The Impact of the Application of Information technology governance on financial performance through the mediating role of Banking governance A survey of sample of Iraq banks listed in the Iraq stock exchange

Ahmed Abbas Rashak Al-Behadili1

Abstract
The current study aimed to measure the long-run impact of IT governance in the COBIT framework on the financial performance of Iraqi banks within the framework of banking governance as a mediating variable. by running balanced panel data for a sample of 19 listed Iraqi banks during the period (2018-2020) using the path analysis method. The study concluded that there is a direct positive impact of IT governance on financial performance, as opposed to an indirect, negative impact of IT governance on performance through banking governance. Thus, banking governance plays a mediating role "partial mediation" in the relationship of IT governance with the financial performance of Iraqi banks. Also, this direct effect has a medium practical importance, in contrast to a large practical importance for the indirect effect, while there was no effect size (practical importance) for the total effect. This is because the negative impact of banking governance cancels any direct impact of IT governance on financial performance. Hence, any overall impact of IT governance on financial performance vanishes, and any practical importance of this relationship in the Iraqi accounting and administrative environment vanishes with it. Thus, Iraqi banks must rely on one element of governance only, whether banking governance or information technology governance. Finally, the study also concluded that there is no inverse circular causal relationship between financial performance and the level of banking governance.

Keywords: IT Governance, Risk Management, Controlling and Monitoring, COBIT and Bank.

1. INTRODUCTION

The issue of information technology governance (IT Governance) in banking sector using COBIT framework has been of concern among

1 Assistant Teacherministry of Education General Directorate Of Financial Affairs, ahmed_abass@turath.edu.iq.
researchers (Khusna & Ali, 2020; Setiawan & Andry, 2019). Information technology (IT) is an important part of every business organizational life across all sectors in this 21st century of globalized era. Business organizations have showed more concern in the use of information technology thereby making it difficult for business activities to grow without relying on IT. Information technology entails internet, set of computers, software packages, hardware infrastructures, applications, automated teller machine (ATM), point of sales (POS), and related service resources. The success of any IT implementations in an organization heavily depends on the extent it is being managed and monitored by management of the firm to achieve the benefits of using IT in the organization Steven & Wim (2015).

Recently, all transactions in banks are performed by customers using information technology infrastructure of banks such as automated teller machines (ATM), internet banking, electronic data capture (EDC), and mobile banking, point of sale (POS). Enjoying goodness of investment in IT, business enterprise must assess the needed IT Governance from time-to-time Setiawan & Andry (2019).

Information technology governance places emphasis in supporting procedure encourages effectiveness and efficiency in proper execution of information technology. The need for IT governance using COBIT framework becomes necessary towards ensuring efficiency and effectiveness in management, controlling and monitoring of information technology infrastructure in term of protection and security wise. COBIT is an umbrella framework that is designed in assisting organizations which is concerned in developing, implementing, monitoring, and improving IT governance for proper management of information Harefa & Legowo (2017). Setiawan & Andry (2019), note that governance as far business is concerned refers to all forms of processes, regulations, rules, actions, strategies, and procedures that organizations employ towards achieving it goals. Information technology governance centers on the way the business organization go about managing, structuring, and ensuring practices that can bring an arrangement involving business and information technology to improve performance and governance Garzoni,(2017). Umi & Gunadi (2018), note that information technology governance can influence contingent factor that can bring about effectiveness in IT acceptance and influencing management operation towards performance of the bank. This signifies that well-structured information technology governance practicing in the bank which is capable to provide effective direction and proper monitoring of information technology can bring about improvement in the performance of bank. IT governance is the leading, business organization structuring and procedure suitable of promoting
The banking sector is very competitive and most regulated area among businesses, because of the crucial functions banks perform in term of intermediary between financial service and providers of funds. Nevertheless, organizations do not always achieve success in its information technology investments. Organizations must take all the needed steps in ensuring that the information technology give the necessary support to the business goals and objectives, full utilization of the information technology investments, and at the same time managing information technology-related risks and various opportunities by means of effective IT governance (ISACA, 2012a). Information technology in banks is prerequisite in promoting efficiency and effectiveness in provision of services to their numerous customers as regards to their intermediary functions. Information technology (IT) is also crucial in the Islamic banking system and plays vital roles in banks’ strategic management towards achieving competitive advantage. Organizations like banks must require workable information technology governance for their information technology investments achieve its purposes and required gains. Improper way of managing and monitoring the bank’s information technology investments especially when there is poor information technology governance can bring about wasted effort in the investments (Nisrina, et al. 2016). Likewise, Poor, and inadequate information technology governance can bring about failure within the organization’s information technology (Information Technology Governance Institute, 2008; Islam, 2016). Any deficiency in the IT governance could IT management there by giving room for hacking, loss of information and data and irregularities. Hence this study specifically examines the influence of IT governance from the perspective of risk management and controlling and monitoring on COBIT framework initiation in banks in Iraq.

2. LITERATURE REVIEW

2.1. CONCEPT OF COBIT

The acronym, COBIT represents control objectives for information and related technologies. COBIT has undergone series of experiences and developmental stages whose duration can establish top-quality framework suitable enough in implementing the business organization information technology governance (Harefa & Legowo 2017). COBIT framework is designed and publicized by the Information Systems Audit and Control Association (ISACA) (Maseko and Marx 2016). COBIT was first made known and published in 1996 primarily centered on auditing, with specific intent of assisting financial auditors in
navigating information technology environments, while the second version was in 1998 Ai-Fatlawi et al. (2021). COBIT is structured guidelines purposely for directing effective management of information technology which was initiated by ISACA and the IT Governance Institute (ITGI) Hartono and Abdillah (2011). COBIT framework has passed through different stages or versions since it was first initiated and is not used in auditing alone. Information System Audit and Control Association (ISACA) initiated management guidelines into COBIT in the version 3, while version 4 introduced ICT governance into the framework.

The most recent edition, COBIT 5, released in 2014, places a greater emphasis on information governance and its role in corporate performance, as well as enterprise risk management. According to Khusna & Ali (2020), "there are process reference models that are divided into two main process domains, that is evaluated, direct, and monitor (EDM) at governance process and 1) align, plan, and organize (APO); 2) build, acquire, and implement (BAI); 3) deliver, service, and support (DSS); and 4) monitor, evaluate, and assess (MEA) at management process.". According to Al-Fatlawi, COBIT 5 is "based on five principles, which include: I am meeting the needs of key stakeholders; II end-to-end and comprehensive coverage of the entire enterprise; III integrating several frameworks into one unified framework; IV paving the way for a holistic approach to running your business; and V separating management from governance" (2021).

