurement model (outer loading)	181
4.2	Path model (Bootstrapping)	189



## LIST OF ABBREVIATIONS

CR	Cost Reduction
FDM	Fast Decision Making
FUS	Easy to Use
ICS	Internal Control System
ICT	Information Communication Technology
IQ	Information Quality
SME	Small and Medium Enterprise



## APPENDIX LIST

A Questionnaire

B Publications







## CHAPTER 1

### INTRODUCTION



E-accounting has recently become a vital aspect in the daily operation of the financial organizations and use continuously in a growing system. The accounting matter of the company becomes more efficient and effective with e-accounting. Previously, users managed the transactions on paper manually. However, the rapid increase in technological advancement has made business processes more complex. Over time, it has become challenging to manage accounting manually due to the repetitive nature of transactions and businesses, the massive volume of accounting information, and the growing number of accounting users. These challenges have created the need for organizations to seek a new and practical approach to communicate the financial information d effectively to relevant parties. The required financial data is processed appropriately and distributed sophisticatedly (Kabir et al., 2015). Business fraternity





needs an automatic data processing system as need a solution. E accounting process the data recording process automatically. The new approach is practical in that not only do large companies start to use e-accounting, but small factories switch to a better alternative of e-accounting instead of using manual methods, which demand a massive amount of paper works. Through e-accounting tools, businesses could control their transactions effectively. The literature proposes various e-accounting tools as the basis of the business nature. Many business owners acknowledged that such software has relieved the burden of recording and presenting transactions manually and reducing cost and time (Abu-Musa, 2004).

Electronic systems consolidate a company's internal control due to the extensive and rapid advancement in the electronic data processing. Consequently, internal control could effectively detect and prevent fraud. Internal control improves the relevant regulations and rules, reliable financial reports, and effectiveness and efficiency. Internal control crucially affects the accuracy and relevancy of the data in the finance sector through electronic accounting systems, which could prevent fraud. The main aim of internal control is to maintain value and mitigate risks in an organization (Soudani, 2013). Even though e-accounting is a significant aspect of financial matters, relevant studies on the topic are relatively scarce. The findings of some previous studies in Baghdad, Malaysia, the U.K., and Turkey show the implementation of e-accounting, progressive development occurs in the performance of an organization as a result of the improved process of quality of accounting information, internal control, and decision-making. It has also stimulated the facilitation of financial transactions carried out in a firm (Zakaria, Rahman & Elsayed, 2011).



## 1.2 Background of Study

Since the 1990s, Iraq has made several changes and is classified as a third-world country. One of such changes was the occupation of Iraq by the U.S. troops, which brought about the chaos that resulted in political and economic transformations. Additionally, the Iraqi community is affected by specific substantial changes in most sectors within the country (Harash, 2015), especially the SME sector. Furthermore, globalization has entrusted SMEs a significant role by competing with several cosmopolitan competitors within the local markets and offering their local services or products worldwide. SMEs in the private sector significantly contribute to the economy of the nation. SMEs cause a significant increase in the vitality and robustness of the private sector in the various economic sectors (Trabulsi, 2018).

The American Institute of Certified Public Accountants (AICPA) defines accounting as the art of classifying, recording, and summarizing money transactions as a financial process and interpreting the related results. The Institute further describes accounting as the process through which financial information is identified, measured, and communicated, thereby allowing informed decision-making and judgment by the users who receive the information. The accounting idea was first developed in 1494 by Luca Pacioli, who describes accounting as a double-entry principle using ledgers, journals, etc. (Amanamah et al., 2016).

Previously, accounting involved using walls, and subsequently, books and papers record details of business transactions. The manual accounting system utilizes a written ledger to keep financial records. It is an old method of accounting that exists for



an extended period used in some businesses. However, it is accompanied by limitations like wastage of time, as it requires more time to generate reports, and the likelihood of errors is higher. Due to technological advancement, accounting experienced an evolution from a manual accounting system to accounting software. SMEs now have the opportunity to use different kinds of accounting software because of the emergence of computers and computer applications, which help make accounting work more convenient (Owusu Appiah et al., 2016).

