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Impacts of Additional Guidance Provided on International Financial Reporting Standards on the Judgments of Accountants

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Abstract

This pioneering study examines the impact of the provision of additional guidance on International Financial Reporting Standards (IFRS) as a “decision aid” on the accuracy of judgments of the accountants. To extend the prior research on accounting judgment and decision-making, we also examine the interactive effects of task complexity and additional guidance on the judgments of accountants. The results provide evidence that those accountants who are provided with decision aid in the form of additional guidance on IFRS make more accurate judgments than accountants who are not provided with such guidance. Furthermore, the study provides evidence that this additional guidance improves the judgments of accountants when they undertake tasks which they find complex. The results indicate that additional guidance on IFRS needs to be provided and suggests that accountants should exploit any guidance which is currently provided in IFRS and by the International Financial Reporting Standards Interpretations Committee.

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1. Introduction

Judgment and decision-making is considered to be a critical activity in all organizations. Prior studies in psychology and auditing have provided evidence that the use of “decision aids” has the ability to influence the judgments of individuals and the decisions they make (see Ashton & Ashton, 2007; Bonner, 2007 for a review of these studies). Rohrmann (1986, p.365) defines a decision aid as “any explicit procedure for the generation, evaluation and selection of alternatives (courses of action) that is designed for a practical application and multiple use.” Decision aids are considered to have positive effects on the quality of cognitive processing, information search, problem solving, and accuracy in judgments and decision-making (Bonner, 2007).

The fact that interpreting and applying International Financial Reporting Standards (IFRS) is an integral part of the profession means that it is crucial to examine whether some form of decision aid could enhance the accuracy of judgments of the accountants, because low quality judgments can lead to serious economic consequences for the users of accounting information, as well as for firms.

An understanding of this is important because accounting decision-makers in today’s world are characterized as people who deal with huge amounts of information and need to solve complex tasks with multiple goals by applying regulations (Bonner, 2007; Rahahleh & Siam, 2009). These elements of an accountant’s task can potentially lead to lower quality judgments.

IFRS are developed using the International Accounting Standards Board (IASB) Framework. Hodgdon, Hughes, and Street (2011, p.416) pointed out that IFRS include less interpretive and implementation guidance than some national standards (including US GAAP); hence, many aspects of financial reporting are based upon the judgments underlying the application of IFRS. To assist IFRS users in the interpretation and application of IFRS, an International Financial Reporting Standards Interpretations Committee (IFRSIC) has been set up. IFRSIC provides interpretive guidance by applying a principles-based approach founded on the IFRS *Conceptual Framework* and as established in relevant IFRS. However, the support provided by IFRSIC in the interpretation and application of IFRS is not perceived as sufficient, and the committee has received regular requests from IFRS users for additional guidance on accurately interpreting and applying IFRS (Deloitte, 2008, 2011).

The complexity of accounting standards is seen as another barrier in the interpretation and application of IFRS (Jermakowicz & Gornik-Tomaszewski, 2006; Jermakowicz, Kinsey, & Wulf, 2007; KPMG, 2006; Larson & Street, 2004). Larson and Street (2004) discovered that due to insufficient guidance on the interpretation and application of IFRS, first-time adopters of IFRS found the application of the standards very complicated. To address these concerns, Schipper (2003, 2005) suggested that detailed implementation guidance should be provided to entities when converting to IFRS. Hence, the complexity involved in the application of IFRS and the lack of implementation guidance provided by IFRSIC clearly signify the need for additional guidance on IFRS.

The fact that this need for additional guidance is attracting so much attention in the planned reformation of the world’s prevailing accounting standards indicates that it is imperative for researchers to investigate whether such guidance would act as a decision aid in improving accountants’ judgments. For example, Clor-Proell and Nelson (2007) showed that when examples are provided as implementation guidance on IFRS, it plays an

important role in the judgment and decision-making process. While much has been written on the theory of the benefits of additional guidance (see Nelson, 2003; Schipper, 2003; Stuebs & Thomas, 2009; Wustemann & Wustemann, 2010), there is limited research in accounting that provides empirical evidence to substantiate these assertions.

This study was undertaken in Malaysia, a country that is on the road to accounting convergence. Malaysia is well suited to the study because even though some Malaysian accounting standards (MAS) have been harmonized with IFRS, the full application of IFRS has not been achieved, and the findings will show the real impact on the judgments of accountants who provide additional guidance on IFRS.

The choice of country is critical, because in a country where IFRS has already been adopted, decision aids in the form of additional guidance may interact with other factors in the decision environment, such as experience in using IFRS, which may affect the validity of the findings (Ashton, 1990). Additionally, as Larson and Street (2004) pointed out, insufficient guidance is a major barrier to convergence for first-time adopters of IFRS. The findings from this research are likely to flag certain cautions regarding complications that may be encountered by countries when fully converging with IFRS.

In this study, three hypotheses are used as a basis for the examination of the effects of decision aids in the form of additional guidance on IFRS and its impact on accountants' judgments. A lease task was chosen and accountants were required to exercise their judgment on whether a leased item should be recognized as an operating lease or a finance lease. International Accounting Standards (IAS) 17 *Leases* is a typical principles-based standard that emphasizes the substance of a lease transaction in making a classification as a finance lease or an operating lease. It is also seen as an appropriate standard for judgment-related studies on principles-based accounting standards (Agoglia, Dounnik, & Tsakumis, 2011; Jamal & Tan, 2010). Additionally, lease accounting is one of the accounting standards that IASB needs to review due to its inherent complexity (O'Donovan, 2011).

To conduct this experiment, subjects were provided either with only paragraphs 10–12 of IAS 17, or with paragraphs 10–12 of IAS 17 together with some additional guidance, to decide whether the leased item should be recognized as an operating lease or a finance lease.² The additional guidance was related to one of the most complicated issues contained within the case regarding the guarantee issued by the lessee, requiring the subjects to establish whether the guarantee was a determinant for transferring the risk and reward of the leased asset from the lessor to the lessee. It was expected that this decision aid, i.e., the additional guidance on the accounting standards, would help to improve the judgment of accountants.