Irrespective of the COBIT versions, it is basically for supervising, managing information security more effectively. COBIT helps in management of risk, management of vulnerabilities as well as improve on enterprise risk. It gives guidance and protection to organizations especially those in the financial sector for organizations in information technology to be safeguarded and achieve goals in relation to IT Governance and IT management. COBIT gives support to information and related technology holistically such that can motivate proper governing and managing for the entire organization. It focuses on the entire business organization processes and functional areas of concern by taking cognizance of information and technology for the interests of internal or external stakeholders (Ramlou & Semma, 2014). COBIT permits business organization to design good system and required procedures for information technology development, control, and management. In effect, COBIT framework enables business organization goals to align with its information technology structure.

2.2. Information Technology Governance

Information technology is vital aspect of every business organization’s success in this era of globalization. Adeniran (2016), stated that information technology (IT) includes computer, ancillary equipment, software and hardware and other related infrastructure which act as
intermediary between information system and direct physical contact with the task to perform. Also, IT includes interconnected system or subsystem of equipment that are used for automatic acquisition, manipulating, storing, controlling, management, movement, displaying, switching, interchanging, transmitting, or receiving of data or information. According to Oluwatolani, et al. (2011), internet is important part of information technology and eventually become an inherent aspect of human living and endeavor. Information technology has become crucial in the enhancement of banking solution adoption. Information technology helps in creating, communicating, acquiring, analyzing, saving, and transmitting information and data Breznik (2012), Aay business organizations that wished to strive and achieve success and gain competitive advantage in the business environment must acquire information technology, Hemmatfar et al. (2010). Khusna & Ali (2020) noted that information technology is grouped by category of tools of concern. Information technology needed in business organizations must be capable of being effective, efficient, beneficial, and supportive in achieving the organizational goals before making huge investments cost to the information technology Tridoyo & Wijaya, 2017; Andry, 2016). The way information technology is implemented, controlled, monitored, and managed will depend on the success to be achieved and benefits to be derived for the business organization (teven & Wim (2015).

Governance is about strategic rules, regulations, processes, and actions undertaking by business organization in a manner capable of assisting in achieving goals and objectives Setiawan & Andry (2019). Momoh & Ukpong (2013), noted that governance from the angle of business, as systems put forward to ensure effectiveness and efficiency in the management of the organization and targeted at managers to be accountable for the interest of business organization and shareholders. Lemo (2010), defined governance as a set of rules and regulations that dictate the manner business organizations are expected to be managed and controlled with main objective of profit-oriented by corporate management cadre for the interest of shareholders.

However, information technology governance is an important thing in any organization. Information technology governance is defined in different ways, but all are channeled towards the same direction. Weill & Woodham (2002) defined information technology governance as a way of determining decision-making authority and ensuring accountability framework capable of encouraging desired conduct in the usage of information technology in the organization. Van Grembergen (2002) viewed information technology governance as a procedure undertaken by directors, executive management, and information technology management team in controlling proper
implementation of information technology strategies and make sure that are in line with strategies of the corporate business organization. Information technology governance referred to various structures and processes undertaken by organization in ensuring that information technology implementation fully assist the organization goals (Andry & Christiano, 2018; Sethibe et al. 2007). Information technology governance centers on the manner capable of ensuring proper structuring and management of information technology in the business organization and providing practices that align with business and information technology to improve governance and performance in term of financial and non-financial (Garzoni, 2017). Information technology governance assists information technology in giving support to business goals, maximization of investment in information technology, and ensures proper management of the risks and opportunities associated with information technology in the organization (ISACA, 2011).

Information Technology Governance Institute (ITGI) (2003) defined that information technology governance can be put into use by almost different organizations, by positioning their information technology strategies in line with the strategies of the organization. Cost-effective in information technology resource allocation can assist in achievement of the organizational goals and can also help organization in undertaking performance measurements in order to have overview and evaluate the extent the organizations have fulfilled their stated goals (Stephen, 2013; IT. Governance. Institute, 2003). Information technology governance is the way of leading, organizational structuring, and processes that help in ensuring that the information technology aligns with corporate strategy and objectives (IT Governance Institute, 2003; Hawariyuni & Kassim, 2016). Information technology governance as rules and regulation structured out to guide and control information technology in organization and ensure that the information technology strategies are in alignment with the business organization strategies and goals to improve organizational performance and increase shareholders wealth.

2.3. Relationship between IT Governance (Risk Management, Controlling and Monitoring) and COBIT framework Initiation in bank.

Iraq is a Muslim country, which by all indications operate Islamic or Sharia banking system. As an Islamic banking system, acts as financial intermediary between financial services and providers. Uppal (2011) noted that information technology governance is very vital in this era of information technology in the bank. Bank needs to be dynamic from time to time from the angle of information technology governance and ensures that information technology introduced is in alignment with the bank objectives and goals of providing financial services. Oluwatolani et al. (2011) as cited in Adetayo, Hamid & Mohammed
(2020), noted that information technology provides series of benefits “like e-banking carries out banking transactions using electronic devices to enhance efficiency, quick service delivery on timely basis, make transactions very easy, uninterrupted flowing of information, checking fraudulent practices, quick responses, reduction of errors rate and provision of better-quality services. Information technology helped in the effective and efficient usage of automated teller machine (ATM) for the purpose of always enabling customers in dispensing of cash irrespective of the traditional banking hours. Services perform using the ATM includes transferring of funds, payment of bills, payment statements, etc). Information technology promotes online banking services such as enhancing customer to carry out transactions by means of electronic without cash involvement; electronic transferring of funds without any form of problem; internet banking service (settlement of bills, transferring funds, check balance statements and perform online transactions using electronic), electronic mail (for solving communication issues between banks, customers, organizations and other parties), telephone banking (making transactions through telephone) so as to enhance bank performance”. Information technology encourages management processes in bank in terms of managing plans, building, controlling, and monitoring by ensuring that the process set by the governance body cab enable banks achieve goals and objectives Ramloui & Semma (2014). Information technology governance assists in guiding and controlling organizations like bank to achieve their stated objectives.

