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The Effect of Litigation Risk and Task Complexity on the Auditors' Reliance on Decision Aids An Experimental Study

Abstract

The purpose of this study is to examine the effect of litigation risk and task complexity on auditors' reliance on decision aids. The importance of this study arises from the benefits that auditors gain as a result of relying on the decision aids. The reliance on decision aids results in more accurate decision, improving effectiveness, efficiency and audit quality. Accordingly, the research hypotheses were developed to suggest that auditors will choose to rely on decision aids in high levels of litigation risk or high levels of task complexity. To test the hypotheses, an experimental design is used and a sample of 80 auditors working for big 4 and non-big 4 auditing firms. The study used two independent variables which are litigation risk; manipulated into two levels (high and low) and task complexity; manipulated into two levels (high and low). The dependent variable is the extent of auditor's reliance on decision aids measured by dividing the levels of reliance using a Likert scale from 1 to 5 Results indicated that auditors are not likely to rely on decision aids with high levels of risk and more complex tasks, instead, they prefer to depend on their personal judgment. In addition, results showed that auditors working in big 4 firms may choose to rely on decision aids more than who are working in non-big 4 auditing firm.

Keywords: Litigation risk, Task complexity, Decision aids, Information systems, Artificial intelligence, External auditing, Audit risk, Risk Assessment, Audit Quality.

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أثر خطر التقاضي و تعقد مهمة المراجعة على مدى اعتماد المراجعين على الأدوات المساعدة في اتخاذ القرارات – دراسة تجريبية

ملخص البحث

صممت هذه الدراسة لاختبار أثر ارتفاع خطر التقاضي و تعقد مهمة المراجعة على مدى اعتماد المراجع الخارجي على الأدوات المساعدة في اتخاذ القرارات عند أدائه لمهام المراجعة.

تتبع أهمية هذه الدراسة من التعارض القائم بين الدراسات السابقة. فريق منهم يؤيد اعتماد المراجع على الأدوات المساعدة في اتخاذ القرارات حيث توصلت هذه الدراسات أن الاعتماد على الأدوات المساعدة في اتخاذ القرارات يؤدي إلى زيادة دقة واتساق القرارات وتحسين الكفاءة والفاعلية ومن ثم تحسين جودة عملية المراجعة. بينما يرى فريق آخر ان الاعتماد على الأدوات المساعدة في اتخاذ القرارات قد يسبب تحيز بعض القرارات وأيضا نظراً للتكلفة التي يتحملها مكتب المراجعة عند شراء الأدوات المساعدة في اتخاذ القرارات والتكلفة المحتملة الناتجة عن تدريب الموظفين على استخدام الأدوات المساعدة في اتخاذ القرارات لتعزيز عذصر الخبرة لديهم حتى يستطيعوا الاستفادة من مميزات الاعتماد على الأدوات المساعدة في اتخاذ القرارات.

تم إجراء تجربة ميدانية لإختبار فرض البحث حيث تتكون العينة من 80 مراجع يعملون لدى شركات مراجعة كبيرة الحجم وصغيرة الحجم. وتتضمن الدراسة التجريبية استخدام التصميم التجريبي حيث ينقسم كلا من المتغيرين المستقلين، خطر التقاضي و تعقد مهمة المراجعة إلى مستويين (مرتفع و منخفض)، ويتمثل المتغير التابع في مدى اعتماد المراجع على الأدوات المساعدة في اتخاذ القرارات.

أشارت النتائج إلى أنه لا توجد علاقة بين مستوى خطر التقاضي او درجة تعقد مهمة لمراجعة ومدى اعتماد المراجع على الأدوات المساعدة في اتخاذ القرارات حيث يفضل المراجعين الاعتماد على احكامهم الشخصية من خلال خبرتهم بأعمال المراجعة على الاعتماد على أياً من الأدوات المساعدة في اتخاذ القرارات.

كما أشارت النتائج إلى أن حجم المكتب يؤثر إيجابياً على مدى اعتماد المراجع على الأدوات المساعدة في اتخاذ القرارات حيث إن المراجعين في المكاتب كبيرة الحجم يفضلون الاعتماد على الأدوات المساعدة في اتخاذ القرارات عند ارتفاع خطر التقاضي او قبولهم لمهمة معقدة نسبياً.

الكلمات المفتاحية: خطر التقاضي، تعقد مهمة المراجعة، الأدوات المساعدة في اتخاذ القرارات، نظم المعلومات، الذكاء الاصطناعي، المراجعة الخارجية، خطر المراجعة، جودة المراجعة.

1- Introduction

The revolution of information system industry and dependence on technologies resulted in automated processes which affect all fields of work including auditing. The auditors- being independent parties- put an audit plan and then proceed in the audit process to provide their opinion about a client's financial statements to ensure if it is complied with relevant framework (e.g accounting standards). The importance of the audit process appears in prior studies as literature indicated that researchers around the world tried to enrich the application of audit process by introducing new technologies to improve audit quality and lower the audit risks (Bierstaker & Hanes,2018; Meredith et al.,2020).

Auditors' opinion plays an important role in directing the organization's development which is reflected by the behavior of interested parties. The auditing profession faces challenges with the subject matter audited and the ways auditing is being performed. These developments raise challenges related to the type of audit assurance demanded by stakeholders, while audit procedures have arguably created the potential for auditor engagement with dimensions of the business features (Fraser & Pong, 2009; Abou-El-Sood et al.,2015).

Completing audit tasks is always facing difficult challenges. Some of the challenges stem because of the nature of the job itself such as time pressures, insufficient resources or manpower and task uncertainty. These challenges result in inaccurate audit judgments, which has an impact on audit judgment quality (Casterella et al.,2010 & Mueller et al.,2015).

The audit quality considers as a motivator for auditors because auditors always seek to ensure the highest level of audit quality. Studies indicated that audit quality comprises two main components: effectiveness and efficiency (Bowrin

& King, 2010). The audit practice can be described as effective when it becomes successful in producing desired or intended results and fulfilling a specified function by following the auditing standards. However, the efficiency concept is related to costs which means achieving maximum productivity with minimum wasted effort or expenses. As a result, auditors' work must result in improving their audit effectiveness and efficiency to ensure higher audit quality (Bonner et al., 1996).

Due to the rapid development of technology, auditors can depend on information systems to facilitate their operations, save their time for another task and improve their quality of the decision making (Becker et al.,2016). Audit support systems always considered as an important technology application that audit firms use help them conduct more efficient and effective audit works. Audit support systems include decision aids, electronic working papers, extensive help files, accounting and auditing standards and relevant legislation (Dowling & Leech,2007 & Arnott & Pervan,2016). Studies indicated that decision aids support accounting practices and decision-making. Decision aids are tools that help people in make better decisions and better judgments (Gomaa et al.,2011). Auditors can rely on decision aids in decision making to facilitate their task with ensuring effectiveness and accuracy in addition to that; advances in technology have enabled auditors to increase their use of decision aids.