The first hypothesis presumes that when accountants use the decision aid, they will make more accurate judgments. It posits that accountants who are provided with additional guidance on IFRS as a decision aid will make more accurate judgments than accountants who are not provided with this additional guidance.

The second hypothesis provides an examination of the effects of additional guidance on IFRS when undertaking accounting tasks that accountants perceive as complex. The literature on task complexity suggests that complex tasks generally have a negative impact on an individual's judgments (Abdolmohammadi & Wright, 1987; Bonner, 1994; Iskander

² Paragraphs 10–12 of IAS 17 provide examples of situations that individually or in combination will normally lead to a lease being classified as a finance lease.

& Sanusi, 2011). It is expected that those accountants who have made multiple attempts at similar types of transactions are more experienced, well-trained, and more familiar with the task (Abdolmohammadi & Wright, 1987; Asare & McDaniel, 1996; Bonner & Walker, 1994; Choo & Trotman, 1991; Earley, 2001; Iselin, 1988; Shelton, 1999), and they might perceive the task as not being especially complex, while others who have not been exposed to these factors would perceive the task as complex.

The second hypothesis proposes that there will be differences between the judgments of accountants who perceive the lease task as being complex and those who perceive the task as being less complex. Specifically, the second hypothesis suggests that accountants who perceive the task as being less complex are likely to make more accurate judgments than accountants who perceive the task as being complex.

The last hypothesis is developed to examine the interactive effects of the additional guidance on IFRS and perceived task complexity on the accuracy of the judgments of accountants. Prior studies in information systems and auditing have shown that decision aids reduce task complexity and lead to more accurate judgments by decreasing the amount of information that has to be cognitively processed (Ahlawat, 1999; Fan, McNeese, Hanratty, et al., 2010; Fan, McNeese, & Yen, 2010). It is therefore argued that the perceived complexity of the accounting task and the additional guidance on IFRS will interact to influence the judgments of accountants.

This third hypothesis proposes that when the task is perceived to be complex, accountants who are provided with additional guidance on IFRS are likely to make more accurate judgments than accountants who are not provided with additional guidance. On the other hand, when the task is perceived to be less complex, no significant judgment differences are expected between the accountants who are provided with additional guidance and those who are not provided with such guidance.

The study reports three important findings in respect to the provision of decision aids in the form of additional guidance on IFRS:

- First, the results furnish evidence that accountants provided with such aids make more accurate judgments than accountants who receive no additional guidance.
- Second, the results substantiate the notion that accountants who perceive the task to be less complex make more accurate judgments than accountants who perceive the task to be complex.
- Third, the study provides evidence that this type of decision aid improves the judgments of accountants when they undertake tasks that are perceived to be complex.

Overall, this study extends the literature on accounting judgment and decision-making by examining the interactive effects of decision aids and task complexity on judgment accuracy.

The results of this study also have practical implications that are important to both accountants and standard setters because they show that the accuracy of judgments of accountants can be increased by using a decision aid in the form of additional guidance on IFRS. The results also suggest that additional guidance on IFRS needs to be provided and suggests that accountants should exploit any guidance which is currently provided in IFRS and by the IFRSIC.

The remainder of the paper is organized as follows. The second section provides the background to this study. The third section discusses the relevant theory and formulates the research hypotheses. The fourth section outlines the research methods. The fifth section presents the results and discussion. The final section provides the conclusion and implications of this study.

2. Background

Even though IFRS have gained recognition over time, concern regarding the latitude present in these principles-based accounting standards lingers (Okamoto, 2011). For example, according to Wustemann and Wustemann (2010, p.21):

...the present IFRS regime fails to limit managers' judgments in the consistent application of accounting standards because the inconsistencies between the objectives, qualitative characteristics and general recognition and measurement criteria in the IASB Framework as well as between the requirements and guidance in certain Standards and Interpretations permit managers to (sometimes arbitrarily) choose between different accounting policies in the absence of clear guidance.

It therefore becomes imperative to provide more guidance on the application and interpretation of IFRS to assist accountants to choose the appropriate accounting treatment. Nelson (2003, p.94) points out that one way to enhance information accuracy of the principles-based standards is to include more rules or provide examples and detailed additional guidance. Nelson, Elliot, and Tarpley (2002) suggest that detailed guidance also reduces the opportunities for earnings management, which is achieved through management judgment and transaction structuring. With greater guidance on accounting standards, fewer attempts would be made at earnings management.

Complexity in accounting standards is seen as another factor leading to differences in the interpretation and application of IFRS. For example, Jermakowicz and Gornik-Tomaszewski (2006, p.173) argued that "the complexity of IFRS as well as the lack of the implementation guidance and uniform interpretation are the key challenges in using IFRS." Ernst and Young (2010) provided evidence that entities converting to IFRS struggle with lack of guidance on how to appropriately apply the standards.

To overcome the problems of standards complexity and to reduce the differences in professional judgments, Schipper (2003) advocated for additional guidance on IFRS. She claimed that, with additional guidance, bodies such as the Australian Securities and Investment Commission (ASIC) and the US Securities Exchange Commission (SEC) would have less difficulty in disputing the accounting treatment of an item, leading to a reduction in litigation over flawed accounting. The additional guidance on IFRS could also be seen as increasing consensus about measurements, because accountants and auditors with a common knowledge base and a common set of assumptions would have similar values attached to assets and liabilities.

Schipper (2005) further showed the importance of additional guidance on IFRS. She argued that it is difficult to implement one single set of standards in different countries and on companies that vary in size, complexity level, types of business ownership, cultural and financial reporting, unless thorough guidance on these standards is provided. According to

Schipper (2005, p.103), “in their current form, some IFRS are both shorter and less detailed than their US GAAP counterparts.”

