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Information Technology Governance as an Approach to Reduce Risks of Outsourcing of Internal Audit and Information Technology "An Applied Study"

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Abstract

The main objective of this research is to examine the potential role of IT governance (ITG) in reducing the risks of outsourcing for IT and internal IT audit in the Egyptian business organizations. This objective will be achieved through identifying the nature and types of the most important potential risks of IT outsourcing (ITO) in the Egyptian business organizations; clarifying the impact of internal IT audit outsourcing on increasing the potential risks challenging the Egyptian business organizations, and introducing a proposed approach for ITG in order to reduce the risks of IT and internal IT audit outsourcing through implementing effective ITG mechanisms (structures, processes, and relational mechanisms) in the Egyptian business organizations. An applied study using a questionnaire is conducted to explore the potential role of ITG to reduce the risks of both IT and internal IT audit outsourcing in the Egyptian organizations. The questionnaire was distributed on a sample of 254 respondents consists of academic staff were recruited in Egyptian universities, external auditor, internal auditor and chief information officers (CIOs) in the Egyptian business organizations, and 238 vialed questionnaires are analyzed. The applied study has reached a number of findings: first, adapting ITO increases the risks facing the Egyptian business organizations. Second, adapting internal IT audit outsourcing increases the risks facing the Egyptian business organizations. Third, the study findings proved that adapting ITG reduces the potential risks of IT outsourcing in the Egyptian business organizations. Finally, the study found that adapting ITG reduces the potential risks of internal IT audit outsourcing in the Egyptian business organizations.

Keywords: (IT outsourcing – internal IT audit outsourcing – IT governance).

1. Introduction

Nowadays, Information technology (IT) serves as the backbone to most organization's sustenance. This is because it serves as an enabler of corporate strategies and a catalyst for change to the business models of various organizations. IT is a combination of hardware and software used to facilitate the collection, storage, and dissemination of data, information and knowledge. The use of IT has brought significant benefits to organizations. However, the establishment and maintenance of IT requires substantial cost, expertise, time, and resources. The challenge of acquiring these requirements has led to some organizations outsourcing the whole or part of their IT functions (Lioliou, 2019).

IT outsourcing has emerged as an important strategy for enabling organizations around the world to enhance their competitiveness by gaining access to the distinctive expertise and technological competencies of external service providers. The result of this trend is a significant upsurge in the outsourcing of information technology. The IT outsourcing market is expected to reach a value of USD 397.6 billion by 2025. (Business wire, 2020).

Despite the considerable growth of IT outsourcing in recent years, and the various potential benefits an organization can expect to gain, outsourcing IT activities is not without potential risks (Abu-Musa, 2011). In a survey (on global outsourcing and insourcing) administered by Deloitte Consulting LLP in 2012, 48% of ITO contracts were reported as unsuccessful (failed half-way) and 24% were unsatisfactory due to concerns over service quality (Deloitte, 2014). Risks are causing futile and unsatisfactory ITO engagements, which are depriving organizations of attaining the benefits or objectives of outsourcing IT.

It is argued that despite the benefits that can be achieved through outsourcing IT activities, it can also cause significant risks if such project is not effectively managed (Abu-Musa, 2011). As a result, this process is in organizations under the strict control of the internal audit body and the risk management system. Implementation of the internal audit strategy over the outsourcing process implies its active participation in decision making on the engagement of third parties, as well as the revision of already externalized processes.

In the business world the internal audit function of an organization is established and used to provide an unbiased and objective review on the organizations processes and activities. Internal audit is a critical contributor to providing high quality corporate governance and risk management besides its vital role in the organization's internal control structure (Khan et al., 2020). When organizations consider that their internal audit services are either costly or are inefficient they prefer to outsource. An organization might want to outsource their internal audit function to an outsourced service provider to acquire better services from the function.

As noted by Garven and Scarlata (2020), a common challenge to increasing technological use that internal audit functions face is a lack of technological skills. Implementing and training people in audit technology require significant investments in time and resources. Organizations may decide to outsource some or all of their internal audit activities for various reasons. These include cost savings, insufficient resources, lack of specialized knowledge and the desire to focus on core activities. Despite these potential benefits, outsourcing internal IT audit has accompanying risks as well however (Van Peursem and Jiang, 2008). Accordingly, internal IT audit outsourcing related benefits and associated risks should be weighed and carefully considered to ensure internal audit outsourcing success. Thus, the risks involved in outsourcing both IT and internal IT audit services, and the potential negative impacts of these risks on organizations is necessitating the continuous research on risks, and a governance practices to propose effective mechanisms to reduce risks involved in these arrangements.

In prior literature (Gorla and Somers, 2014), the governance of outsourcing is recognized with persistent strategic importance for practice, because it is tightly related to outsourcing success. Under the rapid transformation of global market, the evolving practice of IT and internal IT audit outsourcing requires updated knowledge on effective governance. Accordingly, to implement governance on outsourcing IT and internal IT audit services, a new term of governance has emerged, this is IT governance. Today, IT governance is high on the agenda in many organizations and high-level IT governance models are being created. IT governance encompasses the structures, processes and relational mechanisms for aligning business and IT efforts to accomplish optimal value from the business by means of the implementation of effective IT control and accountability, performance and risk management.

Accordingly, this study explores risks of both IT and internal IT audit outsourcing, and proposes an IT governance approach to assist organizations to reduce some of the potential risks of these arrangements effectively.

2. Conceptual Framework

The main objective of this section is to introduce the conceptual framework of IT and internal auditing outsourcing and their potential risks. Further, the role of IT governance in mitigating outsourcing risks of IT and internal IT audit.

2.1 Information Technology Outsourcing and its Risks:

2.1.1 Information Technology Outsourcing (ITO) Definition:

According to the proliferation of the internet and progress in IT brought new opportunities to organizations to perform their businesses more efficiently than in the past. The use of the internet and IT not only changed the way organizations do business, but they also enhanced existing processes. Organizations are increasingly dependent on IT to remain competitive; one of the main

consequences of this increased reliance on IT is the practice of IT outsourcing (Qi and Chau, 2012, Schwarz, 2014).

Various different definitions of ITO have been found in the literature. Samantra et al., (2014, p:4010) denoted that ITO "is the use of a third party to successfully deliver IT enabled business process, application service, and infrastructure solutions for a cost-effective business outcome".

Further, Hanafizadeh and Zareravasan (2020, p:43) defined ITO as "handing over to one or more third party vendors the provision of some or all of an organization's IS functions such as IT assets, activities, people, processes, or services for a contractually agreed monetary fee and period of time''.

Taken the manifold definitions of ITO into account, the researcher can deduce the following definition of ITO: "ITO is the contract between the organization and specialist external party to outsource all or part of the technical resources, human resources, and the management responsibilities associated with providing IT services, in accordance with agreed upon deliverables, performance standards and outputs as set forth in the contractual agreement".