Decision aids are a component of decision support systems that were developed to raise auditor's efficiency and effectiveness (Dowling & Leech, 2007; Carson & Dowling, 2012), so, accounting firms are interested in investing resources in developing decision aids to assist auditors (Alon et al.,2010). Relying on decision aids also increase judgment consistency (Jones et al.,2001) as it is considered as a part of the audit support systems. Decision aids are also recommended because of their accuracy, un-biasness and objectivity (Gomaa et al.,2008).

Decision aids may appear in many levels and forms. Decision aids such as decision rules, statistical models, and expert systems are used by a wide range of users as auditors, tax practitioners, securities analysts, and fund managers (Mock and Turner, 1981; Kachelmeier and Messier, 1990; Powell, 1991; McDaniel and Kinney, 1995; Jones et al., 2001; Abdel Mohammadi & Usoff, 2001). Decision aids help in decreasing the time consumed in making the decision which results in superior decision-making (Jones et al.,2001) and support the decisions recommended by auditors (manually) or other systems (Dowling & Leech,2007). It is also beneficial for fraud risk assessment and reducing information overloaded (Alon et al.,2010). The ability of a decision aid to increase decision quality, consistency, and the identification of unreliable decision-making help in bringing a significant organizational advantage but recognized when an auditor chooses to use the decision aid tool (Parkes,2017 & Song et al.,2017).

Although decision aids facilitate the audit task, it faces some risks that may affect the generated decision positively or negatively. Some of these risks are related to the audit task itself such as the complexity of audit tasks and other risks related to the client and his requirements. Also, some risks are related to audit fees and the audit environment. All risks that face the auditor affect his performance which in turn affects the audit quality. The current study will examine both the general and interactive effects of two risks that were found to affect the reliance on decision aids in previous audit research, litigation risk and task complexity.

Litigation risk's problems increase with the increase of number of lawsuits against the audit firm. Gomaa et al. (2008) argued that when investors and creditors suffer financial losses, auditors are to be blamed according to the argument. Litigation risk's costs are high for auditors as the audit firms may face huge monetary payments in case of neglecting the litigation risk. For example,

they could face damaged reputation, they can be forced to downsize, declare bankruptcy, resign or lose their wealth (Scholz,2003; Blay, 2005; Allen et al.,2015; Casterella et al.,2010; Ghosh&tang,2014).In case that auditors are challenged with significant risk of lawsuits, they usually raise audit costs and change both of the budgeted time and the requirements of evidence (Gomaa et al.,2008) and they assess their litigation in their audit planning process.

In addition to litigation risk, task complexity is another important factor that affects the reliance on decision aids. Complexity of task refers to the degree of complexity that the auditors find while auditing a specific audit task. Previous studies indicated that task complexity affects audit judgment with major impacts as the increase of complexity leads to a decrease in judgment, which, in turn, decreases the audit quality (Simnett, 1996; Chung & Monroe, 2001; Stuart & Prawitt, 2011). The degree of task complexity differs between auditors as its related to the auditors' experience, auditors' ability to solve problems, auditors' personal characteristics and the nature of the audit task itself (Abdol mohammadi & Wright,1987; Tan et al.,2002 & Ali,2008 & Prasanti & Yulianto, 2017).

The computer industry raised the litigation risk (scholz,2003). As a result auditors become under pressure to improve their performance that they could perform additional testing to improve the quality of judgment. One of the most effective methods to avoid all litigation risk's effects and provide guidance for complex tasks is the reliance on decision aids which increase the decision's accuracy (Benbasat & Nault 1990; Ashton 1992; Gomaa,2005 & Katamba,2017).

2. Literature review and Hypotheses Development

2.1 Litigation risk

Litigation is considered as an important topic through which numerous studies have been conducted to investigate its determinants and consequences on firm and auditor lawsuits. Auditors are facing a multitude of risks related to the engagements like potential financial losses and damages to their reputation as a result of litigation (Habib et al.,2014). Prior studies showed that litigation risk result in substantial payments, high audit cost, reputation losses, declaring bankruptcy (Badertscher et al., 2012; & Minutti-Meza, 2014; Abbott et al., 2017; Wong et al., 2018 & Ligon and Malm, 2018).

Audit litigation risk is an important issue that has attracted a lot of attention in the literature as for many years, the litigation risk has been a source of worry for the audit firms and their client (Sun & Liu.,2010). Prior studies had presented several definitions for litigation risk. For example, Gomaa et al., (2008) defined litigation risk as the willingness of not detecting material misstatements which cause increase in litigation risk. However, Gosh and Tang, (2015) defined litigation risk as the possibility that the auditor will be sued.

Casterella et al. (2010) divided litigation risk's effects into two levels:

- Micro level: litigation risk affects client acceptance, audit pricing and audit planning (Asare et al.,1994; Pratt & Stice,1994; Simunic & Stein, 1996; Johnstone, 2000; Barron et al.,2001 & Venkataraman et al.,2008)
- Macro level: litigation risk associated with individual clients which leads the audit firm to consider this risk in managing their clients (Krishnan & Krishnan,1997 & Johnstone& Bedard,2004)

In this context, prior research has shown that decision aids assist auditors by presenting advantages as it provides unbiased, consistent, objective and accurate suggestions, so, more recent data reveals that decision aids may be employed as a defense tool when auditors is faced by litigation risk (Gomaa et al.,2008). Previous studies listed two sources for litigation risk; the audit client whom the audit firms served, and the audit firms themselves (Casterella et al.,2010). For

example, the audit client may be a source for the increasing of litigation risk if his firm facing a declining stock price, he is in a high-tech industry or he is involved in a class-action lawsuits (Cao & Narayanamoorthy, 2014 & Ghosh & Tang, 2015).

Litigation risk not only affects audit quality but also affects accounting quality. Chung et al. (2013) suggests that litigation risk affects the relationship between accounting quality and investment efficiency as litigation risk is considered as an important governance mechanism that leads to reduction in agency problem which leads to greater accounting quality that finally enhances capital allocation efficiency.

Prior literature was interested in studying audit fees because it is considered an important indicator for auditor's independence, auditor's reliance on decision aids and auditor's responses to risks (Badertscher et al., 2012; Minutti-Meza, 2014 & Tang et al., 2017).

Minutti-Meza, (2014) performed a study to investigate the relationship between litigation risk and audit fees in order to determine the differences between the public equity clients and private equity clients. In this study, the sample is divided into two sections: public equity clients and private equity client. Results support the result of the study of Badertscher et al., (2012) as they found that the higher the litigation risk in public clients, the higher the audit fees compared to the higher litigation risk in private client. Litigation's role in ensuring audit quality supports that litigation could be used to determine the level of audit quality and the audit firms who provide a particular level of quality. To the extent that inferences about audit quality can be drawn from litigation announcements, litigation announcements could influence auditor selection. Firms with low stock returns, those in high-tech industries, and firms involved in lawsuits have a significant risk of litigation. The findings indicate that litigation risk increases for firms with falling stock price, for high-tech

industries, for clients involved in class-action lawsuits. As a result the decision aids were developed to address the issue of lawsuits.