For example, in IAS 18 *Revenue Recognition*, the general principles are consistent with US GAAP, but contain less detailed or industry-specific guidance than the US GAAP, which has more detailed guidance provided by the SEC. Similarly, in accounting for leases, the US Financial Accounting Standards (FAS) 13 has more specific application guidance than IAS 17 *Leases*. To give an example, FAS 13 specifies capital lease treatment if the present value of the minimum lease payment exceeds 90% of the asset’s fair value, while IAS 17 uses the term “substantially all” of the fair value. Additionally, FAS 13 shows the treatments for Accounting and Reporting for Subleases, while IAS 17 does not contain such classifications (Financial Accounting Standards Board, 2011; International Accounting Standards Board, 2011).

Schipper (2005) pointed out that even though there is some implementation guidance with examples in the current IFRS, there is still demand for additional guidance due to the increasing number of countries adopting IFRS. If IASB refuses to provide this guidance, it is likely that countries adopting IFRS will turn to other sources for guidance; for example, European Union firms will turn to Emerging Issues Task Force (EITF) pronouncements or perhaps their own jurisdiction-specific GAAP (Schipper, 2005).³ In the absence of additional guidance, the objectives of accounting convergence will not be achieved if the adopters of IFRS seek guidance from other sources.

The significance of additional guidance was also illustrated when the Sarbanes Oxley Act (SOX) in the US required the SEC to investigate the feasibility of shifting to more principles-based accounting standards to enhance information accuracy (Nelson, 2003). In July 2007, SEC hired the Advisory Committee on Improvements to Financial Reporting (ACIFR) because SEC believed that the complexity of accounting standards was creating a widening gap between financial reporting and the quality of financial information (Stuebs & Thomas, 2009). On the basis of the investigation, ACIFR commented that complexity was indeed impeding effective communication in financial reports and creating inefficiencies. It proposed that the US should move away from rules-based accounting standards to principles-based accounting standards with more guidance (Stuebs & Thomas, 2009).

The above discussion clearly establishes the significance of additional guidance on IFRS for making accurate judgments in the interpretation and application of IFRS.

3. Theory and hypotheses

3.1. *Effects of decision aids in the form of additional guidance on IFRS on the judgments of accountants*

A decision aid has been widely advocated as a relevant judgment and decision-making improvement tool in the accounting setting (see Bonner, 2007). Decision aids vary from being relatively simple, such as checklists, audit programs, and other aspects of audit software that are embedded in professional standards, to being

³ EITF is responsible for addressing, on a timely basis, implementation issues related to the application of US GAAP.

more complex, such as computerized models (Messier, 1995). Auditors also use structured audit procedures that include checklists and audit programs, for example, to reach an accurate audit judgment.

The impact of decision aids on the judgments of auditors has been widely considered. For example, earlier studies such as Boritz (1985) and Butler (1985) show the effects of a simple decision aid called a five-step decision aid procedure that helps auditors make more accurate decisions.⁴ Similarly, Reimers and Butler (1992), Anderson, Kaplan, and Reckers (1997) and Clarkson, Emby, and Watt (2002) show that decision aids in the form of considering alternatives and additional guidance reduces the hindsight bias.⁵ Likewise, Lowe and Reckers (2000) provided evidence that auditors who received more guidance made better judgments about the need for inventory adjustments than auditors who were not provided with this guidance.

Wheeler and Arunachalam (2008) demonstrated that decision aids in the form of justification requirements reduce confirmation bias when conducting tax research for clients and assist in making more accurate judgments.⁶ They showed that tax professionals demonstrate a preference for selecting information in support of their client, but that the use of a justification requirement decision aid reduces bias in the selection and importance of information in support of the client, which leads to an accurate judgment being made.⁷ Prior studies have also shown the effects of two combined decision aids on an individual's judgment and decision making. For example, studies such as Bonner, Libby, and Nelson (1996) and Ng and Tan (2003) found that the combination of two decision aids improves the judgment of auditors.

Clor-Proell and Nelson (2007) have examined the judgments of accountants when they interpret and apply IFRS that provide implementation guidance using examples. Their findings showed that the type of example provided and the given case interact to affect judgments of accountants. They showed that the probability of making an income-increasing judgment for a revenue case is greater after receiving an affirmative example rather than after receiving a counter example while the probability of making an income-increasing judgment for an expense case is greater after receiving a counter example than after receiving an affirmative example. This study shows that when examples are provided as implementation guidance, it plays an important role in the judgment and decision-making process of accountants.

A number of studies have also shown that it is important to provide only a sufficient level of guidance to individuals, because excessive guidance can lead to information overload.

⁴ “The five-step de-biasing procedure may be summarized as follows: (1) selection of a reference class; (2) assessment of the distribution for the reference class; (3) intuitive estimation; (4) assessment of predictability; and (5) correction of the intuitive estimate” (Butler, 1985, p.514).

⁵ Hindsight bias is when individuals with outcome knowledge overestimate their ability to predict a given outcome (Wasserman, Lempert, & Hastie, 1991).

⁶ Confirmation bias is “to preferentially select information in support of their earlier recommendations to the client, even when the recommendation disagreed with the client's subsequent tax position” (Wheeler & Arunachalam, 2008, p.131).

⁷ A justification requirement decision aid evaluates the degree to which evidence is supportive or non-supportive of a given tax position.

Information overload occurs “when the supply of information exceeds information processing capacity of the individual” (Alon & Dwyer, 2010, p.242). Prior studies including Miller (1972), Ashton (1974), and Snowball (1980) have all shown that information overload can lead to decisions of lower quality.

Generally, prior studies have shown that providing an appropriate decision aid has a positive impact on the judgment of individuals in a variety of contexts. We argue that providing a sufficient level of additional guidance on IFRS as a form of decision aid will have a positive influence on the judgments of accountants. In particular, additional guidance will lead accountants to search for, retrieve, and evaluate more information, because greater guidance requires that a person distance themselves from their original frame of reference (see Koehler, 1991). It is therefore expected that additional guidance will activate different knowledge structures by forcing accountants to think beyond the task frame and make more accurate judgments (Anderson et al., 1997; Clarkson et al., 2002).