SMEs have been recognized globally as having a binding effect on economic growth (Akande, 2011). Additionally, SMEs help bridges the informal economy and the formal corporate sector. Moreover, SMEs create job opportunities while providing intermediary products or services for larger companies (Adebayo et al., 2013; Padachi, 2012). Although SMEs make considerable contributions to economic growth, there is an alarming rate of failure faced by SMEs (Akande, 2011). The findings of some studies have revealed that this high rate of loss is related to internal factors like managerial incompetence, poor record-keeping, and the level of education of some business managers or owners (Osotimehin et al., 2012). There is a positive correlation between the quality of information used by SMEs and the performance or survival of an entity (Ahmed & Muhammed, 2018). A study carried out by Mbroh and Attom (2011) reveals the absence of accounting knowledge and the extravagance of hiring accounting professionals are the two main factors that cause incomplete records to be kept by small businesses. However, accounting tasks introduce mainframe computers to solve this problem. However, they are expensive and require many ICT professionals to perform different data processing and accounting functions. Due to the costly cost of computers, only large organizations and corporations could afford them.





Nevertheless, the introduction of PC-based Accounting Systems made accounting software and computer hardware affordable, thereby allowing SMEs to adopt e-accounting more easily. Since many business organizations worldwide use e-accounting, it has become a global trend. It simplifies complex tasks and relieves the organization from the arduous task of keeping huge books in their offices.

One of the requirements for owners and managers who wish to be successful is to maintain recent and accurate information regarding the accounting task. ICT could assist accountants in gathering and processing accounting information timely using efficient record and bookkeeping. For example, e-accounting enables the accounting process to be efficiently enhanced. This efficacy facilitates the provision of multi-user access, zero system administration for end-users, multi-site access, and multiple shared databases, and offers economical services to a large number of users (Relhan, 2013).

The use of accounting software systems increases financial performance because they can provide statistical methods and tools applicable to the assessment of performance and decision-making (Parker & Castleman, 2007). The use of e-accounting in organizations facilitates the efficient handling of financial data while rapidly generating organizational reports (Soudani, 2013).

### **1.3 Problem Statement**

Teru, Idoko, and Bello (2019) state that e-accounting helped the management manage and control all the financial matters in the firms. However, the impressive technological progress generates and utilizes accounting information strategically. Due to its







importance, all companies, including SMEs, require such information to achieve the objective of handling higher uncertainties in competitive environments. Consequently, there is a growing requirement to enhance the systems and the capacity of data processing to gratify the information requirements. Efficiency improves and cuts down costs when e-accounting automates the accounting process, leading to faster, more accurate, and less erroneous than doing it manually. The current interconnected, computerized, global business environment has caused e-accounting information to become the growth factor in business organizations (Sumaryati, Praptika Novitasari & Machmuddah, 2020).

The present research investigates SMEs' ability to implement e-accounting innovatively and effectively and manage their knowledge capacities appropriately.

They could achieve higher quality performance (Kareem, Aziz & Maelah, 2019).

However, literature shows limited studies address this issue within the Iraqi context. The study aims to fill the gap by considering the impacts of e-accounting and internal control systems on Baghdad's SME performance. The current situation indicates the majority of SMEs in Baghdad do not implement a full version of e-accounting because of novel technological resources (Harash, 2017).

Thus, the study intends to address the significant problem in the present study by utilizing the manual accounting systems of most of the SMEs in Baghdad. Most SMEs use large books for the management of business transactions. The use of such manual system increases the probability of errors. The main problem confronted by the private sector in Iraq is the limited use of e-accounting among the staff of SMEs because they are still using the traditional ways to exchange information.





Such limitation could result in a wastage of time, effort, and money. One of the reasons why Iraq has failed to adopt e-accounting is the lack of knowledge regarding e-accounting (Al Baghlani, 2018). This study is a potential source of reference and information for SME managers and policymakers in Iraq and other developing countries and scholars conducting researches to investigate the organizational performance problems. Therefore, the present study hopes to fill the identified gap by examining some of the characteristics of e-accounting and the internal control systems that impact SME performance.

#### 1.4 Research Questions



The following research questions guide this study:



1. Do the e-accounting characteristics affect the internal control system of SMEs in Baghdad?
2. Does the internal control system influence SME performance in Baghdad?
3. Do the e-accounting characteristics affect SME performance in Baghdad?
4. Does the internal control systems mediate the relationships between e-accounting characteristics and SME performance in Baghdad?



## 1.5 Research Objectives

The research objectives are:

1. To investigate the effect of e- accounting characteristics on the internal control system of SMEs in Baghdad.
2. To examine the influence of the internal control system on SMEs' performance in Baghdad.
3. To measure the effect of e- accounting characteristics on SME performance in Baghdad-
4. To analyze the relationship of e-accounting characteristics and SME performance in Baghdad which mediates the internal control system.

## 1.6 Significance of the Study

In Iraq, many SMEs still use manual accounting systems. Technological advancement demands companies to adopt a more efficient and sophisticated accounting system. Therefore, to meet the demand, e-accounting is introduced. It is currently employed by many companies worldwide. This research has three principal contributions. On the one hand, this research contributes to the academic theory in providing empirical evidence on how e-accounting characteristics affect SME performance with the internal control system. This research also contributes to the knowledge resource-based view on e-accounting and its importance to SMEs in developing countries. There is minimal literature on this aspect. More importantly, Iraq is a country with an uncertain environment.