2.1.2 Outsourcing Theories:

Quite a number of theories have been applied to understand, describe, and explain outsourcing. These are as follows, but not limited to:

1) **Transaction Cost Economics Theory:** This theory supports the cost factors of outsourcing strategies in the organizations. The services or production can only be outsourced if the strategy brings about cost benefits for the organizations. Cost reduction is the most important driver of outsourcing (Williamson, 1985). Because the differences in wage level in different countries can leverage the overhead cost of the organization and the organization can also benefit from the expertise available across the globe. For example, many of the US based organizations have outsourced their IT operations to India to cut the cost (Neves et al., 2014).
2) **Resource-Based Theory:** According to this theory outsourcing is a strategic decision, which can be used to fill gaps in the organization's resources and capabilities. Organizations develop organization-specific resources and then renew these to respond to shifts in the business environment (Vaxevanou and Konstantopoulos, 2015).
3) **Core Competency Theory (CCT):** Core competencies are the capabilities that are critical for the business to attain its competitive advantage. The theory guides the service-buying organization to concentrate on the core competencies and not to outsource them but instead to keep them in-house as a unique asset. CCT analyses the organization's functions to explore which activities can be performed cost-effectively by keeping them in-house and those activities that could be outsourced (Jensen and Meckling, 1976).

2.1.3 Motivations and Advantages of ITO:

Reviewing the literature reveals that many motives for ITO are existed. Nyaboke et al., (2013), and Buttigieg (2015) stated that reasons for outsourcing include short term tactical reasons as well as long term strategic reasons. In the short- term the reasons are represented in; decrease in the need of personnel, focus more on core competencies, and reduced cost. On the other hand, the long-term strategic reasons include; reduce in administration problems, Access to world- class capabilities, improve business focus, decrease in time needed for organization's management and improvement of product or service quality.

2.1.4 Potential Risks of ITO

Although there are several motivations that encourage organizations to outsource IT and many advantages that can be achieved via ITO, there are many risks associated with this decision that threaten its successful implementation. Generally, risk is defined as "the product of probability of an event occurring and its consequences" (Gandhi et al., 2012, p: 42). According to Samantra et al., (2014, p: 4011) risk is described as "a potential future loss or undesirable outcome that might arise from some present action". Several authors have provided various list of risks associated with ITO, such as:

- Hidden Costs.
- Diminished Technical Returns.
- Provider's Inability to Adapt to New Technologies.
- Loss of Key Employees.
- IT Knowledge Sacrificed.
- Information Security Risks.
- Loss of Control.
- Delay Risk.
- Compliance and Regulatory Risk.
- Perceived Loss of Strategic Advantage.
- Quality Risk.

The causes of these risks are due to various risk factors that need to be accurately identified. By risk factors identification, these factors are uncovered to help decision makers capture the source of IT outsourcing risks.

The researcher can clarify the most important outsourcing IT risk factors as follows:

- Difference of goals and cultures between the outsourcing organization and the service provider.
- Information asymmetry and opportunism of the service provider
- Adverse selection of the service provider.
- Lack of experience with the IT outsourcing.
- Lack of experience with the IT operation.
- Contract not being comprehensive.
- Difficulties on account of fast pace of IT change.

2.2 Internal Audit Outsourcing and its Risks:

2.2.1 Definition of Internal Audit Outsourcing:

Knowledgeable and competent resources within internal audit are needed to ensure assurance and advisory work are performed in alignment with the organization's expectations and in conformance with widely accepted principles and standards. Consistent with the IIA's International professional Practices Framework (IPPF) standard on proficiency (1210), Chief Audit Executives (CAEs) must ask themselves "Do I have the right resources (regarding experience, language needs, technical knowledge and qualifications) in the department to conduct the audit? And if not, who or what resources can be utilized to provide internal audit services sufficient to accomplish the tasks at hand?" (IIA, 2018, P: 62).

Effective internal audit functions require a diversity of skills that many organizations find it difficult to source and retain. Maintaining world class internal audit resources require significant investment in recruiting, training and professionally developing internal audit personnel. Add to that the cost of the latest methodology, technology, and management's time and resources. Organizations therefore resort to the outsourcing of internal audit function to meet the requirements of maintaining an effective internal audit function (Mohamed, 2019).

There were many definitions that dealt with the concept of internal audit outsourcing as follows:

Barac and Motubaste (2010, P: 970) defined internal audit outsourcing as "an approach where the functions were executed by the outsider part from the organization that will provide the benefits of cost advantage, effectiveness, and efficiency of the operations and profession gain".

Amarajeewa et.al., (2017, P: 126) stated that "internal audit outsourcing is an activity where the forms employ or appoint independent public accounting firms and other professionals to execute the works that have not been done by internal auditors traditionally".

Also, Tazilaha and et.al., (2019, P:29) pointed out to the outsourcing of internal audit as "it is an administration system by which an association delegates internal audit activities once in the past performed inside the association, to specific and effective specialist organization in order to focus on core activities".

Through the previous definitions, the researcher can define internal audit outsourcing as "It is a partnership between the organization and specialized party (independent internal audit service provider), both sharing a common vision to effectively, efficiently, and accurately accomplish an agreed-upon process for the benefits of both parties, and also provide the skills and competencies that the organization cannot provide to do all or some of the internal audit activities that were previously done internally".

2.2.2 Types of Internal Audit Outsourcing:

Organizations may need to define the types of internal audit outsourcing arrangements to be considered. IIA (2018) identified and defined four types of outsourcing alternatives as shown in the following table:

Table No. (1) Types of Internal Audit Outsourcing

Type of Outsourcing	Description
▪ **Total Outsourcing**	Where 100% of the internal audit services are obtained from external sources, usually on an ongoing basis.
▪ **Partial Outsourcing**	Parts [less than 100%] of the internal audit services are provided by external sources, usually on an ongoing basis.
▪ **Co-sourcing**	Through which external sources participate in joint audits with in-house internal audit staff, provided on an ongoing basis.
▪ **Subcontracting**	Either for specific engagements or portion of particular services is performed by an external service provider.

Source: IIA (2018).

With regard to the internal audit activities that can be outsourced, IT audit is a key area for outsourcing activity. Gray (2016) indicated that IT audit is a frequently noted missing skill set, and IT audit support is one of the top internal audit outsourcing activities, suggesting that a significant portion of the reported internal audit function outsourcing may be IT related.

Also, Anderson and et al., (2012) state that information technology audit, regulatory/compliance audits, consulting and assurance services on the effectiveness of internal control structure, and risk management are the most outsourced internal audit activities.

It could be concluded that IT audit seems to be one of the ideal candidates for outsourcing for organizations not willing to build their own team given their organization level of dependence on IT and the nature of the organization's IT risk exposure. Furthermore, even organizations having their own in-house teams may still depend on outsourcing providers for IT areas of high technical specialization, as it is not cost effective to build IT audit teams have the ability to cover all specialized IT areas (IIA, 2015).

2.2.2 Perceived Benefits of IT Internal Audit Outsourcing:

Outsourcing internal IT audit offers organizations numerous benefits, the most important benefits are (Desai et al., 2011 and IIA, 2015):

- Cost Saving.
- Utilize the Resources of a Top Provider.
- Gain Access to Global Resources.

- Improving the Quality of Internal Audit Services.
- Focus on Core Competencies.
- Improve Independence and Objectivity.