We expect that when accounting for the proposed leasing arrangements in the given scenario between a lessor and a wholly-owned financing subsidiary that then subleases to an airline company, the additional guidance regarding the accounting for subleasing will assist accountants to interpret and apply IAS 17 more accurately than participants who are not provided with this additional guidance. This expectation is based on the notion that when accountants are provided with appropriate additional guidance, their cognitive processing will increase, because this guidance will allow them to combine the pertinent information regarding the classification of the lease, leading to a more accurate judgment. Accordingly, the following hypothesis is formulated:

H1. Accountants provided with additional guidance on IFRS are likely to make more accurate judgments than accountants who are not provided with additional guidance.

3.2. Effects of task complexity on the judgments of accountants

Task complexity has generally been approached from two perspectives (Bonner, 1994; Campbell, 1988). First, complexity may be due to an interaction between the task and the person undertaking the task, i.e., perceived task complexity. In perceived task complexity, the individual’s knowledge, experience, and skills play a major role in the determination of task complexity.

According to Campbell (1988), task complexity cannot be examined independently of considerations of individual characteristics such as knowledge, skill, or experience. Casti (1995) further argued that complexity is an inherently subjective concept that may be viewed very differently according to individual perception. For example, March and Simon (1958, p.55) defined complexity according to the abilities of the task-doer: tasks are more or less complex in relation to the capabilities of the individual who undertakes the task. Additionally, Shaw (1976) included intrinsic interest and familiarity in his list of task complexity characteristics.

Second, task complexity is based on objective task characteristics such as the number of alternative actions, multiple and/or conflicting goals, uncertainty of actions and goals, etc. (Campbell, 1988). For example, Asare and McDaniel (1996, p.140), using Wood’s (1986)

findings, argued that task complexity varies “in terms of the number of distinct acts that must be executed and the number of cues that must be processed in the performance of those acts.” On the other hand, O’Donnell, Koch, and Boone (2005, p.148) claimed that complexity increases as (a) “the amount of attentional capacity or mental processing needed to complete the task increases” or (b) “the number of decision cues increases” or (c) “when the diagnostic value of the decision cues lacks clarity.” Studies that consider task complexity as a function of the task support the view that task complexity is perceived equally by all individuals irrespective of their personal attributes, such as skill or motivation (Bonner, 1994; Campbell, 1988).

Since prior research has shown that complexity is a subjective multidimensional construct and is in the eye of beholder (Casti, 1995), it is logical to assume that the task characteristics are integrated with the personal characteristics of the task doer, producing a general level of perceived complexity. In this study, therefore, we view task complexity as a perception, not an objective state. This definitional view of task complexity assumes that such complexity is an interactive function of objective aspects of the task and personal characteristics of the decision-maker.

Findings from the decision-making literature have shown that the performance of individuals decreased as the perceived complexity of tasks increased (Lusk & Kersnick, 1979; Te’eni, 1989). Additionally, prior research in auditing and psychology suggests that task complexity has a negative impact on judgments (Abdolmohammadi & Wright, 1987; Blocher, Moffie, & Zmud, 1986; Bonner, 1994; Boritz, 1985; Otle & Dias, 1982). For example, Otle and Dias (1982) and Blocher et al. (1986), using information overload as an element of task complexity, showed that auditors do not make more accurate judgments when they are provided with a great number of information cues. Similarly, Boritz (1985) and Abdolmohammadi and Wright (1987) found that auditors’ judgments are negatively affected when tasks are unstructured.

Accounting tasks requiring the interpretation and application of IFRS are usually seen as complex tasks due to the high cognitive demands placed on accountants to interpret and apply the accounting standards (Devi, 2003; Jermakowicz & Gornik-Tomaszewski, 2006; Schipper, 2003, 2005). Accountants need to interpret uncertainty expressions and evaluate a number of broad principles to determine the financial disclosure.⁸ Bonner (1994) proposed a model that identifies task complexity as more than simply the level of judgment involved; she posited that task complexity is a function of both the clarity of information presented to the decision maker and the amount of information the decision maker must process to perform the task.

We argue that the lease task used in this study should be considered as complex, because the accountants need to process a great amount of information when evaluating

⁸ Uncertainty expressions (such as lessor bears “most” of the risks, lease term is a “major part” of the economic life, and “substantially” all of the fair values) are used to indicate levels of probability in recommending recognition, measurement, and disclosure of events and transactions in financial reports (see Laswad & Mak, 1997, p.16).

whether the lease is operating or financing. There are a number of criteria and other conditions that need to be evaluated when clarifying the lease, such as

- whether the lessee or the lessor bears most of the risks and rewards related to the leased asset,
- whether the lease term is for the major part of the economic life of the asset, even if title is not transferred, and
- whether at the inception of the lease, the present value of the minimum lease payments amounts to at least substantially all of the fair value of the leased asset.

These evaluations require extensive cognitive effort.

As already indicated, this study examines the effect of perceived task complexity on the judgments of accountants. Not all accountants will find the lease task complex, because there are factors that may moderate the task complexity for them. Findings in auditing and psychology suggest that task-specific experience reduces the level of task complexity, which helps in making more accurate judgments (Asare & McDaniel, 1996; Bonner, 1994; Campbell, 1988; Choo & Trotman, 1991; O'Donnell et al., 2005; Payne, 1976; Shelton, 1999). In an auditing context, Choo and Trotman (1991) and Shelton (1999) have shown that experienced auditors are able to make more accurate judgments than less experienced auditors in a going-concern context that is regarded as a complex task. Moreover, Iselin (1988) has shown that multiple attempts to complete a task reduce the task's complexity.

Training is seen as another factor that moderates the negative effects of task complexity. Training engages the users of the product or service in cognitive activities through which they obtain knowledge conveyed by trainers (Gallivan, Spitzer, & Koufaris, 2005). In an Information Systems context, Sharma and Yetton (2007) demonstrated that training led to successful information systems implementation. Using auditors, Bonner and Walker (1994) and Earley (2001) showed that training led to the acquisition of procedural knowledge which improved the auditors' performance.