Information technology governance helps in supporting bank to carry out its information technology by coordinating and aligning technology strategies with that of the bank to enjoy the benefits and achieve the desired goals Fauzan et al. (2015). COBIT (Control Objectives for Information and related Technology) plays important roles in effective documentation and implementation of guidelines that support information technology governance in banks towards safeguarding of information. Presence of information technology governance and COBIT framework are essential mechanism for ensuring efficiency and effectiveness in accountable and credible for information technology audit the banks (Putri et al. (2016). According to De Haes et al. (2013), control objectives for information and related technology COBIT framework couple with information technology governance help in marrying strategic and tactical approaches in the management of information and technology domain for effective financial transactions in banks. ISACA (2012a), showed that COBIT framework helps banking industry in creating optimum value in the use of information technology by keeping the realised benefits and the optimal risk level in balance based on the resources used.
Pasquini & Galie (2013) proved that COBIT is very reliability and prominent in enhancing information technology governance, in giving effective monitoring, controlling risk, security and assurance of information technology in banks. The COBIT framework give immense benefits to auditors towards efficiency and effectiveness in audit assignment using information technology in the banks audit. Khusna and Ali (2020) revealed that COBIT framework helps in provision of information and input to Sharia micro-finance banks in optimization of the implementation of its information technology management. Al-Fatlawi et al. (2021), employed qualitative approach in examining accounting information security and information governance using COBIT 5 framework at the Iraq banks and found that COBIT 5 governance implementation assists in reduction of data processing risks and enhances automated accounting information systems security. Sethibe et al. (2007), indicated that COBIT help managers of banks and those that user information technology to fill the gap that exist between risks associated to the business, controlling, security and technical issues in banks.

2.4. Theoretical Framework

2.4.1. Technology Acceptance Model

This theory is propounded by Davis (1989). The notion of this theory boils down how users of technology accept any technology that is introduced. Davis (1989) believed that their certain behaviors that users of information technology will exhibit whenever new once are introduced for usage in the organization especially like banks before adopting it. The theory suggested that if a model is introduced and is not accepted for usage, there will be no way it can be of potential, effective and efficient in the organization. Kamel (2004) noted that Technology Acceptance Model is successful way of measuring the level of acceptance by users especially when information technology like computer, internet, on-line banking, point of sales (POS), and automated teller machine (ATM) for effective usage in the bank. With the initiation of information technology with application of COBIT for information technology could for help in facilitating acceptance of new technology as the case of banks.

2.4.2. Stakeholder Theory

The stakeholder theory was initiated by Freeman, Freeman et al. (2004). According to Freeman (1984), a stakeholder is whatsoever person or group of people associated with the accomplishment of the organizational goals. The stakeholder’s ideology permits organizations managers to deal with some issues concerning different groups related to the organization like owners, employees, customers, suppliers, governments, competitors, consumers, investors host communities, civil society, member of the public etc. Olatunji (2013).
Stakeholder theory could help in the management of potential conflicts likely to arise in firms. For organizations that are owned by widely dispersed shareholders, the objective of governance is to align the interest of corporate managers to the widely dispersed shareholders. COBIT gives support to lengthwise of describing business in terms of guidelines and governance of the information technology introduced and the proper management of the information technology in the whole bank for the interest of the stakeholders ISACA (2012). In effect, this study is anchored on this theory because it shows that with information technology governance considering the COBIT framework, is to ensure that there is proper control, monitoring, protection and security of resources and financial transactions in the bank for the interest of stakeholders.

2.5. Previous Studies

Hussein and Idrees (2021) conducted empirical research on the function of Banking technology applications, for example, as a moderator in the relationship between intellectual capital and bank service quality issues. Human capital (HC), structural capital (SC), and customer capital serve as proxies for the independent variable, intellectual capital (CC). The questionnaire was used as the research instrument, and partial least squares-structural equation modeling was used as the statistical tool (PLS-SEM). The findings demonstrated that the use of banking technology as a mediator can have an influence on intellectual capital assets in connection to bank service quality, as measured by service dependability, service tangibility, and the capacity to inspire trust and confidence on customers of the bank. It also indicated that banking technology application as a mediating variable can impact on intellectual capital assets in relation with bank service quality components such as empathy and responsiveness to bank customers. In the same vein, Adetayo & Hamid (2020) examined the impact of information technology on strategic management in the banking sector of Iraq through conceptual review of literature. The study revealed that basic information technology such as electronic cards, ATMs, online banking, electronic payment, and mobile banking were deployed in Iraq banking sector. The study also indicated that there exists relationship between level of education of bank customers and their usage of information technology applications in carrying out transactions at banks in Iraq. In addition, the study deduced that information technology and bank's strategy can enhance value creation and competitive advantage of banks. It therefore recommended management of banks should come up with policies that can promote information technology usage to enhance bank performance.

Muhammad (2022) investigated issues relating to corporate information and communication technology governance of Indonesian
State-Owned Enterprise by considering the use of COBIT 2019. Outcome of the conceptual review indicated that the main rationale for implementation of information technology governance were to promote proper management of information technology and to stimulate performance of the organization. Abbas et al (2020) conducted a study on the impact of accounting information systems on financial performance with the moderating role of internal control in Iraqi industrial companies was investigated, and it was discovered that accounting information systems (i.e., relevance, accuracy, verifiability, and timeliness) can enhance positive relationships on financial performance in Iraqi industrial companies. Thus, the study concluded that effective internal control could improve on financial performance in an organization. Ali, et al (2022), investigated the impact of corporate governance mechanisms on financial performance by considering 12 sample banks out of 41 banks that constituted the population list on the stock exchange in Iraq. The study adopted questionnaire administration and the statistical tool was regression which was estimated using E-views software. The study found and concluded that there exist positive association between corporate governance mechanism and financial performance in Iraqi companies.

Using the Cobit 5 framework, Zayyinatul & Syaiful (2020) investigated information technology governance at a sharia microfinance institution in Bina Ummat Sejahtera KSPPS BMT (Saving Loan Cooperation and Sharia Financial Baitul Maal Wat Tamwil). The research approach used was in-depth interviews in a qualitative study that included case studies. KSPPS BMT BUS, according to the research findings, has implemented the bulk of its governance and management procedures in line with the COBIT 5 framework. Saha & Kabra (2019) conducted research on the effect of corporate governance on firm performance. The study found that while board size, ownership concentration, and audit committee independence have a substantial positive link with the company's market performance, board independence has a negative influence.

Amole, Muo, & Lawal (2021) investigated how corporate governance affects financial performance as measured by return on assets. The results showed that high board size, board composition, and audit committee size all had a statistically significant negative influence on bank financial performance as governance drivers.