Moreover, the study elaborates on the capacity of accounting software to improve the quality of financial work in SMEs. Considering the findings of this study, companies have a better understanding of the characteristics of e-accounting and internal control systems and their impact on SME's performance, and the correlation between the internal control system and e-accounting. Furthermore, the current research contributes to Iraq's Economic Policy. It is a valuable guide to policymakers in enhancing the SME's performance, positively affecting the country's economy, and consolidating SMEs' competitive place in the macro and micro market, particularly with globalization's rapid and competitive growth. Indeed, adopting e-accounting improves SMEs' information quality, reduces the operational cost, and makes faster decisions, affecting the overall performance of these companies. However, the focus of the research would be on the crucial issues of e-accounting and their influence on the SMEs' performance and the internal control system. It would also present and address the limitations in other studies.

First, this research is in Iraq. Thus, future research scope should spread to large corporations and SMEs in the Arab region and other regions. Second, several factors affect the relationship between e-accounting and the internal control system. These factors influence the performance of SMEs, such as security risks in accounting software. Therefore, future research should examine the mediating effect of security risks between the internal control systems and e-accounting. The third contribution of this research is related to the theories in this study. The technology acceptance model (TAM) approach is one of the most relevant theories used in e-accounting. It helps to explain the reactions of individuals towards a given technology or in a non-crucial

situation. It also affects the characteristics of e-accounting upon the performance of SMEs.

The second theory is the contingency theory applied to the structure of an internal control team. The internal control team managers usually receive interior control projects. Then, they create special audit teams for the projects by choosing auditors based on their experience and expertise in related areas and internal control accessibility. All of them would increase the necessity of any given internal control system project. The third theory is the stewardship theory. It explains internal control. The approach focuses on identifying situations whereby an agreement comes into existence between the interest of the principal and the steward.

## **1.7 Operation Definition**

### **1.7.1 E-Accounting**

The term e-accounting would be used in this study to describe the accounting system involving mobile computing or any internet-based technologies in carrying out accounting tasks and discharging them from manual presentation and recording of transactions (Bui & Nguyen, 2020). It includes a computer- and technology-based tool to accomplish the accounting tasks; it gathers, records, stores, and processes the data to generate the information required for fast decision making. It affects the evaluation of the management performance (Ganyam & Ivungu, 2019).





### 1.7.2 Information Quality (I.Q.)

Information quality refers to how the information is comprehended and employed by the customers with the help provided by senior managers. It has great potential to affect the benefits and the performance of the whole company (Azemi et al., 2017). It includes the fitness for using the information adopted and provided based on reliability and accuracy. Information quality is also crucial in reporting the different financial periods of the year. It is vital in preparing managerial reports and operation processes (Priyadarshini et al., 2017).

### 1.7.3 Cost Reduction

The cost reduction in this study is a process that aims to decrease costs from a formerly-acknowledged standard through activities such as eliminating paper works and reducing the number of the labor force with no damage to the efficiency of the services provided or the quality of the projects (Huy & Phuc, 2020). It includes the process of searching, finding, and removing groundless charges from a business to maximize profits without negatively affecting the quality of the product (Akeem, 2017). The concept relates to cost reduction. The firms adopt a constructive approach to enhance their efficiency but reduce production costs (Bataineh, 2018). The enhancement of productivity and waste removal are part of the result.



#### 1.7.4 Fast Decision Making

Fast decision-making is a systematic approach to solving problems faster by gathering and analyzing the data. The information has both advantages and disadvantages before making any decision (Alhawamdeh & Alsmairat, 2019); this includes making a logical choice from the options available to see the actual state of the financial position in the enterprise (Al Shra'ah, 2015). It is a fundamental activity performed in any company; at all levels. The managers have to make decisions to achieve the company's goals and survival in the market (Meiryani, & Aryanti, 2020). The process helps managers understand their tasks and reduce uncertainty before making decisions regarding the implementation of plans (Neziraj & Berisha Shaqiri, 2018).

#### 1.7.5 Easy to Use

The term easy to use in this study involves transactional entry, data storage, and preparation of financial statements and related information. It updates data by simply using accounting software (Idota et al., 2020). It is easily adaptable to the users' requirements. Without significant difficulties, they use this system in their daily business activities (Thottoli, 2020). The simplicity of using accounting software enhances accounting tasks daily, promptly, detecting errors and retrieving the information quickly (Hassan et al., 2017).