Prior research in psychology and accounting also provides evidence that familiarity moderates the negative effects of task complexity (Abdalmohammadi & Wright, 1987; Asare & McDaniel, 1996; Bonner, 1994; Campbell & Gingrich, 1986; Chand, Patel, & Patel, 2010). In an accounting context, for example, Chand et al. (2010) showed that the interpretation and application of accounting standards is affected by the complexity of the accounting standard and the professional accountant's familiarity with that standard. Overall, these findings provide evidence that factors such as experience, multiple attempts at a task, training, and task familiarity lead to the acquisition of procedural knowledge that moderates task complexity and leads to improved judgments.

It is expected that as a result of factors such as multiple attempts at lease types of transactions (Iselin, 1988), experience in handling lease types of transactions (Abdalmohammadi & Wright, 1987; Choo & Trotman, 1991; Shelton, 1999), training (Bonner & Walker, 1994; Earley, 2001; Sharma & Yetton, 2007), and lease task familiarity (Chand et al., 2010) some accountants might perceive the task as being less complex compared to accountants who have not been exposed to these factors, who will perceive the task as being complex. It is argued that accountants who perceive the lease task as less complex will be able to make more accurate judgments, whereas accountants who perceive the task as complex may face difficulties with the task and ultimately

may make less accurate judgments. Based on this reasoning, the following hypothesis is formulated:

H2. Accountants who perceive the task as less complex are likely to make more accurate judgments than those accountants who perceive the task as complex.

3.3. Interactive effects of task complexity and additional guidance on IFRS on the judgments of accountants

Generally, prior studies provide evidence that as task complexity increases, the use of a decision aid improves decision accuracy. Decision aids reduce the amount of information one has to process when undertaking complex tasks, and this improves the judgment accuracy of individuals (Eining, Jones, & Loebbecke, 1997; Bell & Carcello, 2000; Fan, McNeese, Hanratty et al., 2010; Fan, McNeese & Yen, 2010). For example, Fan, McNeese, Hanratty, et al. (2010), Fan, McNeese & Yen, 2010), used a naturalistic decision-making-based software agent (R-CAST) as a decision aid to find the effect of decision aids on reducing the cognitive loads of decision makers when dealing with complex tasks. They demonstrated that the use of decision aids helps to reduce the cognitive load of decision makers when the tasks are complex, which leads to more effective decision making.

Similarly, Eining et al. (1997) found that the use of decision aids enables specific assessment of the risk of management fraud, which is considered to be a complex task.⁹ By evaluating several logistic models, Bell and Carcello (2000) also showed that the accountants who used the models as decision aids were more accurate in classifying fraud and non-fraud cases than the practicing auditors. Moreover, Jensen, Lowry, Burgoon, and Nunamaker (2010) showed that conducting a credibility assessment, which has also been regarded as a complex task, improves when decision aids are used. Overall, these studies substantiate the belief that when undertaking complex tasks, decision aids increase the accuracy of decisions.

When undertaking less complex tasks, on the other hand, the availability of decision aids will not make any significant difference to the judgments of accountants (Hwang & Wu, 1990; Mascha, 2001). This is because accountants find the important variables related to the task very clear due to the acquisition of procedural knowledge, and therefore little analysis or insight is needed to solve the task (Abdolmohammadi & Wright, 1987; Earley, 2001). Thinking that the task is less complex, accountants may not utilize the additional guidance that is provided.

Prior studies have shown that when simple tasks interact with decision aids, the accuracy of the judgment may even decrease (Caplan & Schooler, 1990; Reder, Charney, & Morgan, 1986). Reder et al. (1986) and Caplan and Schooler (1990) both found that decision aids significantly improve performance when a complex task is undertaken, but that decision accuracy decreases when the task is simple. One possible reason for this decrease in decision accuracy is that a simple task requires little effort and little processing, and decision aids only generate boredom (Foos, 1992). Additionally, according to Pirolli

⁹ According to Eining et al. (1997, p.1) “prior research and documented audit failures indicate that auditors have difficulty assessing the likelihood of management fraud”.

and Anderson (1985), decision aids may serve to overload individuals, because simple tasks require few cognitive resources.

Overall, prior studies have shown that decision aids on one hand improve an individual's judgments and decisions when undertaking complex tasks, and on the other, that they either have no effect on judgments or they decrease the accuracy of judgments and decisions when the tasks undertaken are simple. Drawing on these notions, one would anticipate that an accountant would benefit from additional guidance as a decision aid when the accounting task is perceived to be complex. More complex tasks require extensive judgment and insights in all phases of the decision process, which can be gained through applying the additional guidance. As a result, it is expected that additional guidance on IFRS and task complexity may interact to influence the interpretation and application of accounting standards.

It is expected that accountants who perceive the lease task to be complex and are provided with additional guidance on IAS 17 will make more accurate judgments than those accountants who perceive the task as being complex but are not provided with additional guidance. The availability of additional guidance would improve the judgments of accountants who find the lease task complex. On the other hand, the unavailability of additional guidance limits the ability of those accountants who find the task complex to accurately interpret and apply IAS 17.

Furthermore, when the task is perceived to be less complex, it is expected that there will be no significant differences between the judgments of the accountants who are provided with additional guidance and those who are not. This expectation is based on the notion that those accountants who are more trained, experienced, or familiar with the lease task will find it less complex and as a result will not need additional guidance to make the required judgment, irrespective of whether or not the guidance is provided. Thus, an ordinal interaction between the availability of additional guidance and task complexity is expected. The following hypotheses are formulated and depicted in Fig. 1:

H3. Perceived complexity in the accounting task and additional guidance on IFRS will interact to influence the judgments of accountants. The interaction will have the following effects:

- a. There will be differences in judgments between accountants who are provided with additional guidance and those who are not provided with additional guidance when the task is perceived to be complex.
- b. There will be no differences in judgments between accountants who are provided with additional guidance and those who are not provided with additional guidance when the task is perceived to be less complex.