Oluwatolani, Joshua, & Philip (2011) conducted a study on the perceived effect of e-banking in carrying out banking transactions and found that electronic devices can increase efficiency, shorten delivery times, simplify transactions with a clear flow of information, and monitor any fraudulent activities, deliver rapid replies, decrease mistakes, and provide higher quality services, among other things. It
also demonstrated that information technology has increased the use of ATMs for cash dispensation to customers at any time, regardless of traditional banking hours, for services such as transfer of funds, payment of utility bills, mini statements, and so on), online banking services, electronic transfer of funds without difficulties, internet banking service, electronic mail, and telephone banking, all of which are advantages of information technology to the banking sector.

A survey of related literature found that there are limited studies on the application of information technology in developing nations’ banking sectors. Regardless of conversations and confirmations concerning the effects of information technology on strategic management in the banking industry, it is likely that client usage, which is often impacted by their level of understanding, will continue. has not been fully documented. Considering this, the current study investigated the impact of information technology governance applications on financial performance through the mediating role of banking governance; determining bank customers’ level of education; and examining customer usage of IT applications in the banking sector. Consequently, this strategy appears to be capable of providing a solid outcome.

Review previous studies will now lead us to the research hypotheses, below are alternative hypotheses we used to arrive at the results. They are:

H1: There is a positive association between IT governance and firm financial performance.
H2: Firms with good IT governance practices positively enhance the efficiency of their bank governance.
H3: A higher level of bank governance positively enhances firm financial performance.
H4: The bank governance mediates the relationship between the IT governance and firm financial performance.
H5: There are bi-causality links between the IT governance, bank governance and firm financial performance.

3. STRUCTURAL STUDY MODEL AND DATA
To achieve the objective of the study, a Structural Equations Model (SEM) will be established to measure the long-term impact of IT governance on the financial performance (FP) of banks within the framework of the level of banking governance as a mediating variable. Thus, the study model will consist of two equations, where the first equation is concerned with studying the impact of information technology governance on banking governance. While the second equation is concerned with studying the impact of IT governance and
banking governance on the FP of banks. This is so that we can make banking governance a mediating variable in the relationship between IT governance and FP. Thus, the study model in its final form is as follows:

\[ Bank_{Gov, it} = \gamma_0 + \gamma_1 IT_{Gov, it} + \gamma_2 FSize_{it} + \gamma_3 CRAR_{it} + \gamma_4 Leverage_{it} + \epsilon_t \] (1)

\[ Fin.Per_{it} = \lambda_0 + \lambda_1 Bank_{Gov, it} + \lambda_2 IT_{Gov, it} + \lambda_3 FSize_{it} + \lambda_4 CRAR_{it} + \lambda_5 Leverage_{it} + \epsilon_t \] (2)

For endogenous variables, \([Bank Gov.]_{it}\), \([Fin.Per.]_{it}\) reflects the level of banking governance and the level of FP for bank i in year t. Whereas \([IT Gov.]_{it}\) represents our target exogenous variable which is the IT governance level of bank i in year t. As for the control variables, they were chosen in line with previous studies, and thus the bank size (\([FSize]_{it}\)), the capital adequacy ratio (\([CRAR]_{it}\)), and the leverage ratio (\([Leverage]_{it}\)) were added. Finally \((\gamma_0, \lambda_0, \epsilon_t, \epsilon_t)\) is a constant of the function, and the error limit with its usual characteristics, respectively.

Here, the model will be run on balanced longitudinal data for a sample of 19 Iraqi banks listed on the Iraq Stock Exchange during the period (2018-2020) with a total of 57 annual observations, which were obtained from the financial reports of these banks, and that sample was selected based on the availability of data. Here, the dimensions of IT governance were calculated according to the COBIT framework. By adopting a five-point scale from (0 to 4) based on a study (Joshi et al., 2013 & De Haes et al., 2017). Thus, we have five sub-dimensions, which are Evaluation (COBIT 1), Compliance (COBIT 2), Construction (COBIT 3), Delivery (COBIT 4), and Monitoring (COBIT 5). Here, the overall index of information technology governance was adopted using the factor analysis of the structural model as a latent variable.

As for the intermediate variable, "bank governance"; it included four mechanisms to measure it, namely: (i) Board size: It is represented by the number of board members, which should not be less than 7 members, according to the Corporate Governance Manual issued by the Central Bank of Iraq for the year 2018 and updated for the year 2019 (Jewer & McKay, 2012). (ii) Independence of board members: It is a dummy variable that takes the value (1) if at least 4 members are external or a third of the board members are non-executive, while it takes the value (0) if this condition is not met (Essel & Addo, 2021; El Mir & Seboui, 2006). (iii) Gender: It is measured by the ratio of the number of females on the bank’s board of directors to the number of members (Essel & Addo, 2021). (iv) The duplication of the role of the first executive director: that is, the separation between the positions of the bank’s board chairman and the executive director, so if the executive director is a member of the board, he is granted (0),
otherwise he is given (1) (Essel & Addo, 2021). While the financial performance was expressed through three sub-dimensions, each of which reflects a different vision or angle of performance, namely, Tobin Q, ROA, and Z score. Principal Component Analysis (PCA) method was used to calculate the level of banking governance and financial performance. Finally, tables (1) and (2) show the statistical description and the correlation matrix between the variables, respectively.