Ghosh & tang (2015) examined the effect of litigation risk on resignation to investigate if litigation risk is considered as an explanation for auditor resignation. They depended on information from the pre and post resignation periods starting from one year before auditor resignation. Information for pre-resignation period on auditor's switches were collected from Audit Analytics (AA) database between 1999 and 2010. For the post resignation periods, they depended on securities of shareholder that involved in lawsuits over financial reporting issues. Using regression model to analysis information. The results indicate that litigation risk is significantly causes auditor resignation.

The litigation risk is also recognized to affect the audit fees. In this context, a study of Salama (2018) is performed to investigate the effect of the litigation risk on the audit fees. The study targeted the small and medium sized enterprises listed in the Nile exchange as these enterprises plays an important role in directing the Egyptian economy. The problem is the weakness in the internal auditing system which leads to higher risks and material misstatements in the financial statements. As a results, when the risks is high it needs more efforts to engage in the audit processes which will leads to more fees. The results of the study find a significant positive relationship between litigation risk and audit fees as the increase in litigation risk by 1% will leads to increase in the audit fees with 21.5%.

Another study held on US also to examine to what extent the litigation risk affects the corporate behavior. Ligon and Malm (2018) performed a study to examine if the litigation risk affects the use of subsidiaries. The literature argues that the firm size is a motivator for the use of subsidiaries as when the firm is large they tend to use subsidiary. The financial position is also found to affect because when the financial position of the company is weak managers prefer to

use subsidiaries. Data collected using hand-collected method from 1500 firms over the period from 2005 to 2011. Using a regression model to analyze their data, all results find a significant relationship between the litigation risk and usage of subsidiaries as the increase in litigation risk leads to increase in subsidiaries usage. Results also prove that there is a significant relationship between litigation risk and the financial position of the firm as when the financial position of the firm is weak, the litigation risk will be high and it will lead the firm to depend on subsidiaries.

Audit quality is also an important variable that affects and is affected by the litigation risk. Wong et al. (2018) perform a study in China to examine the impact of litigation risk on the interaction between audit quality and auditors' size. The importance of this study arises because the higher the litigation risk, the higher the audit quality, also prior research indicate the positive relationship between firm size and audit quality, so, they perform this study to focus on the interactive effect between auditor size and audit quality. They divide their population into firms with high litigation risk and firms with low litigation risk and they receive 678 surveys from high litigation risk participants and 4751 surveys from low litigation risk participants. The analysis indicates that not only litigation risk but also auditor size is effecting the audit quality. Analysis indicates that in case of low litigation risk only the auditors' size is positively related to audit quality, but in case of small sized audit firm with high litigation risk the audit quality will be small. As a result, small sized audit firms become more motivated to increase their auditing effort to ensure higher audit quality.

2.2 Task Complexity

Task complexity fits the definition of challenges; it put the auditor in challenge to use his personal skills in the appropriate way to reach a solution for the task. Task complexity forces auditors to acquire new skills which results in efficient and effective audit work. It is considered as an important element in the auditing process as it affects the auditor effectiveness. Moreover, it has

indirect influence on both auditor and the client (Bonner,1994). For example, if a task is complex it would restrict the auditing itself. The complex task could not be processed or need a specific treatment which results in lowering the audit quality (King et al., 2010). It influences the quality of audit judgment by causing inconsistencies in the audit judgments. For clients, whether it affects audit quality, effectiveness or cause audit failure, it will affect the client financial situation differently according to the extent that the audit process has been affected (Rasmussen et al.,2015).

Consequently, audit judgment performance is affected by the degree of complexity of the audit task. This indicates why auditors struggle to make audit judgments for diverse audit tasks with different types of data and insufficient instructions to follow. So, the level of complexity of the audit tasks, as well as, the effort required to perform it are always considered major elements that are most likely found to influence audit judgment performance (Iskandar & Sanusi, 2006). Gomaa (2005) also listed two definitions for task complexity: "**Task complexity is a function of the task itself, or whether it depends on both the task and the person performing the task**"(Gomaa, 2005, P.4) and "**Task complexity is a function of the task alone generally assert that the task complexity is perceived equally by all individuals irrespective of their personal attributes, such as skill or motivation**"(Bonner,1994 as cited in Gomaa, 2005, P.5).

A study of Cahyaningrum & Utami (2015) is designed to investigate the effect of task complexity and obedience pressure on auditor decision. This study argues that obedience pressure may be caused by both internal and external factors. External factors may be auditors' supervisors or clients who put pressure on junior auditors that affect their behavior and decision because of the need to develop the audit processes. The internal factors are personal factors related to the auditor characteristics like being afraid of losing the job. Consequently, the

study illustrate that auditors' behavior will automatically change if they know that they will face complex tasks. Results illustrate that obedience pressure is negatively affect the audit decision as auditors with low pressure of obedience are found to depend on available facts and evidence while making their decision. Task complexity is found to negatively affect audit decision which means the complex the audit task.

One of the challenges that affect the task complexity is the introversion. A study Zhang et al., (2017) is designed to investigate how introversion between auditors affect their creativity when they face complex audit task in China. This study was interested in illustrating the relationship between introversion and creativity while dealing with complex audit task. The problem of this study is the poor relationship between employees which results in introversion leads each employee to work independently and the work environment become closed so, no team work, no ideas to be shared, no creative solutions and no relationship inside or outside work. This problem causes poor audit quality as complex tasks need a lot of ideas to be tested to figure the appropriate solution. Although introversion is a big problem and it may affect the whole economy of the country, the organization managements do not consider it in their practices and do not try to find a solution while their set their research and development strategies. In this study they performed two studies. The first study participants are bank employees. The usable sample was 618 responses on a survey that measures all variables using Likert Scale. A regression model used to analysis their first study data. The first study indicates that high task complexity lead to strong relationship between employees which result in high level of creativity. After that they conduct another study in different industry they choose coal manufacturing, they collected 243 usable survey and depended on regression model to analyze it. Results of the second study are consistent with the result of first one which proves that high task complexity force employees to engage together which results in higher level of creativity.

Some studies believed that personal attributes of an auditor might interact with objective task complexity. In this context, Parkes (2017) studies the influence of task complexity on the reliance of decision aids. They suggested that the reliance which is considered as technology usage behaviors consists of three elements: the characteristics of the task, the characteristics of the auditor and the aid tool characteristics of the technology itself. A framework was established that the reliance is affected by subjective task characteristics (task difficulty) which divided into two components the objective task characteristics (Task Complexity) and the individual task characteristics (Expertise), which means task complexity is divided to three components: the subjective complexity, the objective complexity, and the interaction between an auditor and the task. The study examined the skill and insight as indicators for the auditor individual characteristics and examined the number of processes required to perform the task as indicator for the task characteristics. The study conceptualized task complexity as an objective task characteristic. The study listed three dimensions of task complexity which are: component, coordinative and dynamic to affect the relationship between task complexity and the behavior of decision maker. The component complexity is the number of acts performed to complete the task, and the number of information processed, coordinative complexity is to the type and number of relationships between task inputs and task products and dynamic complexity is related to external changes.