2.2.3 Potential Risks of IT Internal Audit Outsourcing:

The most important potential risks that are associated with internal IT audit outsourcing are as follows:

- Loss of Organizational Control and Reduced its Stability.
- Communication Challenges
- Lack of Knowledge Regarding the Organization's Specific Characteristics.
- Loss of expertise and competencies within the organization.
- The effect on the independence and objectivity of outsourced internal auditors.
- Potential Increase of Costs.
- Confidentiality Risk.
- Other Risks; as the study of Khan et al. (2020) found that outsourcing internal audit can be a great risk to the organization for some reasons:
  - Outsourcing creates uncertainties about costs, quality, security, management and delivery of service.
  - From challenges that arise is that an organization might adopt a lack of risk-based approach to the management of the outsourcing service provider organization.
  - The organization does not be able to clearly define service levels or key performance indicators. This inability can lead to inability to effectively manage and control the service deliver, quality, and price in accordance with the contract of outsourcing.
  - Whether there is no "Right to Audit" or if the "right to audit" might not get exercised effectively, no assessment of the outsourcing service provider can take place.
  - The roles and responsibilities within the contract management team might be indistinct.
  - The organization may lack skills of contract management.

It could be concluded that although there are many benefits of internal IT audit outsourcing, there are many risks associated with this arrangement which prevent the achievement of these benefits. The researcher points out that the success of the outsourcing process depends on the effective management of all types of risks and the organization's adoption of appropriate strategies and mechanisms to assess and respond to those risks.

2.3 The Role of IT Governance in Mitigating outsourcing Risks of IT and internal IT audit:

2.3.1 Definition of IT Governance (ITG):

ITG is one of the concepts that emerged in the 1990s and became an important issue in the business and IT area and era. Corporate scandals such as Enron

Corporation and world com Inc. has raised the importance of corporate governance and ITG to provide guide lines to reduce risks to shareholders, employees, and consumers. So legislators were created in USA Sarbanes-Oxley Act (2002) and in UK Cadbury Report (1992). These reforms have brought about major changes in corporate governance in all countries of the world (Ahmad and Omar, 2016).

ITG, like other governance subjects, is the responsibility of the board of directors and executive management. It is not an isolated activity or discipline, but rather is integral to corporate governance (ITGI, 2003). Corporate governance consists of several types of governance such as: Financial Governance, HR Governance, Project Governance, IT Governance, etc.

Despite the visibility and importance of the term ITG since 1990, ITG's researchers working in the area continue to define the term in a number of ways. Some definitions of ITG are presented as follows:

ITGI (2003) defined ITG as "the responsibility of the board of directors and executive management. It is an integral part of enterprise governance and consists of the leadership and organizational structures and processes that ensure that the organization's IT sustains and extends the organization's strategies and objectives".

Abu-Musa (2007) defined ITG "as a structure of relationships which links IT processes, IT resources, and information to organization strategies and objectives to direct and control the organization in order to achieve the organization's strategies and objectives. It also integrates best practices of planning and organizing, acquiring and implementing, delivering and supporting, and monitoring IT performance to ensure that the organization's IT resources are used responsibly, its risks are managed appropriately and its information and related technology are supporting its business objectives".

Further, De Haes et al., (2020) defined ITG as its "is an integral part of corporate governance exercised by the Board, overseeing the definition and implementation of processes, structures and relational mechanism in the organization. It enables both business and IT stakeholders to execute their responsibilities in support of business/ IT alignment and the creation and protection of IT business value".

Based on the above discussion, ITG can be defined as "a set of structures, procedures, policies, objectives, strategies and responsibilities entrusted to decision makers in the organization to assist them in determining the overall direction of IT and control it, and it also used to direct and control the organization toward achievement of the organization's goals by adding value while balancing risks versus returns over IT and its processes". This can be achieved through the following domains:

- **Objectives**: organized and alignment of IT processes in the organization in order to achieve strategic objectives.

- **Effective Implementation**: for policies, standards, and IT control mechanisms through organizational structures within the organization such as the board of directors, executive management and ITG committees.
- **Embedding Accountability in the Organization**: ITG defines and regulates the organizational relationships between personnel in the organization, and determining the responsibilities related to decision rights and how to delegate this authority and responsibility within the organization structure.
- **Risk Management**: through the application of ITG mechanisms, the internal control system is effectively strengthened to manage IT risks.
- **Performance Evaluation**: to ensure that the organizational objectives are achieved.

2.3.2 The Importance of ITG:

Business leaders and IT executives are developing major concerns about the alignment of IT with business needs and the impact of IT on productivity and costs reduction. Thus, it has been argued that effective ITG could increase IT business value and achieve business goals (Harguem, 2021). For instance, Weill and Ross (2004) found that successful organizations in terms of ITG tend to experience a 20% increase in profits, higher returns on assets and growth in market capitalization than other organizations pursuing similar strategies.

Furthermore, ITGI (2003) adds the reasons why ITG is important:

- IT is already critical to organization success, provides opportunities to obtain a competitive advantage and offers a means for increasing productivity.
- IT is essential for managing organization resources, dealing with customers and suppliers, and enabling increasingly global and dematerialized transactions. IT also is a key for recording and disseminating business knowledge.
- An ever larger percentage of the market value of organization has transitioned from the tangible (facilities, inventory, etc.) to the intangible (information knowledge, expertise, trust, reputation, etc.). Many of these assets revolve around the use of IT. Thus, good governance of IT is critical in supporting and enabling organization goals.
- In addition, IT carries risks. It is clear that in these days of doing business on a global scale around the clock, system and network downtime has become far too costly for any organization to afford. As a result, there is a need for governance to deal with risks related to IT.
- The networked economy has brought more efficient markets, enabled streamlining of processes and optimized supply chains. It has also created new technology and business risks and new information and resilience requirements. These new risks and requirements mandate that management of IT be more effective and transparency.

2.3.3 Focus Areas of ITG:

1) Strategic Alignment:

As the foundation for ITG, IT strategic alignment can be defined as the fit between business and IT strategic orientations. It is concerned with the integration between the IT and business plan in order to maintain the solutions and strategies aligned with IT strategies and business organization. (Gheorghe, 2011; ITGI, 2003). An enhanced IT-business alignment allows organizations to continue conducting their strategies and achieving their goals by providing support to management and contributing to business performance which reflects on their ITG effectiveness.

2) Value Delivery:

Deals with the execution of the value propositions through the delivery cycle, makes certain that IT delivers the promised benefits vs. the strategy. The main concern is optimizing costs and proving the intrinsic value of IT throughout the delivery cycle. (Wiedenhoft et al., 2017).

3) Resource Management:

Ensures the optimal investment and proper management of critical IT resources; information, applications, infrastructure and people. The main concern is regarding optimizing knowledge and infrastructure. The IT resource management area overlays all the other four areas. (Wiedenhoft et al., 2017; Gheorghe, 2011).