4. Research method

4.1. Subjects

Data to test the effects of additional guidance on IFRS as a decision aid on the accuracy of judgments of the accountants were collected using an experiment administered to

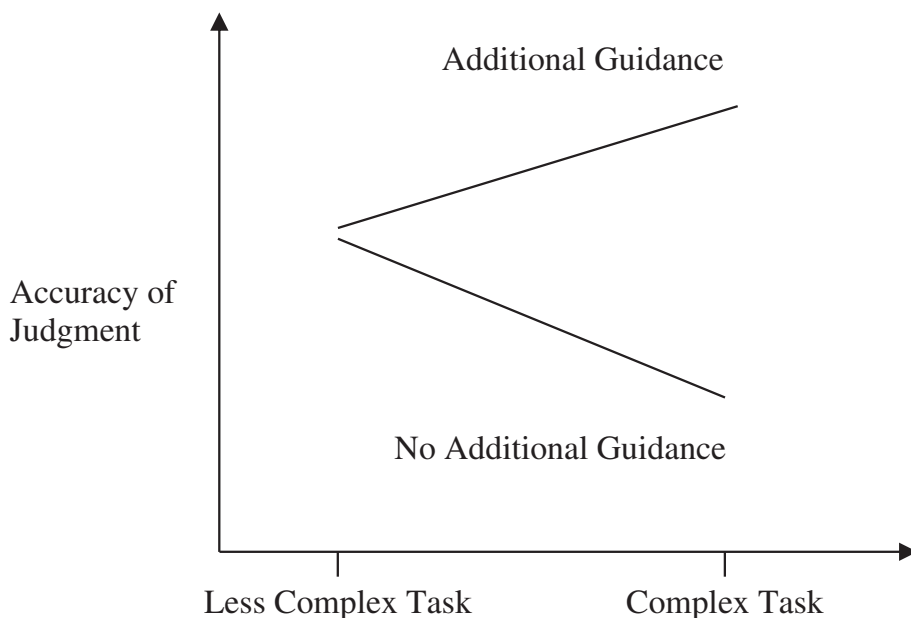


Fig. 1. Hypothesized effects of perceived task complexity and additional guidance on the judgments of accountants. This figure is based on the notion that there will be greater differences in judgments between accountants who are provided with additional guidance and those who are not provided with additional guidance when the task is perceived to be complex, and there will be no differences in judgments between accountants who are provided with additional guidance and those who are not provided with additional guidance when the task is perceived to be less complex (consistent with H3). Those accountants provided with additional guidance on IFRS are likely to make more accurate judgments than accountants who are not provided with additional guidance (consistent with H1). When the task is perceived to be complex, it is expected that accountants are likely to make less accurate judgments when they are not provided with any guidance; however, when accountants are provided with additional guidance, their judgments are likely to improve (consistent with H2). Likewise, when the task complexity increases, it is expected that the judgments made will be less accurate if accountants are not provided with additional guidance; however, when accountants are provided with additional guidance, judgments are likely to be more accurate.

accountants from both the Big 4 and non-Big 4 accounting firms in Kuala Lumpur, Malaysia.

The Malaysian Accounting Standards Board (MASB) is the independent authority that develops and issues accounting and financial reporting standards in Malaysia. Malaysian accounting standards (MAS) are generally harmonized with IFRS. The harmonization process for Malaysia began in 1978 when four International Accounting Standards (IAS) were adopted, with a further thirteen IAS being adopted in 1986. By 1992, all the IAS had been adopted by Malaysia. In 2005, the Malaysian Institute of Certified Practising Accountants (MICPA) commenced their convergence process, with a plan to adopt the full set of IFRS by 1 January 2012. Malaysia has also adopted the IASB's conceptual framework, *Framework for the Preparation and Presentation of Financial Statements*, to guide their financial reporting practices.

A total of 82 Malaysian certified practicing accountants participated in this experiment. The research instrument was randomly distributed among the respondents and either included the additional guidance on IAS 17 or did not include the additional guidance. The respondents who were provided with the research instrument containing the additional guidance were told that they should use the additional guidance to analyze the lease transaction and make a judgment. Of the respondents, 43 accountants (52% of the sample) were provided with the additional guidance on IAS 17, while 39 accountants (48% of the sample) were not provided with the additional guidance.

Further to providing their judgments on the lease scenario, respondents were asked to identify their perceived level of complexity for the scenario on a seven-point Likert scale (where 1 denoted “not complex” and 7 denoted “extremely complex”). To group the participants who perceived the task as less complex and those who perceived the task as more complex, we employed median split technique, where the perception of task complexity is split into the two levels. Twenty-eight accountants (34% of the sample) perceived the task as not complex, while 54 accountants (66% of the sample) perceived the task as complex.

4.2. Development of research instrument

The research instrument was developed in light of the issues in accounting standards that require the exercise of professional judgment. The case scenario is based on IAS 17 *Leases*.

To preserve internal validity and to enable differences in the judgments of accountants to be a function of the guidance provided on accounting standards, we took particular care in designing the scenario. We provided the participants with the proposed leasing arrangements between a lessor and a wholly-owned financing subsidiary that then subleases to an airline company. The sublease is for 12 years, which is 60% of the airline’s economic useful life of 20 years. The airline company has no purchase option at the end of the lease term; however, the wholly-owned financing subsidiary has an option to purchase the aircraft at the end of the lease. The net present value of the lease payments is 64% of the airline’s fair market value. In other conditions, the lessee enters into a guarantee agreement with the lessor regarding the payment in favor of the wholly-owned financing subsidiary.

To test all three hypotheses, two versions of the instrument were prepared. In the first version, the subjects were provided with only paragraphs 10–12 of IAS 17, which is the same as the Malaysian Financial Reporting Standards (FRS) 117, while in the second version the subjects were provided with paragraphs 10–12, with additional guidance to make the judgment regarding the accounting treatment of the lease.

The additional guidance was related to one of the most complicated issues contained within the case concerning the guarantee issued by the lessee, namely, whether the guarantee was a determinant for transferring the risk and reward of the leased asset from the lessor to the lessee. Because the case is on leasing arrangements between a lessor and a wholly-owned financing subsidiary that then subleases to an airline company, it became necessary to provide the additional guidance, because no information for Accounting and Reporting for Subleases is provided in IAS 17. The subjects were asked to “record their judgment that the lease arrangement should be treated as an operating lease” on a

seven-point Likert scale where 1 denoted “strongly disagree” and 7 denoted “strongly agree.”