Mohd-Sanusi et al., (2018) investigated the effects of task complexity, self-efficacy and goal orientation on audit judgment performance. The study was motivated by the scarcity of studies that considered the psychological dimension for audit judgment performance. They suggested that auditors seek to increase audit quality by increasing their own judgment performance which initially affected by their personal characteristics. Giving different levels of task complexity, auditors' personal characteristics affect their judgment and

decisions. Goal orientation is considered as a motivation for auditors to perform their audit task with higher judgment performance so, auditors develop their knowledge and acquire new skills through education or training which, in turn, results in higher judgment performance. The strong goal orientations are found to improve the self-efficacy which allow provide better audit work. Literature finds that the relationship between self-efficacy and performance is affected by the task complexity. Auditors with higher levels of self-efficacy perform higher effort than auditors with low self-efficacy during low levels of task complexity because these require fewer activities. As a result, auditors with higher levels of self-efficacy are predicted to exclude better audit judgments than auditors with lower levels of self-efficacy. On the other hand, auditors with low self-efficacy have a negative impact on their performance. When performing complex tasks, a better performance can be resulted from auditors who have higher level of self-efficacy as they usually perform more efforts in searching for appropriate evidence. The study finds that goal orientation has a larger influence on audit judgment performance. When the task complexity is high compared when the task complexity is low, the self-efficacy is found to affect the auditors goal orientation.

Eny and Mappayukki (2020) examined the effect of task complexity on audit judgments. They stated two aspects of task complexity which are: the difficulty of the task itself which is always related to the amount of information, this means the availability of information decreases its complexity. The other aspect is the task structure which is related to clarity of information. The results indicated that the complexity of tasks always affect the auditor judgments. This effect will be reflected on the audit quality as the high level of task complexity negatively affects the audit quality.

2.3 Decision Aids

According to the Attribute theory which helps in explaining the causes of behavior, the person behavior may be caused by two types of factors, the first

one appears in internal factors which can be defined as the behavior within the individual himself as the ability, knowledge and effort. The second one is the external factors which may be represented in environment and circumstances. The attribution theory is used to explain auditor's decision making as it deals with judgments and illustrate how auditors may behave and their choices while the decision making process (Eny & Mappayukki, 2020, Wang et al.,2018). As the knowledge is considered as an internal factor, when an auditor face a task he will evaluate its difficulty according to his knowledge. If the task is difficult, the auditors may choose to rely on decision aids while making the decision about this audit task, the same when auditor is engaging in high litigious environment. As the knowledge is considered as internal factor, the complexity of task and the litigious environment is considered as external factor; so, the attribution theory explains the behavior of auditor if he choose to rely on the decision aids while making the decisions about the different audit task.

In the same context, the “theory of acceptance and use of technologies” wants to explain the user's intentions to use the technology. Venkatsh et al. (2003) depends on four factors that direct the intention and behavior of users which are: influence on the social community, the expected performance, the expected efforts and facilitating conditions. This theory helps in the development of using of the technologies and make users are more confident in different information system which leads to higher quality and more improvements.

Previous studies prove that reliance on decision aids results in higher quality decisions. In this context, Barr & Sharda (1997) performed a study to answer the question that why reliance on decision aids results in higher quality decisions. They find that there are two effects that affect the quality of the decision, the reliance effect which means that the depending on the decision aids may lead to delegating the decision process to be performed by the

computer, while the development effect indicates that the decision aids provide understanding for complex relationship and provide facilities in viewing and analyzing the information which results in higher quality decisions.

Literature illustrates that executives and managers of businesses are always gain benefits from depending on knowledge based decision systems that present a specific criteria and rules for recommending modules of the quality assurance systems. Nookabadi and Middle (2001) summarized the findings of a study observed more than 500 UK companies. The study illustrate that the problem processing system is considered as a functions of a knowledge based systems so, these systems are usually obtain information from a knowledge system and to depend on it in developing outcomes. The reliance on expert systems is found to present a guidance for managers to save their time and effort while making different decisions for more difficult issues and concerns. As well as, the expert systems is predicted to assist non-technical executives to improve their decision.

Relying on decision aids increase judgment consistency (Jones et al.,2001) as it considered as a part of the audit support systems which developed to increase audit's efficiency and effectiveness (Dowling & Leech,2007). So, accounting firms are interested in investing resources in developing decision aids to assist auditors (Alon et al.,2010).

Audit firms developed the audit support systems not only to facilitate their work but also to increase their efficiency and effectiveness. Relevant legislation, decision aids, accounting and auditing standards, extensive help files, electronic work papers are all a part of these systems (Dowling & Leech,2007 & Arnott & Gao,2019). Literature states examples for decision aids including excel sheets, dynamic checklists, decision support systems, auditing standards and accounting standards (Gomaa et al.,2011 & Meredith et al.,2020).

Gomaa et al. (2008) mentioned some advantages of using decision aids, those advantages are:

- Decision aids' recommendations are accurate, consistent, unbiased and objective.
- In the court of law, the decision aids are presented as a defense technique.

Reliable decision aids provide some advice that professionals could under-rely or over-rely in the aim of sub-optimizing the potential benefits of those systems.

Ali (2009) lists some types of decision aids including:

- Descriptive reports: which contain an accurate and full description for the internal control structure that contain the flow of information, audit duties' distribution and reports contain all related information.
- Questionnaires: which designed in form of questions and the questions must enquire about every single detail related to the task then these questionnaires must be distributed to auditors to collect information.
- Flowcharts: considered as a decision aids tool which defined as a visual display of activities and decisions required to complete the task. Flowcharts are useful for auditors because it shows the flow of information for each document or report used in the auditing process which supports the principle of transparency.
- Expert systems: considered as a decision aids as a computer system that employs artificial intelligence technologies to repeat the judgment and behavior of a human or organization.
- Decision support systems: computer program application used to analyze data depending on mathematical and statistical models then present information to users so, user can perform their judgment and decision more easily. (Abdel Mohammadi & Ussof,2001 & Ali,2008).

The public and the accounting profession have been prompted to eliminate the impacts of fraud on all stakeholders, including employees, investors,

creditors, companies and auditors because of the occurrences of fraud at organizations such as Enron and WorldCom. One of the primary goals of the auditing profession is to detect frauds. In this context, Biers taker et al., (2010) performed a study to recognize the effect of the brainstorming component of the Statement of Auditing standard (SAS) No.99 on the use and reliance of decision aids as well as the fraud risk assessment's effectiveness. The study tried to identify the relationship between the effect of the fraud assessment setting and the reliance on decision aids. the fact is the audit work is commonly concentrated on individual judgments although literature is trying to prove that the audit output is the result of multi-person decision making. It has been recognized that the decision aids are a tool that used by individuals to make a specific decision. However, studies for groups have been suggesting the decision aids for groups may reduce the quality of the decision specially when facing high levels of risks. The accounting firms are investing resources to develop a risk-factor decision aids in order to be used during the processes of risk assessment.