4) Risk Management:

The universal need to demonstrate good governance to shareholders and customers is the driver for increased risk management activities in the organizations. While value delivery focuses on creating business value, IT risk management centers on preserving business value. It is essential that top management is able to understand and recognize IT risks, and so ensure that the most significant risks are controlled. Accordingly, to be effective ITG should validate and properly manage risks, which means making sure there are controls in place to identify the possible causes of problems, eliminate or transfer them, and monitor trigger events in order to mitigate their effects, thus ensuring IT failures do not jeopardize the strategic business objectives (Lunardi et al., 2017).

5) Performance Measurement:

Performance measurement can be used to Track and monitor implementation of strategies and projects. This also applies to the use of resources, performance of processes and delivery of services. An example is the use of a Balanced Score Card (BSC), which translates strategies into action for achieving goals that are measurable beyond conventional accounting (Lunardi et al., 2017; Wiedenhoft et al., 2017). It could be concluded that without establishing and monitoring performance measures, it is unlikely that the previous domains will achieve their

desired outcomes. The performance measurement domain closes the loop and it provides feedback to the strategic alignment domain by providing evidence that ITG initiative is on tract and creating opportunity to take timely corrective measures.

2.3.4 Role of ITG to Reduce the Risks of Outsourcing IT and Internal IT Audit:

The decision to outsource is strategic, not merely a procurement, decision when client organization outsources effectively, reconfiguring its value Chain by identifying those activities that are core to its business, retaining them and making non-core activities candidates for outsourcing. It is important to understand this in the light of governance, not just because well-governed organizations have been proved to increase shareholder value, but particularly because organizations is Competing in an increasingly aggressive, global and dynamic market. As a strategic resource, outsourcing must be governed accordingly. This is not just about purchasing but about effective management and ensuring that both parties benefit. (ITGI, 2005)

Because governance is not a one-size fits-all proposition, the governance framework must consider the organization goals, maturity, complexity and culture of the organization. Extending governance to the outsourcing increases the importance of effective IT governance. While the adoption of outsourcing both IT and internal IT audit offer many benefits, it also raises risks that should be analyzed and mitigated. In this respect, the researcher develops a proposed approach to address the role of ITG in mitigating the risks of outsourcing both internal IT audit and IT. The goal of this approach is to identify a set of the most suitable ITG mechanisms that can be utilized to reduce the risks of outsourcing both internal IT audit and IT. These mechanisms can be illustrated as follows.

2.3.4.1 Structure Mechanisms:

It clearly defines organizational units and roles to place decision making responsibilities properly. The most suitable structure mechanisms that have an important role in outsourcing both internal audit and IT are as follows:

First: Role of the Board of Directors:

Board of directors of client organization is responsible for all IT activities. This responsibility includes outsourced activities such as IT and IT internal audit. The board is ultimately accountable for the effective oversight of outsourcing risk within their organization. This includes ensuring that the appropriate structures are in place to facilitate a Comprehensive view and oversight of their outsourcing arrangements while the performance of IT activities and IT internal audit can be outsourced, board of client organization cannot outsource its responsibility.

In order to ensure effective IT governance of outsourcing risk, the board should therefore ensure in the first instance that management develops and implements appropriate organization wide policies for outsourcing.

When an outsourced arrangement is tabled for approval, the board should ensure the following:

- That the outsourcing supports the organization's overall requirements and strategic plans.
- That the organization has the expertise to oversee and manage the relationship.
- That the evaluation of the potential service provider is based on the scope and criticality of the outsourced services.
- That there is a proper risk analysis and risk management program specific to the selected service provider and services.

Second: A properly Functioning CIO:

As the organizations were involved in ITO, the CIO roles were seen to be very important. This is in line with Strickland (2011) views which claim that even though organizations outsource their IT functions there could still be the need to retain the CIO position. The reason is that CIO's needs to be involved in contract management, architectural planning, assessing the technological alternatives and continuous learning.

The researcher agrees with this view, since outsourcing is getting more expanded in the IT developments, The CIO has to Compare, evaluate alternatives, and sometimes shape service providers offering in order to decide the best offering for his organization.

Third: Role of ITG Committees:

A) IT Steering Committee: The Federal Financial Institutions Examination Council (FFIEC, 2015) stated that IT steering committee oversees processes for approving organization's third-party service provider. In addition, and draw from the ITGI (2003) the researcher identifies the following roles and responsibilities:

- Review, approve and fund outsourcing initiative, assessing how they improve business processes.
- Ensure identification of all costs and fulfillment of cost/benefit analysis.
- Ensure that outsourcing arrangements have a risk management Component.
- Report necessary recommendations to the board on the deviations that may adversely affect the achievement of strategic objectives and on unacceptable IT risks.

B) Audit Committee: Executive management is in charge of actually implementing any outsourcing solution, but it's the audit Committee's responsibility to understand how management has gone about ensuring that the outsourcing will not result in major risks for the organization (PwC, 2015).

First, with regard to outsourcing internal IT audit, the audit Committee is responsible for effective internal audit function regardless all or part of the function is outsourced the audit Committee must ensure that the outsourced service provider provides high quality internal audit services and serves the best interests of the organization.

The audit committee must ensure that the service provider is not beholden to the management, so it has to visibly lead the process of selection and approving the appointment of the service provider. Furthermore, the audit committee must consider that a proper risk based audit plan is presented and approved by the audit Committee, and all key risk areas of the organization have been identified, assessed and considered in the scope of the audit plan. Also, to ensure the independence of the service provider -directly reporting to the audit committee and he does not provide another services that will render him beholden to the management.

In addition to ensure that the service provider obtains information for his work and has access to key executives and managers, the audit committee should assign the CAE to liaise with the service provider an administrative matters, and in the same time the CAE is responsible for ensuring that the service provider delivers audit work according to the agreed upon scope of work and contractual obligations.

Second, with regard to outsourcing IT, the audit committee's role is to inform itself accordingly by questioning the CIO and the CFO to find out what the implications will be for financial reporting, Compliance, and risk management the more serious the potential implications and associated risks are, the more thoroughly and frequently the audit Committee should look at the consequences of the move (PwC, 2015).

Through the role of the audit Committee as one of the effective mechanisms of ITG, its role when outsourcing IT is emphasized in the following:

- Follow up the financial and accounting issues related to the performance of the service provider.
- Follow up and ensure the effectiveness of the implementation of the specific governance mechanisms in accordance with what stated in the contract.
- Follow up and evaluation of the risk management plan and it's effectiveness in achieving its objectives.

2.3.4.2 Process Mechanisms

Process mechanisms include formalization and institutionalization of strategic IT decision making or IT monitoring procedures. The most suitable processes mechanisms that have a significant role in outsourcing internal IT audit and IT are the following:

First: The Contract/SLA:

A good Contract is the key to a successful outsourcing relationship. The Contract describes the services that the service provider is to provide, discusses financial and legal issues, and becomes the blueprint for the life of the outsourcing agreement. Because the Contract obligates the client organization and the service provider to each other, extensive efforts must be taken to ensure that every detail of the arrangement is spelled out in the contract (Kim et al., 2013).