Table (1): Descriptive summary statistics

<table>
<thead>
<tr>
<th></th>
<th>Obs.</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
<th>Normality test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dependent Variables:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fin. Per.</td>
<td>57</td>
<td>2.9e-16</td>
<td>0.1018</td>
<td>1.185</td>
<td>-4.1845</td>
<td>1.5101</td>
<td>[83.743]***</td>
</tr>
<tr>
<td><strong>Mediator Variable:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank Gov.</td>
<td>57</td>
<td>1.8e-16</td>
<td>-0.0792</td>
<td>1.197</td>
<td>-2.1537</td>
<td>2.2853</td>
<td>[0.2396]</td>
</tr>
<tr>
<td><strong>Independent Variables:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cobit_1</td>
<td>57</td>
<td>2.2819</td>
<td>2.2</td>
<td>0.875</td>
<td>0.7333</td>
<td>4</td>
<td>[2.9018]</td>
</tr>
<tr>
<td>Cobit_2</td>
<td>57</td>
<td>2.2145</td>
<td>2.325</td>
<td>0.755</td>
<td>0.7</td>
<td>3.7</td>
<td>[2.7309]</td>
</tr>
<tr>
<td>Cobit_3</td>
<td>57</td>
<td>2.4123</td>
<td>2.4667</td>
<td>0.792</td>
<td>0.9333</td>
<td>3.8667</td>
<td>[2.5047]</td>
</tr>
<tr>
<td>Cobit_4</td>
<td>57</td>
<td>2.4688</td>
<td>2.4444</td>
<td>0.875</td>
<td>0.9444</td>
<td>4</td>
<td>[2.4694]</td>
</tr>
<tr>
<td>Cobit_5</td>
<td>57</td>
<td>2.5049</td>
<td>2.5556</td>
<td>0.875</td>
<td>1</td>
<td>4</td>
<td>[2.8950]</td>
</tr>
<tr>
<td>IT Gov.</td>
<td>57</td>
<td>3.2e-16</td>
<td>0.0667</td>
<td>2.118</td>
<td>-3.9145</td>
<td>3.7678</td>
<td>[2.6800]</td>
</tr>
<tr>
<td><strong>Control Variables:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSize</td>
<td>57</td>
<td>11.616</td>
<td>11.631</td>
<td>0.262</td>
<td>11.019</td>
<td>12.190</td>
<td>[1.0783]</td>
</tr>
<tr>
<td>CRAR</td>
<td>57</td>
<td>1.6761</td>
<td>1.1120</td>
<td>1.277</td>
<td>0.2</td>
<td>4.86</td>
<td>[6.9058]</td>
</tr>
<tr>
<td>Leverage</td>
<td>57</td>
<td>0.7276</td>
<td>0.3020</td>
<td>1.136</td>
<td>6.18e-5</td>
<td>5.0120</td>
<td>[118.97]***</td>
</tr>
</tbody>
</table>

Note: *** indicate significance at 1%.

Table (2): Correlation matrix between aggregate study variables

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin. Per.</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank Gov.</td>
<td>0.0748</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IT Gov.</td>
<td>-0.1344</td>
<td>-0.1933</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FSize</td>
<td>0.0332</td>
<td>-0.3198&lt;sup&gt;a&lt;/sup&gt;</td>
<td>0.0439</td>
<td></td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CRAR</td>
<td>0.1976</td>
<td>0.2053</td>
<td>-0.0425</td>
<td>-0.4696&lt;sup&gt;a&lt;/sup&gt;</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>0.4273&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.3318&lt;sup&gt;b&lt;/sup&gt;</td>
<td>-0.2265&lt;sup&gt;c&lt;/sup&gt;</td>
<td>0.6311&lt;sup&gt;a&lt;/sup&gt;</td>
<td>-0.0653</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: a, b, c indicate significance at 1%, 5% and 10% respectively.

The previous table (1) shows a description of the main features of the data of the study sample during the period (2018-2020), from which we can note the homogeneity of the level of banking governance, IT
governance, the size of banks, and the ratio of capital adequacy among Iraqi banks in the study sample. That is, banks are almost identical in the degree to which they follow the rules of governance codes. Thus, from the average statistics, the most followed dimensions of information technology governance in Iraqi banks are the monitoring dimension (evaluation and measurement) with an average of 2.505, followed by the delivery dimension (service and support) with an average of 2.469, then the construction dimension (owning and implementing) with an average of 2.412, then the evaluation dimension (guidance), and monitoring) with an average of 2.282, and finally the compatibility dimension (planning and organization) with an average of 2.215. Thus, with an overall view, the level of information technology governance in Iraqi banks ranges between (-3.915 - 3.768), with a general average that is almost zero. Similarly, the level of banking governance ranges between (-2.154 - 2.285), with a general average close to zero as well. The average natural logarithm of the assets of these banks is 11.62, and the average capital adequacy ratio is 1.676.

Here, despite the homogeneity of the level of governance in Iraqi banks, we note the heterogeneity of the level of financial performance between these banks, so the standard deviation of financial performance was (1.185), which is much greater than the average performance (2.9e-16). This large discrepancy in performance may be due to other structural factors in banks other than the level of governance, such as differences in experience or other organizational variables. This is confirmed by the normal distribution test, which was statistically significant, which indicates that the level of financial performance does not follow the normal distribution. Thus, the arithmetic mean statistic becomes invalid here, and accordingly, the statistic of the median financial performance is (0.102), and the financial leverage is (0.302).

Also, to first verify the strength and direction of the assumed relationships between the variables, and the absence of the problem of double-stepping; Pearson's zero-degree correlations will be analyzed between all study variables as shown in Table (2), from which there is a weak and non-statistically significant direct correlation between banks' governance and financial performance, as the correlation coefficient reached (7.5%). On the other hand, the correlation of IT governance with both bank governance and financial performance was inversely weak and not statistically significant and was equivalent to (-13.4%) with the level of financial performance, (-19.3%) with the level of bank governance. The control variable most closely related to the level of financial performance was the level of financial leverage with a correlation coefficient of (42.7%), followed by the capital adequacy ratio (19.8%), and finally the size of the bank
As for the governance of banks, the most closely related control variable was the level of financial leverage with a correlation coefficient of (-33.2%), followed by the size of the bank (-31.9%), and finally the capital adequacy ratio (20.5%). Finally, Anderson et al. (1990) indicates that any correlation coefficients greater than 0.7 indicate that the model may suffer from a double linearity problem. Accordingly, no possibility of double linearity problem was found among the variables of the study model.

4. METHODOLOGY

To test the hypotheses of the study, one of the most famous methods of estimating structural equations models will be relied upon, which is the Maximum Likelihood method. In which the parameters of the model are estimated by maximizing the probability function so that the observed data are the most likely under the assumed statistical model. Thus maximum-likelihood logic is both intuitive and flexible, and as such has become the dominant method of statistical inference. Also, the three-step tests of Baron & Kenny’s (1986), Sobel’s (1982), Aroian’s (1944), and finally Goodman’s (1960) will be used to analyze mediation and ascertain whether banking governance is indeed a mediating variable in the relationship between IT governance and financial performance.

According to Baron & Kenny’s mediation occurs when (1) the independent variable significantly influences the mediator, (2) the dependent variable is in the absence of the mediator, (3) the mediator has a significant influence on the dependent variable, and (4) finally when the influence of the independent variable on the mediator diminishes. The function when adding the argument in the form. Accordingly, there are two types of mediation; It is "perfect mediation" and occurs if the independent variable exerts its total influence on the dependent variable through the mediator. And "partial mediation: It occurs if the independent variable exerts some of its influence on the dependent variable through the mediator, and others directly. Here, mediation is judged informally. Therefore, statistical-based methods will also be relied upon to formally evaluate mediation through Sobel tests, Aroian, and Goodman These tests consider non-standard regression coefficients and standard error of association between the independent variable and the median on the one hand, and between the median and the dependent variable on the other hand.
5. ECONOMETRIC ANALYSIS AND RESULTS

Here, the final structural model becomes as shown in the following figure (1), where information technology governance was expressed as a latent variable of five measurements, which are evaluation, compliance, construction, delivery, and monitoring. While the FP of banks was expressed as a composite variable of three sub-variables that were calculated from outside the model using Principal Components Analysis (PCA), similarly the banking governance variable, which was expressed as a composite variable of four sub-variables calculated using the (PCA) method.