Using an experimental design, the hypotheses are tested. The study manipulated variables: setting and decision aids. The study aims to illustrate if the brainstorming component affecting the reliance on decision aids. Results indicate that brainstorming group can rely on the fraud risk decision aids to generate effective risk assessments. Findings also support that groups that relied on decision aids generate better decisions than individuals using decision aids or unaided groups

Schneider (2010) performed a study to investigate to what extent the external auditor relies on internal auditing. The study's findings reveal that auditors can rely on the decision aids to evaluate the quality of the information that derived from the internal audit systems.

2.4 Reliance on Decision Aids

A study of Weisner and Sutton (2015) is designed to investigate the psychological effect of distance between auditors and the specialists. The problem arises from the need for more knowledge to illustrate how auditor can depend on third party specialist and what are the impacts on audit planning judgments. In this study auditors are relying on computer audit specialist who works remotely. The study examined the effect of reliance on teleworking or specialist on the auditor confidence in the internal control of a client. The influences of the teleworking have been examined from two points, the first one is variance in the actual distance of the computer audit specialist, and, the second one is the interaction influence of an auditor previous knowledge about the client internal control. Findings show that the distance affects auditors' judgments as the more the distance, the lower the reliance on such audit specialists. The historical experience is found to generate a halo effect which make changes in the effect of the distance. The study advice auditors to depend on more proximate specialists to gain the benefit of reliance on such systems.

Parkes (2017) defined reliance as "**The degree to which the user of a decision aid applies the aid and incorporates the recommendation of the aid during judgment formulation**"(Arnold &Sutton,1998 as cited in Parkes,2017,P.2). Usage of decision aids is developed in areas like strategy formulation, corporate planning, product marketing, production, inventory scheduling, taxes and auditing (Barr&Sharda,1997)

Some studies argue that the reliance on decision aids my result in inappropriate decisions. In this context a study by Septiari and Geodono (2019) is performed to test if the information framing affect the auditors reliance on

decision aids. They suggest that relying on decision aids may cause decision bias. The decision bias is always known as the auditors may choose to rely on decision aids neglecting their own judgmental opinions as decision aids always indicates high level of reliability. Depending on the Framing theory, they suggest that decisions and judgments may depend on how the information is framed. Framing attribute is considered as one of the impacts of the framing: it happens when people decisions about an item differs according to the way of presenting this item or the way of explaining its attributes. It also explains how item when is described positively is more profitable than if the same item is described negatively. The results indicate that informing the reliability of decision aids in different ways will lead to different decisions as when the decision aids reliability is presented positively, the attribute can results in different decisions than when the decision aids reliability is presented negatively.

Meredith et al., (2020) suggest that one factor that may affect the reliance on decision aids is the time availability as they found a positive relationship between the available time for audit work and the audit quality as when an auditor take a considerable time while doing his audit, this will reflect on the audit quality by maximizing it.

The decision bias is always represented as important factor that may change final results of the decision-making process. In this context, Beck et al., (2020) are performed a study to test the effect of decision aids bias on users' final decisions. They focus on one of the aspects that affect the individual performance while using the decision aids which is perceptions. Perceptions as: perceived ease of use, perceived usefulness in the technological acceptance model, perceived incompleteness of data and the perceived problem of output that leads to lower the reliance on decision aids output. Using an experimental design with three levels of decision aids bias as follows: no, low and high perceivable bias. The results show significant performance differences between

perceivable bias conditions. Decision makers with low level of experience who were depended on decision aids with no perceived decision bias are performing better than decision makers with low level of experience but were depended on low or high level of perceived bias.

A study of Commerford et al., (2020) discussed the term of artificial intelligence, as audit firm believes that applying the advanced technology represented in the artificial intelligence and attach it to the audit setting will improve the audit quality and ensure benefits to both of auditors and clients. The problem here is the serious threat that appears in the management bias which leads the auditor to use evidence from the audited firm specialists. As a result of technology and rapid development auditors may choose to rely on specialist system rather than human specialist to produce evidence. The study discussed the “Algorithm aversion” which means the human tendency to discount advice from algorithm and rely more readily on human inputs as compared to computerized inputs. For auditors, the study thought that they may reduce their reliance on some evidence which generated by a specialist system than if the evidence is generated by humans. They conduct an experiment consists from 170 participants and the results of the study state that auditors always choose not to use the specialist system advice rather than the human specialist provided advice which means the algorithm aversion is appearing strongly here which ensure the concern that the firm specialist system may lack the necessary knowledge and expertise.

An experiment by Koreff, (2021) was carried on 98 auditors to test if the data input affects the auditors’ decisions. The results show that different data inputs always result in different decision making which illustrate that the type of model used and the type of data have different impacts on auditors decision making.

2.5 Hypothesis Development

2.5.1 The effect of Litigation Risk on the auditors' reliance on decision aids:

The litigation risk is an important factor that affects the reliance on decision aids. Literature reviews states that the lawsuits against the audit company can cause the company to lose her reputation and declare bankruptcy. Literature reviews indicate that the usage of decision aids can improve the audit quality.

The study of Gomaa et al. (2008) performed in USA found that using decision aids reduces the threats which is caused by litigation risk which is considered as a challenge as it influences the audit process's complexity, time and scope. The increasing likelihoods of some factors leads the litigation risk to be high; the increasing probability of material misstatement to be undetected while auditing the financial statements. It means when the litigation risk is high it makes sure that the financial statement is materially misstated and the likelihood of losing financial and reputation losses associated with litigation.

Gomaa et al., (2008) suggested that decision aids present accurate decisions in which relying on decision aid to generate aided decision are generally more accurate than unaided decisions. They mentioned also that decision aids present more consistent decisions than in case there is a failure in information evaluators are depending on information consistency as in the legal system based on hindsight judgments so presented judgments based on what other auditors would have done in the same situation. They suggest that litigation risk put the auditors under pressure to make accurate decisions and force them not to accept any errors in the financial statements. As a result, the study finds that high consistency of decisions could decrease the irregularity which could appear in judgments.

Auditors have to take decisions that make them prepared to defend those decisions to jurors which can be achieved when the decision aids are reliable, knowing that jurors blame auditors who ignore the decision advice when they

found audit failure. The results show that the reliance on decision aid in case of high litigation will be greater than in low litigation risk. Generally, study recommends that in case of high litigation risk auditors can rely on decision aids as it improve audit efficiency and effectiveness. They presented some tools for auditors as they could increase audit fees, planned hours and evidence requirements when the litigation risk is high.