Because ITG is so essential to establishing an effective IT environment and even more essential to a successful outsourcing relationship, it should receive priority attention in the early stages of the negotiation and the contract phase of such a deal. By focusing on governance on the previous stages, the client organization and the service provider can clarify their respective roles and responsibilities to ensure the relationship's success. The contract will increase the likelihood that the ITG model will be implemented with the required discipline and rigor. An outsourcing Contract includes a collection of related agreements covering a number of issues such as:

- Service Level Agreement (SLA).
- Pricing and Payment Terms.
- Dispute Resolution and Termination.
- Ownership of Intellectual Property Rights.
- Explicit Monitoring and Control Rights.
- Right to Audit.
- Governance Characteristics.

Second: Control Objectives for Information and related Technology (COBIT5):

COBIT is one of the most important ITG mechanisms and supporting tools that allows IT managers to communicate and bridge the gap between business risks, control needs, value creation, and technical issues (Okour, 2019). To understand how the COBIT5's processes influence the ITO, it is necessary to describe preliminary the structure of the framework. COBIT5 is based on 37 high-Level IT Control objectives and on a structure that identifies three levels of IT activity: domains, processes, and activities. These high-level IT control objectives identify which information criteria are significant for each process and which IT resources should be managed by the process. The IT Control objectives are grouped into five domains that match organizational area of responsibility. These domains are grouping of IT processes and are defined as follows (ISACA, 2013): evaluate, direct and monitor (EDM); align, plan and organize (Apo); build, acquire and implement (BAI); deliver, service and support (DSS); and monitor, evaluate and assess (MEA).

With the purpose of clarifying the role of COBIT5 processes in the ITO arrangement, the researcher select the suitable processes which are closely related to ITO; they are as follows:

- EDM 03: Ensure Risk Optimization.
- EDM 01: Ensure Governance Framework setting and Maintenance.
- EDM 04: Ensure Resource Optimization.
- APO 02: Manage Strategy.
- APO 09: Manage Service Agreements.
- APO 10: Manage Suppliers.
- APO 12: Manage Risk.

- DSS01: Manage Operations.
- DSS06: Manage Business Process Controls.
- MEA02: Monitor, Evaluate, and Assess the System of Internal Control.

Third: COSO ERM-Integrating with Strategy and Performance:

Risks of outsourcing can be managed by leveraging well-accepted framework such as COSO ERM-Integrating with Strategy and Performance. This framework is helpful because ERM is a three dimensional, organization-wide, top-down means of anticipating, assessing, and addressing business risks, including those generated from outsourcing IT and internal IT audit. Under ERM-Integrating with Strategy and Performance framework managers see risk management as an ongoing process rather than as an isolated occurrence that necessitates a one-time assessment (COSO, 2017). Accordingly, this framework is well suited to manage constantly evolving IT and internal IT audit outsourcing risks. The following points explain how to apply the ERM-Integrating with Strategy and Performance framework by evaluating each component of the framework to outsourcing both IT and internal IT audit. These components are as follows: Governance and Culture; Strategy and Objective Setting; Performance; Review and Revision, and Information, Communication; and Reporting.

Fourth: ISO/IEC 27002 Information Technology - Security Techniques Code of Practice for Information Security Controls:

The ISO/IEC 27002 standard is widely used to address issues related to information security. ISO/IEC 27002 has its main structure to be applied based on an organization and guarantees the overall safety at all levels of information security of an organization. The ISO 27002 has features to preserve the confidentiality, integrity and availability of the information in organizations. This standard should be used as a reference for the consideration of controls within the process of implementing an Information Security Management System based on ISO/IEC 27001, it implements commonly accepted information security controls, and develops the organization's own information security management guidelines.

This standard can be followed by the organizations which outsource its IT and internal IT audit. This standard contains 11 security control clauses, collectively containing a total of 39 main security categories, and one introductory clause introducing risk assessment and treatment. Each clause contains a number of main security categories. The eleven clauses are: Security Policy; Organizing Information Security; Asset Management; Human Resources security; Physical and Environmental Security; Communications and Operations Management; Access Control; Information Systems Acquisition, Development and Maintenance; Information Security Incident Management; Business Continuity Management; and Compliance.

The most appropriate clauses that can be used to reduce the risks of outsourcing IT and internal IT audit are as follows:

- clause 6.2 "external parties":
  - Section 6.2.1 "Identification of risks related to external parties".
  - Section 6.2.3 "Addressing security in third party agreements.
- clause 10.2 "Third party service delivery management:
  - Section 10.2.1 "Service delivery.
  - Section 10.2.2 "Monitoring and review of third party services.
  - Section 10.2.3 "Managing changes to third party services.
- clause 15.3 "Information systems audit considerations:
  - Section 15.3.2 "Protection of information systems audit tools.
  - Section 6.2.1.
  - Section 9.1.2 "Physical entry controls.

2.3.4.3 Relational Mechanism:

Critical to the success of the mentioned structures and processes is an effective communication among all parties based on a collaborative relationship. Relationship management is an integral part of each governance model. Accordingly, the following mechanisms can be used in outsourcing both internal IT audit and IT.

First: Communications/Meetings between the Client Organization and Service provider: In the current scenario where people are working together for a common goal, the level of communication determines an organization's success. Communication is required in every aspect of a client organization-service provider relationship. It starts with signing of the contract, to managing the service provider, to setting expectations of the requirement and thereafter-constant guidance and supervision. Many of the times, service providers may not be adept at the business domain and may therefore require constant knowledge. Adequate knowledge transfer keeps the service provider motivated to help in requirement elicitation and thereby gains more insight into the application/product requirement. All this is only possible if there is proper communication between the client and vendor teams. It is generally a good practice to create a clear communication plan at the beginning of the arrangement to remove initial hiccups or hesitation in communication. Thereafter once a relationship develops between the two teams, communication can be managed as per the need (Jain and Khurana, 2016).

FFIEC (2012) mentioned that Communication among the internal audit function, the audit committee, and senior management should not diminish because the organization engages an outsourcing service provider. The organization's Chief Audit Executive (CAE) should be involved with the service provider in defining the audit universe and setting a risk-based IT audit schedule. The service provider should appropriately document all work and promptly report all control weaknesses found during the audit to the organization's CAE.

The outsourcing service provider should work with the CAE to mutually determine what audit findings are significant and should be emphasized when reported to the board and its audit committee.

In the same context, Lee (1996) mentioned that in many cases IT functions are critical to the organization and a direct communication channel should exist between top management and the managers dealing with the post-contract management so that problems detected in contract performance are communicated to senior management in a quick and efficient manner.

Second: knowledge sharing:

Jain and Khurana (2016) posited knowledge exchange encourages socialization between the client and service provider, often allowing them to overcome challenging problems that coincide with outsourcing arrangements. The information exchanged and nuances garnered when client and service provider communicate in close quarters enhance the relationship and fills a void that contractual documents fail to deliver on.

3. Literature Review and Hypotheses Development:

The Study of Thapit et al., (2022) examines the moderating effect of relationship quality on the correlation between perceived service quality (PSQ), perceived risk (PR), perceived value (PV) and intentions to acquire information technology outsourcing (PI). The data was acquired from 400 manufacturing company managers using a self-administered questionnaire and the technique of easy sampling. The researchers employed a quantitative, cross-sectional research strategy. The results indicate that PSQ, PR, and PV have significant direct and indirect effects on PI. The RQ also had a substantial direct effect on PI and altered the relationship between exogenous and endogenous variables.