### **1.7.6 Internal Control System**

The internal control system in this study is a process through which the objectives of an organization. The achievements are reliable financial reporting, operational efficacy, and effectiveness. It organizes all accounting procedures and complies with the policies, regulations, and laws (Abiodun, 2020). It comprises a considerable number of measures the company took to secure its assets against wastage and fraud. It also guarantees precision and unwavering bookkeeping and working information (Ahmed & Muhammed, 2018). The company uses the strategy to ensure financial and accounting information integrity to meet the operational and productivity targets (Azmi & Azhar, 2020).



### **1.7.7 Performance in SME**

The term analyzes the SME goals and objectives. It includes shareholder value, financial performance, and market performance to evaluate the plans provided for investment operations (Fitriatia et al., 2020). It evaluates according to the achievement of organizational goals throughout the company's evolution in terms of the effectiveness of its human resources, supplier performance, products and services quality, customers, markets, and other financial factors. It also evaluates the reports on profit and loss (Mohammad et al., 2018).





## 1.8 Research Framework

The framework proposed for this study is on e-accounting characteristics such as cost reduction, information quality, ease to use, and fast decision making. It also reflects the effect on the performance of SMEs. This research employs three theories. The first theory is the Model of Technology Acceptance (TAM) established by Davis et al. (1989). It predicts individual user acceptance of the information systems and technology. It also investigates the diverse behaviors of individual users in terms of technology acceptance. It is the subject of several types of research. The two most essential factors in TAM are perceived usefulness and ease of use. It is a critical theories in e-accounting since it supports in explaining individual reactions to a specific technology or innovation, as well as the factors that impact these reactions. Users of e-accounting in SMEs show their preference to utilize e-accounting-based innovation because such technology benefits them in enhancing performance, internal control, job efficiency, and productivity. Other researchers in different settings show similar results (Diatmika et al., 2016).

The theory briefly describes a few variables. Perceived ease-of-use and perceived usefulness are two of the variables. In the context of this study, perceived use indicates how valuable an application system is to a user in terms of enhancing work performance in an organizational setting. In contrast, the user interface shows the perceived ease of use of the application system. The user navigates the system efficiently when performing accounting duties. Perceived usefulness refers to the users' perception of the system's effectiveness in completing a task. This variable refers to how e-accounting could assist a user in achieving task-oriented outcomes such as cost





savings, information quality, and quick decision-making. It is also related to the user evaluations of extrinsic reactions such as task-oriented outcomes. As a result, this study's conceptual framework and theory include the interactions related to the characteristics of e-accounting.

The other theory used in this study is contingency theory. It indicates effectiveness. Many scholars who have concentrated on improving organizational level effectiveness have acknowledged the usage of contingency theory. The contingency theory, a behavioral theory, was developed by Woodward (1958). Jokipii (2010) evaluates the efficiency of internal control systems on organizational performance using contingency theory by considering the following contingent variables: perceived environmental uncertainty, organizational structure, firm size, and strategy.



The internal control structure consists of five internal control system components, is used as the mediating variable in the study. Internal control structure has a mediating effect on the relationship between internal control efficacy and organizational performance. As a result of the initial investigations covered in this study, the researcher concludes that contingency theory is a valuable hypothesis for describing the relationship between internal control and performance. The stewardship theory is the final theory used in this investigation.

According to Donaldson and Davis (1991), the stewardship theory supplements the contingency theory. The stewardship theory elucidates internal control. It is a valuable theory to clarify the situation. The main reason for using this theory in this study is that it focuses on identifying scenarios where the principal's and steward's





interests are aligned. In reality, according to Ebimobowei and Binaebi (2013), auditing is a product of the concept of stewardship accounting. Since the stewardship theory serves as an accountability mechanism for guaranteeing appropriate audits, monitoring, and reporting to increase performance, changes in the sector might occur (Cribb, 2006). Correspondingly, Ebimobowei and Binaebi (2013) state that auditing could benefit from appropriate stewardship reporting. As a result, the theory complements the first theory regarding internal control efficacy and performance. As a result, in the conceptual framework for this study, these two theories encompass the relationship between the internal control system and version. This model proposes the distinctive association between e-accounting and SME's performance and influences the internal control system as a mediator.