Depending on the Motivated Reasoning theory, a study of Grenier et al., (2020) has been performed to detect solution in which auditors may defend their judgment during high levels of litigation risk specially when the client apply the accounting standards inappropriately. The results show that audit firms can reduce the effect of litigation risk through engaging an accounting expert to the auditing team which will reduce the imprecise of accounting standards and to provide a framework to ensure high quality professional judgments.

The above discussion suggests that there is a positive relationship between the level of litigation risk and the auditor's decision to rely on decision aids. Thus, the first hypothesis of this study can be formulated as follows:

H1: The auditors' reliance on decision aids will be higher with high levels of litigation risk than with low levels of litigation risk.

2.5.2 The effect of Task Complexity on the auditors' reliance on decision aids:

Prior studies indicated that the complexity of audit task and the audit judgment are negatively related, as with the increase of complexity, the quality of audit judgment decreases (Gomaa et al., 2005). Decision aids provide advice for auditor to improve judgment quality but some auditors are found to prefer not to rely on decision aids while performing their work. Results of the study indicate that high levels of task complexity are encouraging auditors to rely on decision aids but low levels of task complexity are not adequate to lead auditors to rely on decision aids. The high level of task complexity is found to increase

the reliance on decision aids but by recognizing the interaction between the characteristics of the task whether objective or subjective, the reliance will face some difficulties. The study indicates that a positive relationship has been proved between the level of task complexity and the reliance on decision aids.

Ali (2009) used Bonner (1994) definition of audit task complexity from two dimensions, which are difficulty of task and task structure. The difficulty of task is the data required and the required procedures that facilitate performing of the task. However, the task structure refers to clarity of information which refers to the determination of the problem and the alternative solutions. Bonner (1994) used this dimension to define task complexity by using a framework that consists of three levels each level uses the two dimensions – task difficulty and task structure – to illustrate the complex task's characteristics which refers to the amount and the clarity of information. The study indicates that the output level with its two dimensions has no effect on the task complexity because the output in auditing is the auditor opinion – only one opinion is needed– so, task complexity is not affected by the number of outputs. For the clarity of outputs, the auditing plan defines specific goals to be achieved depending on specific standards which means the auditing process outputs is already defined previously so, the clarity of output has no effect on the complexity of task.

Reviewing previous studies, it can be concluded that determining the effect of task complexity on the audit quality is important. Previous studies listed some factors that affect the relationship between audit effectiveness and the level of task complexity as auditor experience, knowledge, skills, gender, accountability and ability to solve complex problems. The level of task complexity affects the audit effectiveness, as when the level of task complexity is high the audit effectiveness will decrease. The decision aids presented as a guide to solve the problem of task complexity. High complex audit tasks always need more data to be analyzed and advanced analysis of related factors.

Literature indicates that auditors' willingness to audit more complex tasks is reduced if the auditor depends on the same knowledge and experience that he gained from less complex tasks. As a result, auditors need to improve their work so, they can rely on decision aids to generate better decisions.

The above discussion suggests that there is a positive relationship between task complexity and the auditor's decision to rely on decision aids. Thus, the second hypothesis can be formulated as follows:

H₂: The auditors' reliance on decision aids will be higher with high levels of task complexity than with low levels of task complexity.

2.5.3 The Joint Effect between the litigation risk and task complexity on auditors' reliance on decision aids.

Gomaa (2005) examined the joint effect of litigation risk and task complexity on the reliance of decision aids. The need for such research derived from the auditor's motivation to improve his effectiveness and audit quality. The importance of this study is that prior research indicated that auditors prefer to rely on their judgments instead of relying on decision aids. Decision aids provide an advice to auditors that facilitating the auditing process which results in increase the auditor's quality and effectiveness of judgments. The study depended on a special software which has been put for the experiment. The computerized experiments gave researchers more control of the participants while completing the task. A total of 235 auditors from Big-4 auditing firm in the US were participating in the experiment. Depending on ANOVA model, the results of this study show a positive relationship between task complexity and litigation risk and auditor's reliance on a decision aid which means the auditor will rely on decision aids to avoid incorrect decisions and improve the effectiveness and quality of judgment. The study also finds that the interaction between two factors have no effect on the reliance on decision aids.

Merdeth et al., 2020 indicated that the auditor experience is one of the most effective factors that moderate the relationship between the auditor and the reliance on decision aids. They illustrate that most experienced auditors are usually choose to depend on their personal judgments. However, auditors with low level of experience are more likely to maintain a new technology and trust on its recommendation.

Studies suggest that auditor firm have to include more guidance that will let auditors to understand the technology and maximize their benefits from using it (Pedrosa et al., 2015; Sutton & Arnold,2016 & Adya & Philips,2019). Koreff, 2021 advice auditors and decision maker to mentally transform the information presented to him into a useful form to avoid the lack between the decision maker and the decision aids.

Systems like decision aids are found to promote the quality and accuracy of the decision and improve the process of decision making itself. It also found to save efforts while facing high risky tasks (Gomaa,2005 and Rose et al.,2012). Different studies tested the effect of different risks and the level of reliance on decision aids, but results are varying. Some studies showed that auditors choose not to rely on decision aids and other studies indicated that auditors must rely on decision aids to gain the benefit of using it. The current study focuses on the effect of the litigation risk and the task complexity on the auditors' reliance on decision aids.

So, the third hypothesis can be formulated as follows:

H₃: Decision aid reliance will be higher when task complexity and litigation risk are high than task complexity and litigation risk is low.

3. Research Methodology

A field experiment is used to test the study's hypotheses and examine the effects of litigation risk and task complexity on auditor's reliance on decision aids and to

test the effect of auditors' experience and audit firm size on the auditors' reliance on decision aids (Gomaa, 2005 & Ali, 2009).

3.1 Study population and sample

The population is represented by all auditing firms in Egypt (Big 4 & non-Big 4). However, the sample is a judgmental sample and consists of 80 auditors who are working in auditing firms (big 4 & non big-4).

Some of the questionnaires are distributed to auditors by hand through meeting with auditors which allowed discussions of some points in the questionnaire (live interview) to ensure that the result will reflect the real opinions of the auditors. Other questionnaires were sent by e-mail to auditors working on specific audit firms (big 4 firms) to ensure that the sample is perfectly represents the population.

A questionnaire is designed and distributed to collect data. Data collected from auditors working in accounting firms (Big 4 and Non Big 4). The questionnaire is designed to determine the effect of litigation risk on auditors' reliance on decision aids. It is also designed to be simple and helpful in collecting the accurate data which questions can be easily answered to give the required data.

3.2 Definition and Measurement of Study Variables

3.2.1 Litigation Risk

Litigation risk is defined as "**the risk that the auditor could be involved in lawsuits**" (Ghosh& tang, 2014, p.530). Litigation risk is manipulated at two levels: high and low where at high levels of litigation risk, auditors were informed that the legal department mentions that if the auditor fails to issue the appropriate opinion about the financial statements, the client would impose suit and the probability of being sued is very high. And at the low level of litigation risk, the auditor is given the same information but the probability of being sued is very low (Gomaa 2005, Gomaa et al., 2008 & Gomaa, 2011).