Furthermore, Study of Elkady, (2018); the purpose behind this study is to determine the impact of some factors on achieving successful accounting information systems (AIS) outsourcing in Egypt. The researcher measured the outsourcing success through the perceived benefits including (strategic, technological and economic benefits). Moreover, the researcher took into account two factors: the selection of an effective AIS service provider and the quality relationships between the client firm and the accounting service provider to test their impact on AIS outsourcing success. A survey was carried out by means of questionnaires answered by 152 small and medium Egyptian firms outsourcing their accounting activities.

The results showed that effective selection of the AIS service provider and building a quality relationship with the AIS service provider had a significant impact on AIS outsourcing success. Furthermore, the study found that some proxies of each success determinant can be more influential than others based on type of benefits perceived from AIS outsourcing. This means that AIS service provider experience had a significant impact on only the strategic and

technological benefits perceived from AIS outsourcing, however; the fees of the contract and the trust between both parties had a significant impact on all types of benefits perceived. Furthermore, commitment only had a significant impact on strategic benefits perceived from AIS outsourcing.

Moreover, Study of Yang and Zhu, (2022): This study investigates whether the internal audit function can be fully utilized after outsourcing, whether it can effectively promote the improvement of the internal control of the enterprise, what kind of risks will exist when outsourcing, and how to avoid it.

This study found that after the outsourcing of internal audit, the accounting firm cannot have a comprehensive and clear understanding of the overall situation of the audited entity due to various factors (audit fees, audit time, etc.), thus affecting the accounting firm to replace the internal audit department. In addition, accounting firms accept a lot of financial statement auditing services. Maybe due to professional inertia, the core functions of internal auditing cannot be effectively played due to professional inertia when conducting internal auditing services. The effectiveness of the improvement of internal control is reduced. The internal audit department shall act as the guide and supervisor of the entrusted accounting firm, and clearly and clearly express its relevant requirements for internal audit services. Guide internal audit outsourcing to reasonably serve internal audit goals and organizational goals.

In the same context, Study of Shi, (2017); This study focuses on analyzing the motives of outsourcing behavior of internal auditing in Chinese enterprises, and then take KPMG as an example to introduce the content and form of internal auditing outsourcing service provided by external contractors, and further prove the feasibility of the internal auditing service that is undertaken by external agencies, and finally suggest that enterprises still need rational judgments in the outsourcing decision-making, should not be too blind. This study found that although the enterprises are able to benefit from the function of internal auditing outsourcing, the outsourcing process still contains many risks and defects, so enterprises still need to weigh their own operating conditions, think about the enterprises' intrinsic motivation of outsourcing and demand, and then make rational outsourcing decision-making, and be careful to avoid outsourcing risks.

Additionally, Study of Cohen and Mou, (2022); this study aims to investigate how governance and capabilities are important ingredients for IT outsourcing (ITO) success. Using meta-analytic techniques, the study combined quantitative evidence from 62 past empirical studies on ITO success. The analysis of 241 correlations reported across these studies shows that both relational governance and contractual governance, are important but relational processes namely, knowledge sharing and communication, and relational attributes of trust and commitment, are more significant than contract. It also found that client-side capabilities in both IT management and ITO management are as important as vendor-side capabilities to ensuring ITO success.

In the same vein, Study of Alotaibi et al., (2021), this study aims to identify the impact of information technology governance in reducing cloud accounting information systems Risks in Kuwaiti telecommunications companies. The study population represented by all Kuwaiti telecommunications companies, which number (3) companies. The sampling unit consisted of workers in the upper and middle management of Kuwaiti telecommunications companies. The researcher distributed (327) questionnaires electronically, the researcher retrieved (291) questionnaires, of which (269) were valid for statistical analysis.

The results indicated that the relative importance of all dimensions of information technology governance. The results demonstrate the importance of the role of information technology governance in reducing cloud accounting information systems risks. Also, that all information technology governance dimensions (Align, Plan and Organize; Build, Acquire and Implement; Deliver, Service and Support; Monitor, Evaluate and Assess) affect the cloud accounting information systems risks reduction in Kuwaiti telecommunications companies.

Furthermore, Study of Veerankutty et al., (2018); this study aims to investigate the impact of IT governance on audit technology performance. Surveys using closed-ended questionnaires were distributed to approximately 309 Malaysia public sector auditors. The results show that IT governance mechanisms such as IT strategy, IT committee and management support significantly influence the audit technology performance. IT governance does play a significant role in assuring the successful utilization of audit technology.

Also, Study of Rubino and Vitolla, (2014); the purpose of this study is to illustrate how information technology (IT) governance supports the process of enterprise risk management (ERM). In particular, the paper illustrates how the Control Objectives for Information and related Technology (COBIT) framework helps a company reach its objectives by integrating and supporting the Enterprise Risk Management by the Committee of Sponsoring Organizations (COSO ERM) framework. This study explains how the integration between the two frameworks (COSO ERM and COBIT 5) can represent, for any organization, a good way to achieve the objectives of internal control and risk management and, more generally, corporate governance.

This study identifies some gaps in the COSO ERM and illustrates how the COBIT framework facilitates the implementation of an adequate system of internal control. It highlights that is not enough to apply only an internal control framework for achieving the risk management and internal control system objectives. An IT governance framework, such as COBIT 5 is proposed as a tool that support risk management in order to develop an adequate system of internal control.

In light of the findings provided in the previous literature, the following hypotheses are suggested:

- **H1:** Adapting (implementing) IT governance reduces the potential risks of IT outsourcing in the Egyptian business organizations.

- **H2:** Adapting (implementing) IT governance reduces the potential risks of internal IT audit outsourcing in the Egyptian business organizations.

4. Research Methodology

4.1 Research Method:

In the applied study, the researcher depends on a questionnaire in the form of questions with and without set answers and was formulated in the light of the research hypotheses and aims. The questionnaire was distributed on a sample consists of academic staff were recruited in Egyptian universities, external auditor, internal auditor and chief information officers (CIO) in the Egyptian business organizations.

4.2 The Survey Groups:

The total sample size can be determined by the following formula (Kish 1965):

$$n = \frac{z_{\frac{\alpha}{2}}{}^2 \cdot p(1-p)}{d^2}$$

$$= \frac{(1.91)^2.(0.25)}{(0.06)^2} \square\ 254$$

Where:

p	Proportion of estimate (obtained from previous studies) p = 0.5
$Z_{\alpha/2}$	The standard score corresponds to a certain confidence level (94%) = 1.91
d	The maximum error team = 0.06
n	Sample size

The following table represents sample size respondents and its categories.

Table (2): The sample size respondents from each category

Category	No. of Questionnaires received	No. of questionnaires received and valid	% of respondents
Academic staff	75	73	97.3
External auditor	68	64	94.1
Internal auditor	57	52	91.2
Chief Information Officer (CIO)	54	49	90.7
Total	254	238	93.7

Source: Prepared by the researcher.