Among the statistics of good fit shown at the bottom of the figure, we note that the value of the relative fit index (CFI) is equal to 0.922, which is greater than the value 0.90, which expresses excellent fit. Also, the mean square root of the standard residuals (SRMR) is less than the value 0.09, which is equivalent to (0.052). This indicates a good fit for the model. The value of the Tucker-Lewis Index (TLI) was equal to 0.858, that is, it is greater than the standard value of 0.8, which reflects an acceptable level of adequacy. Finally, the indicator of the coefficient of determination (CD) was very high, 98.4%, which indicates an excellent level of fit, given that the explanatory power of the model is very high. (Where the CD index is like the R2 index for the whole model, the better the closer it gets to the correct one). On the other hand, a statistical value (χ^2) for the original model versus the saturated model came, and for the baseline versus the saturated model, it was statistically significant at the level of 1%, which indicates that the model is poor. Also, the root means square error index (RMSEA), which is one of the most important indicators of a good fit, reached a value of (0.590), which is greater than the standard value of 0.1, and thus indicates that the model is poor and inappropriate for the data. As for the (Pclose) statistic, which represents the probability that the value of RESEA is less than 0.05. That is, it represents the probability that the sample observations are close to the population observations. It was statistically significant at the 1% level, and therefore we can reject at the 1% level that the model is appropriate.

Thus, in total, we see that four statistics (indicators) indicate that the structural model is appropriate for the data, in contrast to four other statistics that conclude that this model is poor and inappropriate for the data. Thus, the researcher is in a neutral position before accepting or rejecting the model. We can either accept the model as accurate and relevant to the data or reject it. Here, this model will be considered poor and inappropriate for the actual data collected from the field study. To overcome this problem, the structural model will be estimated using the (Robust Standard Error) command, which eliminates measurement problems to make the model conform to the data by adjusting the standard deviation. Which will be considered
here. Thus, we can continue the analysis to obtain the coefficients of the paths, as shown in the following table (3):

**Figure (1): IT Governance, Bank Governance and Financial Performance aggregate: SEM results**

Path analysis for Hypothesis

Unstandardized Estimates

*Chi-square (model vs. saturated)* = 471.985, Prob. = 0.000
*Chi-square (baseline vs. saturated)* = 5835.288, Prob. = 0.000
*CFI* = 0.922, *TLI* = 0.858, *SRMR* = 0.052, *CD* = 0.984, *RMSEA* = 0.590, *PCLOSE* = 0.000
*AIC* = 10777.059, *BIC* = 10862.867

Table (3): IT Gov., Bank Gov., and Fin. Per.: SEM results

| Paths | Unstandardized Coefficients | Standardized Coefficients | Robust Std. Err. | z     | P>|z| |
|-------|-----------------------------|---------------------------|------------------|-------|-----|
|       |                             |                           |                  |       |     |
| ▪ Bank Governance equation: |                             |                           |                  |       |     |
| IT Gov. → Bank Gov. | -0.39595 | -0.30160 | 0.0580 | -6.82 | 0.000*** |
| FSize → Bank Gov. | 0.05294 | 0.05013 | 0.2526 | 0.21  | 0.834 |
| CRAR → Bank Gov. | 0.16554 | 0.18114 | 0.0394 | 4.20  | 0.001*** |
| Leverage → Bank Gov. | -0.39726 | -0.43107 | 0.0519 | -7.65 | 0.000*** |
| Constant | -0.60365 | -2.21798 | 2.9454 | -0.20 | 0.838 |
| ▪ Financial Performance equation: |                             |                           |                  |       |     |
| Bank Gov. → Fin. Per. | 0.21497 | 0.21668 | 0.0357 | 6.03  | 0.000*** |
| IT Gov. → Fin. Per. | 0.11867 | 0.06796 | 0.0545 | 2.18  | 0.029*** |
| FSize → Fin. Per. | -1.56401 | -0.34658 | 0.2312 | -6.77 | 0.000*** |
| CRAR → Fin. Per. | 0.03911 | 0.04277 | 0.0366 | 1.07  | 0.285 |
| Leverage → Fin. Per. | 0.76149 | 0.74374 | 0.0496 | 15.35 | 0.000*** |
Endogenous variables: Bank Gov., Fin. Per.
Exogenous variables: IT Gov., FSize, CRAR, Leverage.
Method: Maximum likelihood (ml) with Robust Standard Error.
Notes: - ***. ** are significant at the 1%, 5% levels respectively.
The previous table summarizes the results of the path analysis of the structural model, in which the path (IT Gov. → Bank Gov.) shows that there is a direct negative impact at the level of 1% for IT governance on the level of banking governance. According to the non-standard regression coefficient, an increase in the level of information technology governance in Iraqi banks by one degree leads to a decrease in the level of banking governance by 0.396 degrees on average, i.e., a decrease of 39.6% from the increase in information technology governance. This result is in line with the correlation matrix, which shows an inverse correlation between the two variables. Also, this result does not support the verification of the second hypothesis of the study. Thus, it appears from this result that the Iraqi banks are replacing banking governance with the governance of their information technology.

On the other hand, the track (Bank Gov. → Fin. Per.) shows that there is a direct positive impact at the level of 1% of banking governance on FP. An increase of one degree in the level of banking governance leads to an increase in the FP of Iraqi banks by 0.215 degrees on average, an increased rate equivalent to 21.5% of the increase in banking governance. This result is also in line with the correlation matrix, which shows a positive correlation between banking governance and financial performance. This result also supports the verification of the third hypothesis of the study. The track (IT Gov. → Fin. Per.) also shows that there is a direct positive impact at the 5% level of IT governance on financial performance. Increasing the level of information technology governance by one degree increases the financial performance of Iraqi banks by 0.119 degrees on average, an increase equivalent to 11.9% of the increase in information technology governance. Thus, this result supports the realization of the first main hypothesis of the study.