4.2.1. Pre-test

To obtain an indication of the most accurate judgment on the lease scenario, we conducted a pre-test with fifteen senior accounting academics from Macquarie University in Australia and five senior professional accountants in Sydney, Australia. We provided each accounting professional in the pre-test group with the research instrument that contained the additional guidance on IAS 17, and they made their judgments on the basis of the information provided.

We used the mean score of the judgments made by all the participants in the pre-test to determine whether to “treat the lease arrangement as an operating lease.” The mean score for their judgment was 6.5 (non-tabulated), which indicated that the lease should be treated as an operating lease. The mean judgment is an indication of judgment consensus amongst the respondents, and since accuracy is unobservable for many auditing tasks (Abdolmohammadi & Wright, 1987; Ashton, 1985; Libby, 1981), research has shown that consensus is a fairly good surrogate for accuracy in accounting tasks (Solomon & Shields, 1995). Therefore, in this study we use consensus in the judgment of experts as a proxy for judgment accuracy.

A lease can only be recognized as a financing lease by an entity when any one of the conditions under IAS 17 paragraphs 10–12 has been satisfied. In this case, none of the conditions of IAS paragraphs 10–12 had been satisfied. The sublease is for 12 years, which is 60% of the airline’s economic useful life of 20 years, and thus does not meet the criterion that the “lease term is for the major part of the economic life of the asset.” Additionally, the airline company has no purchase option at the end of the lease term. The Net Present Value of Minimum Lease Payment (MLP) is 80% of the fair value of the asset, which again does not meet the criterion that “the present value of the minimum lease payments amounts to at least substantially all of the fair value of the leased asset.” Moreover, the lessee has an option to renew the lease for a further five years at the prevailing market rental rate at the end of this lease term, which does not meet the criterion of a financing lease. Consequently, the most accurate judgment in this scenario is that lease should be treated as an operating lease.

4.2.2. Pilot testing

Following the pre-test, 30 selected accountants and academics from Sydney with IFRS knowledge participated in the pilot testing. These accountants and academics provided their judgments on the treatment of the lease, either by using only the IAS 17 extract or by using the IAS 17 extract with additional guidance. Fifteen accountants and academics were provided with the additional guidance on IFRS while the other fifteen accountants and academics were not provided with the additional guidance. The mean score for the judgment of accountants and academics provided with additional guidance was 6.5 (non-tabulated), while the mean score for the judgment of accountants and academics not provided with additional guidance was 4.5 (non-tabulated).

These results indicate that those accountants and academics provided with the additional guidance made more accurate judgments than the accountants and academics not provided with the additional guidance. The pilot study provided evidence that an

appropriate case scenario had been developed and that the guidance provided on IAS 17 was appropriate for testing the relevant hypotheses. We also identified and rectified problems with the research instrument to improve the understandability and readability of the research instrument.

4.3. Procedure

The research instrument consisted of two sections. The first section required respondents to provide demographic data such as level of formal education, gender, ethnicity (culture), and employer details.

The second section consisted of one case scenario based on a hypothetical airline company, where the exercise of professional judgment was required to treat the lease in one of two ways: as an operating lease or as a financing lease. We provided the respondents with either the relevant paragraphs in IAS 17 only, or with the relevant paragraphs in IAS 17 and additional guidance to assist them in reaching their judgments. We provided approximately half the respondents with additional guidance on IAS 17.

Apart from providing their judgment on the lease scenario, we asked the respondents to identify their perceived level of familiarity in dealing with such scenarios on a seven-point Likert scale (where 1 denoted “not familiar” and 7 denoted “very familiar”). Furthermore, the respondents were asked to identify their perceived level of complexity for the scenario on a seven-point Likert scale (where 1 denoted “not complex” and 7 denoted “extremely complex”).

5. Results and discussion

5.1. Demographic details of respondents

Of the 85 respondents who participated in the research, 82 produced usable responses (i.e., a usable response rate of 96%).¹⁰ Of the usable responses, the group provided with the additional guidance on IAS 17 consisted of 43 accountants, while the group not provided with additional guidance on IAS 17 consisted of 39 accountants.

Of the usable responses, 54 accountants perceived the task as complex, while 28 accountants perceived the task as less complex. The mean age was 35 years for the respondents provided with the additional guidance and 36 years for the respondents not provided with the additional guidance. The average number of years in formal education was 17 years for the respondents provided with the additional guidance and 17.5 years for the respondents not provided with the additional guidance. Of the respondents, 39% were male and 61% were female. The demographic data of the respondents are shown in Table 1.

¹⁰ Three responses were not included in the analysis of the results because they were incomplete.

Table 1
Demographic data of respondents.

Demographic data	Accountants with additional guidance	Accountants with no additional guidance
Sample size	43	39
Level of experience in years (mean)	5	7.7
Level of formal education in years (mean)	17	17.5
Age (mean)	35	36

Perceived task complexity	Complex task	Less complex task	Complex task	Less complex task
	27	16	27	12

5.2. Effects of additional guidance on judgments of accountants (H1)

We expected that the judgments of the accountants who were provided with the additional guidance on IFRS would differ from those of the accountants who were not provided with the additional guidance. Specifically, we expected the accountants provided with the additional guidance to make more accurate judgments than the accountants not provided with the additional guidance.

We analyzed the subjects' responses using one-way analysis of variance (ANOVA), where the judgment type (strongly agree or strongly disagree) was a within-subject dependent variable and the availability of additional guidance was the between-subjects independent variable. We used the seven-point Likert scale to test the accuracy of the accounting judgment, where 1 denoted "strongly disagree" and 7 denoted "strongly agree."

"Strongly agree" indicated an accurate judgment in this case. The mean likelihood judgment for the accountants provided with the additional guidance is 5.14, while for those accountants not provided with the additional guidance, the mean likelihood judgment is 4.03. This demonstrates that the judgments of accountants who were provided with the additional guidance are significantly ($p = 0.000$) more accurate than the judgments of those not provided with the additional guidance. The results provide strong support for H1. The descriptive results are reported in Table 2 and the ANOVA results are reported in Table 3.