From the previous table, the researcher received 254 questionnaires on academic staff, external auditor, internal auditor and chief information officer

(CIO). Then collected these questionnaires and 16 of 254 were invalid due to the missing data. The usable questionnaires were 238 respondents.

The researcher has checked all responses of survey to ensure their validity and excluded the items not sufficiently answered. Then entered the data and analyzed it by applying some statistical methods mentioned in the program of statistical package for the social sciences (SPSS 26) and (AMOS 26).

4.3 The Reliability and Validity Tests:

In order to determine the validity and reliability of the tool used to measure the responses of the items sampled, the researcher used both **the internal consistency coefficient** to measure the validity of the results achieved for each item of the investigation, which is based primarily on the correlation coefficient. Therefore, it is essential that the basic criterion is a test of the significant of the correlation coefficient, and **Alpha Cronbach's coefficient** to measure the reliability of the study items, and the results were as in the following table:

Table (3): The reliability and validity test for the study's variables

Reliability Statistics				
Study's Variables		Reliability		Validity
		Cronbach's Alpha	No. Items	
Risks of IT Outsourcing.		**.751**	**15**	**.853****
Risks of Internal IT Audit Outsourcing.		**.776**	**13**	**.879****
The IT governance to reduce IT outsourcing risks				
The IT governance structure mechanisms to reduce IT outsourcing risks:		**.845**	**19**	**.771****
Frist	Role of the Board of Directors to reduce IT outsourcing risks.	.755	7	.755**
Second	Role of Chief Information Officer (CIO) to reduce IT outsourcing risks.	.646	3	.708**
Third	Role of IT Steering Committee to reduce IT outsourcing risks.	.760	5	.813**
Fourth	Role of Audit Committee to reduce IT outsourcing risks.	.639	4	.706**
The IT governance processes to reduce IT outsourcing risks:		**.901**	**30**	**.743****
Frist	Role of the IT Outsourcing Contract to reduce IT outsourcing risks.	.831	8	.761**
Second	Role of COBIT 5 Framework to reduce IT outsourcing risks.	.789	10	.735**
Third	Role of COSO ERM-Integrating with Strategy and Performance framework to reduce IT outsourcing risks.	.743	7	.800**
Fourth	Role of ISO/IEC 27002 Information Technology to reduce IT outsourcing risks.	.820	5	.819**

Reliability Statistics				
Study's Variables		Reliability		Validity
		Cronbach's Alpha	No. Items	
The IT governance relational mechanisms to reduce IT outsourcing risks:		**.727**	**6**	**.442****
Frist	Role of Communications / Meetings between the Client Organization and Service Provider to reduce IT outsourcing risks.	.690	4	.872**
Second	Role of Knowledge Sharing in reducing IT outsourcing risks.	.855	2	.725**
The IT governance to reduce the risks of internal IT audit outsourcing				
The IT governance structure mechanisms to reduce the risks of internal IT audit outsourcing:		**.846**	**12**	**.768****
Frist	Role of the Board of Directors to reduce the risks of internal IT audit outsourcing.	.817	7	.569**
Second	Roles of Audit Committee to reduce the risks of internal IT audit outsourcing.	.762	5	.385**
The IT governance processes to reduce the risks of internal IT audit outsourcing:		**.874**	**19**	**.807****
Frist	Role of the internal IT Audit Outsourcing Contract to reduce the risks of internal IT audit outsourcing.	.848	10	.768**
Second	Role of COSO ERM-Integrating with Strategy and Performance Framework to reduce the risks of internal IT audit outsourcing.	.766	7	.779**
Third	Role of ISO/IEC 27002 Information Technology to reduce the risks of internal IT audit outsourcing.	.716	2	.770**
The IT governance relational mechanisms to reduce the risks of internal IT audit outsourcing:		**.743**	**8**	**.822****
Frist	Role of Communications / Meetings between the Client Organization and Service provider to reduce the risks of internal IT audit outsourcing.	.753	6	.686**
Second	Role of Knowledge Sharing in reducing risks of internal IT audit outsourcing.	.861	2	.868**
The questionnaire as a whole		**.960**	**122**	----
****. Correlation is significant at the 0.01 level (2-tailed).**				

Source: Prepared by the researcher based on the results of the statistical analysis (SPSS).

The previous table shows that the Alpha Cronbach's coefficient is greater than 60% for all the study's variables, in addition, the Alpha Cronbach's coefficient for the questionnaire as a whole is equal to (0.960) and therefore can be depended on to measure the study's variables of the questionnaire.

This confirms that the questionnaire measures what it was built for, and that all items of the study are clear to the respondents (academic staff, external auditor, internal auditor and chief information officer (CIO)) and there is no ambiguity and if the researcher applies the questionnaire a second time to the same sample will give almost the same results.

The results of the previous table confirmed the validity of all variables, as confirmed by the values of internal consistency coefficients, which ranged from (0.385:0.879) and all variables came to a significant level of (0.01) and the values of internal consistency coefficients for most variables are close to the correct one, indicating that the internal consistency between questions of the questionnaire is very strong and acceptable.

4.4 Tests of Hypotheses:

The researcher relied on a number of different sources when formulating the hypotheses of the study, especially the previous studies that are directly and indirectly related to the current study Problem, and based on the problem of the study and the questions related to it, the hypotheses of the study were formulated in the form of proof, which will be tested in order to reach the results of the study. **The following are the hypotheses of the study:**

- **The first hypothesis:** Adapting (implementing) IT governance reduces the potential risks of IT outsourcing in the Egyptian business organizations.
- **The second hypothesis:** Adapting (implementing) IT governance reduces the potential risks of internal IT audit outsourcing in the Egyptian business organizations.

The following are the results of the first hypothesis:

5.6.3 The First Hypothesis:

Adapting (implementing) IT governance reduces the potential risks of IT outsourcing in the Egyptian business organizations.

To test this hypothesis, the researcher used the **structural model**, where the structural model is based on the study of the impact relationships between the study variables and the analysis of the impact size and the results of the causal relationships between the study variables. The results came as shown in the following figure:

Figure No. (1): Structural model diagram

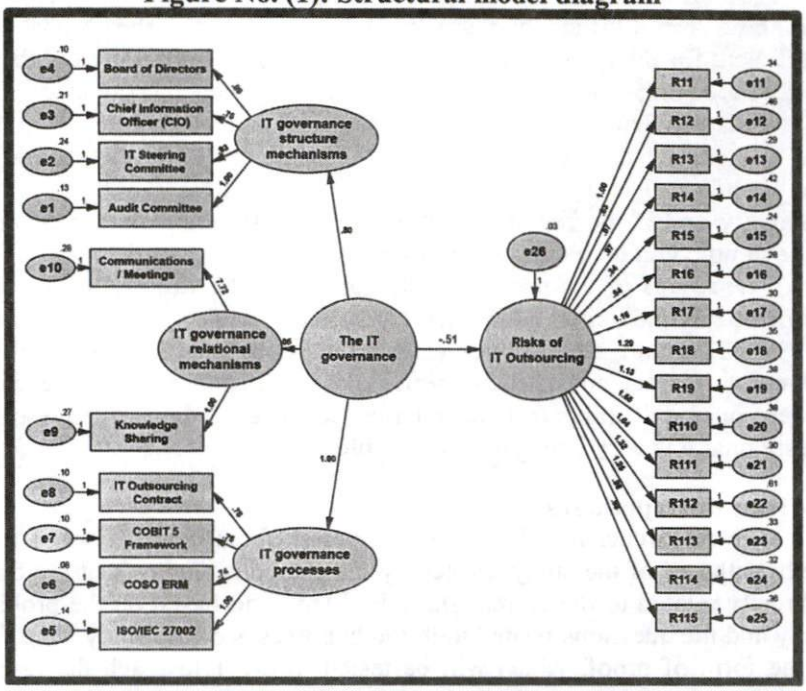

Table (4): Results of the structural model of the study

Regression Weights					
Path	**Estimate**	**S.E.**	**C.R.**	**P- value**	**R^2**
IT governance → Risks of IT outsourcing	-.514	.095	-5.384	.0001	.545

Source: Prepared by the researcher based on the results of the statistical analysis (AMOS).

The previous table shows the critical ratio of independent variable (IT governance) is more than the value (± 1.96) in addition, the level of significance is less than 0.01 (sig < 0.01), which indicates that this variable has statistical significance on the dependent variable (Risks of IT outsourcing).

The regression coefficient is negative, which means that there is a negative relationship between independent variable (IT governance) and dependent variable (Risks of IT outsourcing).

The **coefficient of R-square** is equal (54.5%) this is the percentage of the effect of independent variable (IT governance) on dependent variable (Risks of IT outsourcing) and the rest of the percentage is due to random error or may be due to other independent variables not included Model.

According to the previous results we accept the hypothesis, which means that the Adapting (implementing) of IT governance reduces the potential risks of IT outsourcing in the Egyptian business organizations.

5.6.4 The Second Hypothesis:

Adapting (implementing) IT governance reduce the potential risks of internal IT audit outsourcing in the Egyptian business organizations.

To test this hypothesis, the researcher used the **structural model**, where the structural model is based on the study of the impact relationships between the study variables and the analysis of the impact size and the results of the causal relationships between the study variables. The results came as shown in the following figure:

Figure No. (2): Structural model diagram

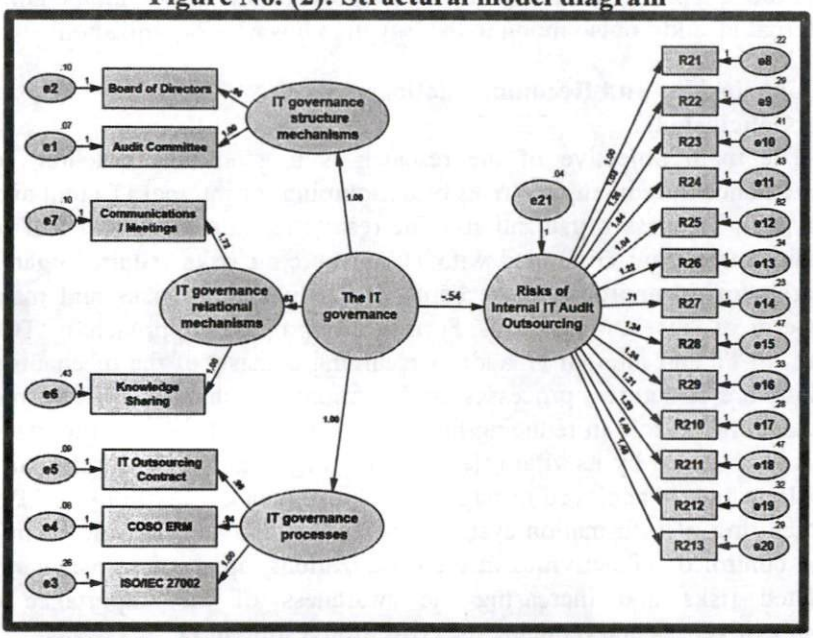

Table No. (5): Results of the structural model of the study

Regression Weights					
Path	**Estimate**	**S.E.**	**C.R.**	**P-value**	**R^2**
IT governance → Risks of internal IT audit outsourcing	-.540	.109	-4.974	.0001	.433

Source: Prepared by the researcher based on the results of the statistical analysis (AMOS).

The previous table shows the critical ratio of independent variable (IT governance) is more than the value (± 1.96) in addition, the level of significance is less than 0.01 (sig < 0.01), which indicates that this variable has statistical significance on the dependent variable (Risks of internal IT audit outsourcing).

The regression coefficient is negative, which means that there is a negative relationship between independent variable (IT governance) and dependent variable (Risks of internal IT audit outsourcing).

The **coefficient of R-square** is equal (43.3%) this is the percentage of the effect of independent variable (IT governance) on dependent variable (Risks of internal IT audit outsourcing) and the rest of the percentage is due to random error or may be due to other independent variables not included Model.

According to the previous results we accept the hypothesis, which means that the Adapting (implementing) of IT governance reduce the potential risks of internal IT audit outsourcing in the Egyptian business organizations.

5. Conclusions and Recommendations

5.1 Conclusions:

The main objective of the research is to study the potential role of IT governance in reducing the risks of outsourcing for internal IT audit and IT in the Egyptian business organizations. The results revealed that Risks of internal IT audit outsourcing combined with IT outsourcing risks require organizations to search for an appropriate mechanism to reduce these risks and maximize the benefits of these arrangements. Further, The proposed approach of ITG to reduce risks of IT and internal IT audit outsourcing consists of the mechanisms of ITG which are structures, processes, and relational mechanisms. These mechanisms have a crucial role in reducing the previous risks. Where, the importance of ITG is demonstrated by its vital role in driving organizations towards achieving their goals, which is achieved through the achievement of flexibility in IT and in the structuring of information systems operations; activate the role of management and control of IT activities in the organizations, appropriate management of IT related risks and increasing the awareness of the importance of IT in competitiveness and reducing the costs of investing in IT.

5.2 Recommendations:

1- It is important for organizations to have an effective ITG in place as ITG help organizations to successfully achieve their objectives and goals to ensure that IT systems and business strategies are aliened, IT resources are properly allocated, IT performance is measured, and IT risks are mitigated.
2- The researcher recommends the necessity of applying the ITG proposed approach to reduce the risks of outsourcing IT and internal IT audit, as this approach includes some of the most appropriate ITG mechanisms that help in reducing these risks.
3- The risk management of IT and internal IT audit outsourcing must be positioned as a core function in organizations because it is a strategic function that facilitates objective realization. Further, organizations must invest in risk management capabilities (such as staff and tools) that will ensure the attainment of IT and internal IT audit outsourcing objectives.
4- The researcher recommends the necessity of the various professional organizations supervising the audit process towards developing and activating the mechanisms to ensure the objectivity of internal audit in the Egyptian organizations, as well as organizing the process of outsourcing internal audit and setting the necessary controls in order to achieve its independence and improve its efficiency to perform the tasks of internal audit.

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