For the control variables, the remaining paths of the banking governance equation show that there is a positive effect of the capital adequacy ratio, and a negative effect of the financial leverage, on the level of banking governance. On the other hand, the size of the bank had no effect on the level of banking governance. Thus, it appears from this result that Iraqi banks, when they enter indebtedness crises, resort to reducing their governance as a means for them to tighten...
their grip on the administration, believing that it is the best way to avoid the crisis and unify the administration's policies. Also, the Iraqi banks' adherence to governance is not linked at all to their sizes, meaning that large and small banks operate in the same way. In contrast to banking governance, the remaining paths in the financial performance equation show that there is a positive effect of financial leverage, and a negative effect of the bank's size, on the financial performance of banks. On the other hand, the capital adequacy ratio had no effect on the financial performance of Iraqi banks.

And by using the standard path coefficients, which standardize the units of measurement, and thus their coefficients reflect the relative importance of the variables, along with the size of the effect. We find that the most important variable for banking governance in Iraqi banks was the leverage ratio with an impact factor (-0.431), followed by information technology governance with a factor (-0.302), then the capital adequacy ratio (0.181), and finally the size of the bank with an impact factor (0.050). We also find that the most important variable for financial performance was the leverage ratio with an impact coefficient of (0.744), followed by the size of the bank (-0.347), then banking governance (0.217), then information technology governance with a coefficient (0.068), and finally the capital adequacy ratio (0.043).

As for the results of the path analysis of the measures used to create the latent IT governance variable, they were omitted for ease of presentation. Here, the path coefficients for these measurements can reflect the weights used to construct the latent variable. Using the standardized coefficients (whose coefficients reflect the relative importance of the variables), we find that the most important dimensions in the formation of the overall index of IT governance were construction with a coefficient (1.001), followed by monitoring (0.973), then compatibility (0.928), then delivery (0.923), and finally evaluation. (0.842), which is the least important measure in the formation of the IT Governance Index.

Here, a disintegration (or decomposition) of the paths of the previous structural model can be made in Table (4); It shows the direct impact of IT governance on the FP of Iraqi banks, as well as the indirect impact of IT governance on FP through the level of banking governance. As well as the total impact, which represents the total direct and indirect impact together. Thus, this table enables us to know whether the banking governance variable is considered a mediator or not.
Table (4): Decomposition of effects into total, direct, and indirect

<table>
<thead>
<tr>
<th>Paths</th>
<th>Direct effects</th>
<th>Indirect effects</th>
<th>Total effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Gov. → Fin. Per.</td>
<td>0.1187 (2.18)**</td>
<td>-0.0851 (-4.51)***</td>
<td>0.0336 (0.62)</td>
</tr>
</tbody>
</table>

Notes: - ***, ** are significant at the 1%, 5% levels respectively.

It is clear from the table that there is a direct positive impact of IT governance on the FP of Iraqi banks at the level of 5%. On the other hand, we find a negative indirect effect of IT governance on performance through banking governance at the level of 1%. Increasing the level of IT governance by one degree will lead to a direct increase in the financial performance of Iraqi banks by 0.1187 degrees, in exchange for a decrease in the performance also for those banks by 0.0851 degrees through banking governance. That is, IT governance has two opposite effects on performance. Thus, the overall effect was positive, 0.0336, but it was not statistically significant. That is, the two opposite effects of information technology governance have led to the fading of any overall impact on the financial performance of Iraqi banks.

Thus, these results, according to the Baron & Kenny three-step test, indicate that the banking governance variable may play a mediating role, “partial mediation” in the relationship of information technology governance with the financial performance of Iraqi banks, due to the presence of a direct and indirect impact of information technology governance. Thus, to formally evaluate the intermediate variable, the Sobel, Aroian, and Goodman tests will be evaluated here, as shown in the following table (5).

Table (5): Mediation tests

<table>
<thead>
<tr>
<th>Paths</th>
<th>Sobel test</th>
<th>Aroian test</th>
<th>Goodman test</th>
<th>Type of Mediation</th>
</tr>
</thead>
</table>

Notes: - ** is significant at the 1%.

Here, it is clear from the table that its results came to confirm what was concluded using the three-step Baron & Kenny test, as the statistical results of the three tests were statistically significant at the level of 1%. Thus, these results confirm that banking governance plays a mediating role "partial mediation" in the relationship of information technology governance with the financial performance of Iraqi banks. Thus, this result supports the verification of the fourth hypothesis.

As for the general statistics of the structural model, such as the coefficient of determination (R²) statistic, the Wald test statistic, which assumes that all path coefficients except for the fixed part are zero for each equation in the model, and the model stability test. It has been presented in Table (6).
Table (6): Equation goodness of fit statistics

<table>
<thead>
<tr>
<th>depvars</th>
<th>R-squared</th>
<th>Wald tests for equations</th>
<th>Eigenvalue stability condition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>chi2     df   Prob.    Eigenvalue</td>
<td>Modulus</td>
</tr>
<tr>
<td>Observed:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bank Gov.</td>
<td>20.5%</td>
<td>167.41    4   0.000***</td>
<td>0</td>
</tr>
<tr>
<td>Fin. Per.</td>
<td>32.04%</td>
<td>311.85    5   0.000***</td>
<td>0</td>
</tr>
<tr>
<td>Overall</td>
<td>98.4%</td>
<td></td>
<td>Stability Index = 0</td>
</tr>
</tbody>
</table>

Notes: - *** is significant at the 1%.

It turns out that the governance of information technology and the controlling variables explain 20.5% of the changes that occur in banking governance. While the rest of the percentage of 79.5% is due to random error, which may be due to many other organizational and administrative factors that were not controlled here in the structural model. We also find that banking governance, information technology governance, and the controlling variables explain 32% of the changes that occur in the financial performance of Iraqi banks. Thus, based on the coefficient of determination of the two previous equations, the coefficient of determination of the structural model is equal to 98.4%, which is a very high determination rate, which also reflects the level of excellent suitability and high explanatory ability. It is also clear that the value of the (chi2) test was statistically significant at the 1% level for the two equations contained in the first study model. This indicates the rejection of the null hypothesis that the coefficients of the paths other than the fixed part are zero, and thus the acceptance of the alternative hypothesis that all coefficients of the paths of the model are not equal to zero. That is, there is statistical significance for the study model at the 1% level. Finally, the stability test in the table indicates that the model fulfills the stability condition, as the value of the stability index was zero.