- In the high level of litigation risk, auditors were given information about the outcomes of failing in detecting the errors which result in inappropriate

judgment about the allowance for doubtful accounts. The case was presented as follows:

“The legal department has indicated that the risk of being sued as a result of this engagement is extremely high if the financial statements be materially misstated. The likelihood of being sued has been estimated by 95%.”

- In low level of litigation risk, auditors were given the same information but the probability of being sued differs as follows:

“The legal department has indicated that the risk of being sued as a result of this engagement is low if the financial statements be materially misstated. The likelihood of being sued has been estimated by 5%”

3.2.2 Task Complexity

Task complexity is the task which is not clear or easy to perform and that needs special treatments, extra effort or more time (Bowrin et al.,2010). Previous studies indicated several proxies to measure audit task complexity. Mohd-Sanusi & Mohd-Iskandar (2007), task complexity is manipulated by asking participants to perform two tasks with different levels of complexity, as for the low complexity task, subjects were required to list compliance tests to ascertain whether the clients’ controls on payables and liabilities were effective also to list the substantive test required to search for unrecorded liabilities. However, for the high complexity task, subjects were asked to generate possible financial statement errors arising from control weaknesses in the accounts payable system. They also were required to determine the error, the accounts affected, and whether these accounts would be overstated or understated.

In this study the task complexity is manipulated at two levels. At the high level, the balance of the allowance for doubtful accounts is large compared to the second level of lower task complexity. The larger the balance, the more tests are needed to audit the task. In addition to that, in low level of task

complexity, more financial information is provided so that the task becomes less complicated compared to the other case where the task is more complicated (Ali,2009 & Gomaa, 2005)

In high task complexity case, the allowance for doubtful accounts' balance is = 1.311.000, which needs more tests and more evidences to be audited. However, in low task complexity case, the allowance for doubtful accounts' balance is = 600.000, which needs less tests and procedures compared to its counterpart in in higher level of task complexity.

3.2.3 Reliance on Decision Aids

The dependent variable is the level of auditors' reliance on decision aids. The reliance is defined as the degree to which the user of a decision aid applies the aid and use the recommendation of the aid during judgment formulation (Parkes,2017; Gomaa et al,2011).

Following Ali (2009), this variable is measured by answering some questions about the level of the auditor's reliance on decision aids as a response to some cases which will be presented in the experiment. The level of reliance will be divided into two levels using Likert scale ranging from 1 to 5. The levels of reliance are (1) Don't agree at all, (2) Don't agree, (3) Neutral and (4) Agree, (5) Totally agree.

3.2.4Control Variables

Auditor Experience: The Auditor experience in this study is measured by number of years that the auditor used to engage in auditing processes. This factor has been manipulated at four levels (1) Less than 3 years, (2) From 3 to 6 years, (3) From 6 to 10 years and (4) More than 10 years which the highly experienced auditor who engage in auditing process for more than 10 years.(Anderson,2011 & Abbas,2017).

Audit firm size: Audit firm size is recognized by determining if the firm is Big 4 or non-Big 4, as prior studies indicated that Big 4 audit firms will be aware

enough to rely on decision aids than non-Big 4. Audit firm size is measured by a dummy variable of 1 as if the audit firm is related to one of the Big 4 audit firms (KPMG – E and Y – Deloitte – PWC), and zero otherwise.

Table 1: Summary of the variables and their measurements:

Variables	Measurement
Independent Variables	
Litigation Risk	Measured by the probability of being sued. (Gomaa,2005, Gomaa et al.,2008 & Gomaa et al.,2011)
Dependent Variable	
Auditors’ reliance on decision aids	Measured by dividing the levels of reliance using a Likert scale from 1 to 5(Ali,2008)
Control Variables	
Audit Firm Size	Measured by binary variable taking the value of 1 in case the auditor belongs to a Big 4 audit firm and zero otherwise (Abbas,2017)
Auditors’ Experience	Measured by the number of years the auditor used to engage in auditing processes (Anderson, 2011& Abbas, 2017)

Table 1 Summery of variables and Measurements

4. Statistical Analysis

Statistical tests that suit the data of the experimental study and the test hypothesis are used an excel sheet was used to organize the auditors’ responses,

then a statistical analysis is depended on Statistical package for the social sciences (SPSS 25).

4.1 Reliability test

Cronbach’s Alpha is used to ensure if multiple questions Likert-scale surveys are reliable and consistent or not (Bonett&Wright,2015) as follows:

**Table 2 – Cronbach’s Alpha
Reliability Statistics**

Cronbach’s Alpha	N of Items
0.842	7

4.2 Kaiser-Meyer-Olkin Measuring of sampling Adequacy (KMO)¹ & Bartlett tests

KMO & Bartlett’s test is used to determine whether data is suitable for structure detection. KMO test is a sample adequacy metric which reveals the proportion of variation produced by variable. High results near to 1.0 suggest that the factor analysis is appropriate for this data, while values less than 0.5 indicate that the data is not usable for this analysis (Abbas,2017). In this study KMO test result's is 0.823 which means the data is useful in explaining the relationship between the variables.

Bartlett test is a structure detection test that would investigate if the variables are unrelated or inappropriate for the detection. Small values which are less than 0.05 indicate that factor analysis is useful for this set of data.

Table 3 – KMO & Bartlett test

¹ KMO tests is a statistic that indicates the proportion of variance in the test variables that might be caused by factors.

Kaiser–Meyer–Olkin Measure of Sampling Adequacy		0.823
Bartlett’s test of sphericity	Approx. Chi-Square	232.678
	Df	21
	Sig.	.000

4.3 Test of Normality

This test is used to determine if the sample distribution matches the characteristics of the normal distribution and to determine if parametric statistical tests or the non-parametric statistical tests should be used. Kolmogrov–Smirnov test is also used to determine if the sample is normally distributed or not. The results of this test show that 3 groups are normally distributed and the fourth group is near to be normally distributed (Abbas,2017).

As shown in Table 4 – the P-Value for groups number 1,3 and 4 are less than the significance level of 5% which means these three groups are normally distributed but the P-Value for group 2 higher than the significance level of 5% which equals (0.058).

Table4: Tests of normality

Variable	Group	Kolmogrov–Smirnov			Shapiro–Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Reliance on decision aids	1	0.236	20	0.005	0.818	20	0.002
	2	0.190	20	0.058	0.811	20	0.001
	3	0.166	20	0.152	0.907	20	0.057
	4	0.167	20	0.145	0.903	20	0.047

4.4 Hypotheses Testing

4.4.1 The effect of auditors’ reliance on decision aids in a litigious environment.

This hypothesis aims to test the level of auditors’ reliance on decision aids in the litigious environments. It proposed that there is a positive significant relationship between litigation risk and the level of auditors’ reliance on decision aids. Using ANOVA, the results showed that with significance level of 5%, there is no significant difference between the means of level of auditors’ reliance on decision aids with the two levels of litigation risk (high & low).