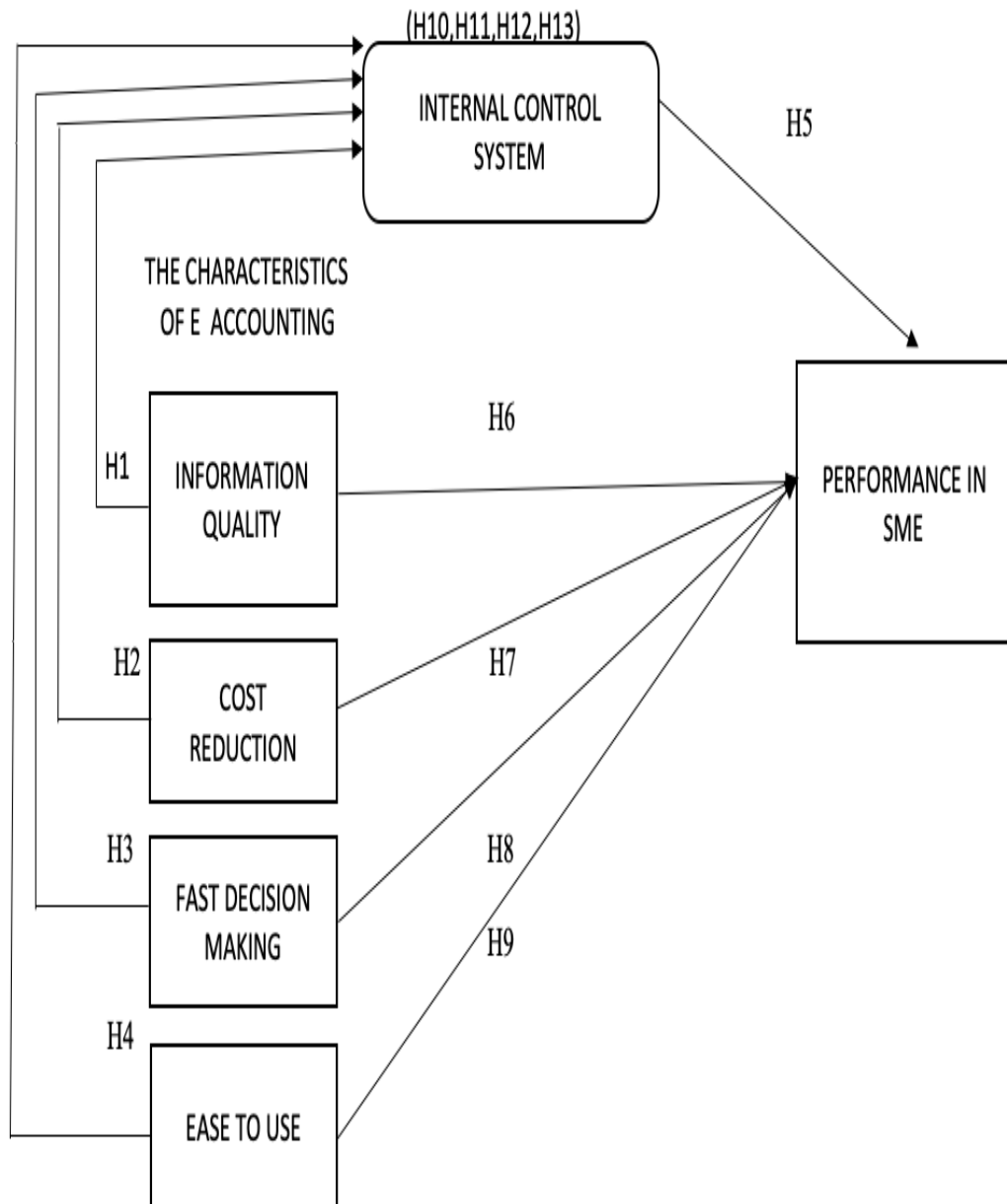


Figure 1.1. Research Framework

## 1.9 Summary

The section of this study discusses the e-accounting characteristics and the performance of SMEs. It also highlights the impact of internal control systems on the relationship



between e-accounting and performance. Computerized information and data enhance bookkeeping roles in an organization without considering their sizes. E- accounting demarcates the gradation on the computer-based systems to develop the evidence, deliver the pronouncement in the setting of the regulator, and synchronize the events in the organization.

Although e-accounting is very important and widely used, there has been relatively little research, especially in Iraq. Past studies revealed the implementation of an e-accounting system expands the performance. As a result, the accounting information quality improves the process of decision-making and internal control. This chapter discusses the background of the research, research problem. It generates research questions pertinent to identifying the relationship between e-accounting characteristics, internal control system, and SME performance in Baghdad, Iraq. Thus, providing the basis for formulating the research approach to accomplish the study's aims. In addition, this chapter also outlines the scope of the research and the methodology. As the study proceeds, the next chapter will discuss the literature review regarding the research topic to provide an insight into the subject and enable the researcher to follow the right direction to ensure the success of the research