Since statistical significance is the least interesting thing about the results, p-statistical significance is not sufficient because it only tells us that there is a stronger relationship between two variables (rejecting the null hypothesis), i.e., it simply tells the reader that it is unlikely that the relationship between the variables is due to pure chance. Here, the size of the effect will be calculated, which shows the practical importance of the relationship of information technology governance with financial performance in the Iraqi administrative environment. For example, the value of statistical significance may be less than 0.05, but the effect size is small, and here it may not be worth investing in the intervention or drawing conclusions to develop the theory. The effect size thus promotes a more scientific approach. Thus, we conclude that the effect size brings us additional information for the
deductive decision to accept or reject the null hypothesis, and the effect size is calculated here from the partial correlations between information technology governance and financial performance through the direct, indirect, and macro effects. Which measures the correlation between the dependent and independent variables while controlling the rest of the other variables in the model (if they also affect the dependent variable). These correlations are then converted to a normalized measure, ie Fisher’s Zr. As in the following table (7).

Table (7): Practical significance

<table>
<thead>
<tr>
<th>Effect Size (Cohen's d)</th>
<th>Effect Size (r)</th>
<th>Confidence interval (%95)</th>
<th>t-stat.</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT Gov. → Fin. Per. (Direct effect)</td>
<td>0.6373</td>
<td>0.3036</td>
<td>0.0236</td>
<td>0.5836</td>
</tr>
<tr>
<td>IT Gov. → Fin. Per. (Indirect effect)</td>
<td>-1.5035</td>
<td>-0.6009</td>
<td>-0.8810</td>
<td>-0.3210</td>
</tr>
<tr>
<td>IT Gov. → Fin. Per. (Total effect)</td>
<td>0.1754</td>
<td>0.0876</td>
<td>-0.1924</td>
<td>0.3676</td>
</tr>
</tbody>
</table>

Notes: - ***, ** are significant at the 1%, 5% levels respectively.

Here, based on the effect size value of Cohen's d, and the partial correlation coefficient (r), it is clear from the table that there is medium practical importance for the direct impact of IT governance on the FP of Iraqi banks. On the other hand, we find great practical importance in the indirect impact of IT governance on FP through banking governance. While there was no impact size (practical significance) for the overall impact of IT governance on FP. This is because the negative impact of banking governance cancels out any direct impact of IT governance on FP. Hence, any overall impact of IT governance on FP vanishes, and any practical importance of this relationship in the Iraqi accounting and administrative environment vanishes with it. Thus, Iraqi banks must rely on one element of governance only, whether banking governance or information technology governance.

Finally, a question may come to mind about the possibility of a reverse circular causal relationship between the FP of Iraqi banks and the level of banking governance, that is, whether the financial performance indicator has any impact on banking governance. This is investigated by converting the study model from a recursive model to a non-recursive model by introducing a new track that goes from the financial performance indicator to the banking governance indicator. It should be noted that finding solutions for non-recursive models is often difficult because of the problem of stability and convergence of the non-recursive model.

where in non-recursive model's care should be taken when interpreting spillover effects; A feedback loop is when a variable affects itself indirectly. Thus, when calculating the indirect effect, the
sum has an infinite number of terms, so if the model is stable (i.e., the eigenvalues of the coefficient matrix fall within the unit circle) then the values of the terms become smaller and smaller, and thus usually converge to a definite result. On the other hand, if the model is unstable (i.e. the eigenvalues of the coefficients matrix fall outside the unit circle), the coefficients of the model are of the type that will explode the model if it is run over and over again, meaning that the new value of one of the internal variables will lead to new values for the other internal variables, which it will, in turn, lead to new values for the first internal variable..., and so it will continue in this way and you will reach infinity for all the internal variables. Therefore, it is important for non-recursive models to be stable (because to obtain unstable results, questions are raised about the validity of the model).

By estimating this non-recursive model, it turns out that it does not meet the stability condition, in the sense that the structural model proposed here is unstable. That is, an increase in banking governance, for example, will lead to an increase in the financial performance of Iraqi banks, which in turn will lead to an increase in the level of banking governance, and so the model will continue to increase until it explodes (i.e. it reaches infinity). This confirms that there is no inverse circular causal relationship between financial performance and the level of banking governance.

6. CONCLUSION AND RECOMMENDATIONS

The link between information technology governance and application of COBIT framework in Iraq banking sector remains crucial issues to academic researchers and practitioners in accounting and finance. Based on extant study examined indicate that literature in the study area is scanty and there was not much divergence in various views as regards IT governance and COBIT framework initiation. However, the study concluded that there is a direct positive impact of IT governance on financial performance, as opposed to an indirect, negative impact of IT governance on performance through banking governance. Thus, banking governance plays a mediating role "partial mediation" in the relationship of IT governance with the financial performance of Iraqi banks. Increasing the level of IT governance by one degree will lead to a direct increase in the financial performance of Iraqi banks by 0.1187 degrees, in exchange for a decrease in the performance also for those banks by 0.0851 degrees through banking governance. That is, IT governance has two opposite effects on performance. Thus, the overall effect was positive, 0.0336, but it was not statistically significant. That is, the two opposite effects of information technology governance have led to the fading of any overall impact on the FP of Iraqi banks.
The results also showed that there is a medium practical importance (effect size) for the direct impact of IT governance on FP, in contrast to a large practical importance for the indirect impact of IT governance on FP through banking governance. While there was no effect size (practical significance) for the overall impact of IT governance on FP. This is because the negative impact of banking governance cancels out any direct impact of IT governance on financial performance. Hence, any overall impact of IT governance on financial performance vanishes, and any practical importance of this relationship in the Iraqi accounting and administrative environment vanishes with it. Thus, Iraqi banks must rely on one element of governance only, whether banking governance or IT governance.

Finally, the study concluded that there is no inverse circular causal relationship between financial performance and the level of banking governance, meaning that financial performance does not affect the level of banking governance. It therefore concluded that IT governance with the application of COBIT framework initiation is critical factor in enhancing performance in banks in Iraq.

The study therefore recommends as follows.

1. That banks in Iraq should adequately invest in information technology infrastructure and by ensuring efficiency and effectiveness in their IT governance in term of risk management of customers transactions by considering application of COBIT framework to enhance their banks financial and non-financial performance.
2. That banks in Iraq should ensure that IT governance especially in area of controlling and monitoring of operations in banks are efficient and effective and capable of enhance COBIT framework initiation.

Bibliography


ISACA. (2012a), “COBIT 5: A business framework for the governance and management of enterprise IT”. Rolling Meadows, IL, USA: ISACA.

IT Governance Institute. (2008), “Enterprise value: Governance of IT investment, the VAL IT framework 2.0”. United States of America: ITGI.


662