Table 5: ANOVA results for the first hypothesis

	Sum of squares	Df	Mean Square	F	Sig.
Between Groups	0.013	1	0.013	0.013	0.911
Within Groups	78.987	78	1.013		
Total	79.000	79			

The results showed that the p-value = 0.911 which is higher than the significance level of 0.05 which means the null hypothesis is accepted which states that there is no significance relationship between the litigation risk and the reliance on decision aids, the hypothesis is rejected. This result contradicts with results obtained by (Gomaa,2005 & Gomaa et al., 2011).

4.4.2 The level of auditors’ reliance on decision aids in the environments of complex tasks

The second hypothesis aimed to test the level of auditors’ reliance on decision aids in the environments of complex tasks. It proposed a positive significant relationship between task complexity and the level of auditors’ reliance on decision aids. Using ANOVA, the results showed that with 5% significance

level, there is no significant difference between the means of level of auditors' reliance on decision aids with the two levels of litigation risk (high & low).

Table 6: ANOVA results for the second hypothesis

	Sum of squares	Df	Mean Square	F	Sig.
Between Groups	1.305	1	1.305	1.013	0.256
Within Groups	77.695	78	0.996		
Total	79.000	79			

The result shows that the P-Value here is higher than the significance level 0.05 which means that the null hypothesis is accepted stating that there is no significant relationship between the task complexity and the reliance on decision aids.

4.4.3 The interactive effect of litigation risk and task complexity on auditor's reliance on decision aids.

The third hypothesis aimed to test the effect of the interaction between the litigation risk and the task complexity on the auditors' reliance on decision aids. It proposed a positive significant relationship between the interaction of litigation risk and task complexity on one hand and the level of auditors' reliance on decision aids on the other which means when the litigation risk is high and task is highly complex, the reliance on decision aids will be high, as compared to low. Using ANOVA, the results showed that at 5% significance level, there are no significant differences between the means of level of auditors' reliance on decision aids with the two levels of litigation risk and the two levels of task complexity (high & low).

The results showed that the p-value = 0.846 which is higher than the significance level 0.05 indicated that the interaction between the two variables

(litigation risk and task complexity) has no significant effect on the auditors' reliance on decision aids. The result is supported by previous study results (Gomaa,2005).

4.5 Control Variables

Audit Firm size: The audit firm size is measured using a dummy variable taking the value of 1 if the audit firm is a big 4 and 0 otherwise. The analysis shows that, with a 5% significance level, there are significance differences between the means of auditors' reliance on decision aids according to the audit firm size, which means there is a significant positive relationship between the audit firm size and the auditors' reliance on decision aids.

Table 7: ANOVA results for the first control variable

	Sum of squares	Df	Mean Square	F	Sig.
Between Groups	5.782	1	5.782	6.159	0.015
Within Groups	73.218	78	0.939		
Total	79.000	79			

The analysis showed that auditors at Big-4 firms are more likely to rely on decision aids through the audit process than auditors working on non big-4 firms.

Auditors Experience: The auditor experience is measured by the number of years that the auditor used to professionally practice auditing. The analysis shows that, with a 5% significance level, there are no significance differences between the auditor experience level and the reliance on decision aids.

Table 8: ANOVA results for the second Control Variable

	Sum of squares	Df	Mean Square	F	Sig.
Between Groups	0.264	3	0.088	0.085	0.968

Within Groups	78.736	76	1.036		
Total	79.000	79			

5. Conclusion

The importance of this study arises from the argument between previous studies as some studies are suggesting that the reliance on decision aids has benefits (Gomaa,2005, Ali,2009 & Gomaa,2011). On the other hand, some studies illustrate that auditors are always hesitant to depend on decision aids (Joe et al.,2020). The current study interests in examining the influence of litigation risk and task compleixty on the reliance on decision aids in Egypt.

The litigation risk is one of the factors that found effects the reliance on decision aids in previous studies (Gomaa, 2005 & Gomaa2011). Litigation risk is increased when the misstatements of financial statements increase. The problem arises when the number of lawsuits against the client increases. Previous researches advice auditors to pay a great attention to the litigation risk to enhance their audit quality (Gomaa,2005, Sun & Liu,2010 & Hogan et al.,2015).

Audit task complexity, Gomaa,2005 & Ali,2009) indicated that the reliance on decision aids is highly affecting by the task complexity. Studies illustrate the direct relation between the audit task complexity and the audit quality because a highly complex audit task affects the audit judgments. As a result, in this study the effect of relying on decision aids has been tested in engaging with high task complexity.

The study is based on Cognitive Fit Theory which is useful in discussing the research result. The cognitive fit theory states that users of systems are more likely to have greater cognitive fit with those systems if they are familiar with, which means auditors are willing to choose to rely on decision aids if they are familiar with it. The theory also indicates that the cognitive fit is affected by experience which means that the cognitive fit is increases with higher

experience. This theory illustrates the reason that auditors refuse to rely on decision aids (Koreff, 2021). As the population in Egypt is not familiar with utilizing or relying on new technologies.

This study is designed to examine if the reliance on decision aids is affected by the level of litigation risk and task complexity. As the analysis shows, unlike the previous studies, the perceived litigation risk and the perceived task complexity have no effect on the perceived reliance on decision aids like the study of Gomaa, (2005) and the study of Gomaa et al. (2011) and the study of Ali, (2009). However, the study of Sun & Liu (2011) indicated that auditors have to apply conservatism while auditing the financial statements which advice the auditors to rely on their own judgment and experience and not using other aids. The study results are consistent with the study of Dowling & Leech (2007), Wahdan et al. (2009), Hunton & Rose (2010), Ahmi & kent (2013), Vasarhelyi & Romero (2014), Payne and Curtis (2014), Hajek & Henriques (2017), Bierstaker & Hanes (2018), Salijeni et al., (2019) and Commerford et al., (2020), which indicate that auditors always choose not to use the specialist system advice rather than the human specialist provided advice which means the algorithm aversion is appearing strongly here which ensure the concern that the firm specialist system may lack the necessary knowledge and expertise.

A positive relationship have been indicated between the audit firm size and the reliance on decision aids which means auditors who work in big-4 audit firm are more likely to rely on decision aids than auditors who work on non-big-4 firm. This because big-4 firms deal with more complicated clients and task which lead them to obtain more developed decision aids that is expensive to avoid being sued. In Egypt, a listed company is sued because the misstatement on its financial statements by 1million LE (suit number 116 for the year 2014 in Cairo Economic Court).

Thereby the motivation to understand and determine the extent to which an auditor relies on decision aids in high litigious environment and highly

complex tasks as previous studies indicated that auditors could prefer to do their work themselves without relying on decision aids.

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