We undertook Pearson correlation analyses to identify the correlations between the availability of additional guidance and the accuracy of the judgments of accountants. We expected that respondents who were provided with additional guidance on IAS 17 would make more accurate judgments than respondents not provided with guidance.

Table 2
Mean judgments of accountants with additional guidance and without additional guidance.

IAS 17 judgment	Mean	Standard deviation	N
Accountants with additional guidance	5.14	0.966	43
Accountants without additional guidance	4.03	1.158	39

Table 3

Univariate analysis of between-subjects effects of guidance on the judgments of accountants.

Source of variance	Sum of squares	Df	Mean squares	F	Significance level
Availability of additional guidance/ no additional guidance	25.375	1	25.375	22.521	0.000 *

* Significant at $p < 0.01$.

We therefore expected that there would be a positive correlation between the availability of additional guidance (i.e., a higher value assigned for additional guidance) and the accuracy of the judgments (i.e., a higher value on the seven-point Likert scale).¹¹ The results show that the correlation between the two variables is highly significant, and they are also positively correlated (Pearson correlation coefficient is 0.469, 2-tailed $p = 0.000$). The follow-up nonparametric correlation tests also show that the correlation between the two variables is highly significant and is also positively correlated (Kendall's correlation coefficient is 0.411, 2-tailed $p = 0.000$ and Spearman's correlation coefficient is 0.455, 2-tailed $p = 0.000$). Results from the correlation analyses are reported in Table 4.

5.3. Effects of complexity on the judgments of accountants (H2)

We expected that the judgments of the accountants who perceived the task as less complex would differ from the judgments of the accountants who perceived the task as complex. We expected the accountants who perceived the task as less complex to make more accurate judgments than the accountants who perceived the task as complex.

We used ANOVA to test the effects of perceived task complexity on the judgments of accountants. The perceived task complexity is the between-subject independent variable, and the accounting judgments are the within-subject dependent variable.¹² The mean of the accounting judgment is used to report the results. We again used the seven-point Likert scale to test the accuracy of the accounting judgment, where 1 denoted “strongly disagree” and 7 denoted “strongly agree.” “Strongly agree” indicated an accurate judgment in this case. The mean score for the accounting judgment of those subjects who perceived the task as complex is 4.37, while for those subjects who perceived the task as less complex, the mean score for the accounting judgment is 5.07.

This shows that those subjects who perceived the lease task as less complex made more accurate judgments ($p = 0.011$) than those subjects who perceived the task as complex. Hence, the results provide strong support for H2. The descriptive results are reported in Table 5 and the ANOVA results in Table 6.

¹¹ For the purpose of the correlation analysis, those accountants not provided with the additional guidance were assigned a value of 1 and those accountants provided with the additional guidance were assigned a value of 2.

¹² For the purpose of analysis, the respondents were assigned a value of 1 if they perceived the task as less complex by choosing the values 1 to 3 on the 7 point Likert scale, and a value of 2 if they perceived the task as complex by choosing the values 4 to 7 (where 1 denoted “not complex” and 7 denoted “extremely complex”).

Table 4
Results of correlation between the availability of guidance and the judgments of accountants.

Source		Availability of guidance	IAS 17 leases (judgment)
IAS 17: guidance	Pearson correlation	1.000	0.469
	Sig. (2-tailed)		0.000 *
IAS 17: judgment	Pearson correlation	0.469	1.000
	Sig. (2-tailed)	0.000 *	
	N	82	82
IAS 17: guidance	Kendall's tau_b correlation coefficient	1.000	0.411
	Sig. (2-tailed)		0.000 *
IAS 17: judgment	Kendall's tau_b correlation coefficient	0.411	1.000
	Sig. (2-tailed)	0.000 *	
	N	82	82
IAS 17: guidance	Spearman's rho correlation coefficient	1.000	0.455
	Sig. (2-tailed)		0.000 *
IAS 17: judgment	Spearman's rho correlation coefficient	0.455	1.000
	Sig. (2-tailed)	0.000 *	
	N	82	82

* Significant at $p < 0.01$.

5.4. Interaction effects of task complexity and additional guidance on judgments of accountants (H3)

H3 predicted that perceived task complexity and additional guidance would interact to influence the judgments of accountants. We expected that accountants who perceived the lease task as complex and who were provided with additional guidance on IAS 17 would make more accurate judgments than the accountants who perceived the task as complex but were not provided with additional guidance. On the other hand, we expected that there would be no difference in the judgments between accountants who were provided with additional guidance and those who were not provided with additional guidance when the task was perceived to be less complex.

We analyzed the subjects' responses using ANOVA, where the judgment type (strongly agree or strongly disagree) was a within-subject dependent variable, and perceived task complexity and additional guidance were the between-subjects independent variables. Between-subjects ANOVA tests show that the individual effects of the availability of guidance ($p = 0.001$) and perceived task complexity ($p = 0.001$) are significant and they interact to have a significant effect on the judgments of the accountants ($p = 0.000$). These results reinforce the argument made earlier that an interaction exists between decision aids and perceived task complexity in relation to the judgments of accountants.

Table 5
Descriptive statistics of the effect of perceived task complexity on judgments of accountants.

Source of variance	Mean	Standard deviation	N
Complex task	4.37	1.293	54
Less complex task	5.07	0.813	28

Table 6

Univariate analysis of between-subjects effects of perceived task complexity on judgments of accountants.

Source of variance	Sum of squares	Df	Mean square	F	Significance level
Complex task/less complex task	9.062	1	9.062	6.811	0.011 *

* Significant at $p < 0.01$.

The results show that the mean likelihood judgment for accountants who perceived the task as complex and were not provided with the additional guidance is 3.48, while for the accountants who perceived the task as complex but were provided with the additional guidance, the mean likelihood judgment is 5.26. This demonstrates that those accountants who perceived the task as complex and are provided with additional guidance make more accurate judgments than those accountants who perceived the task as complex but are not provided with additional guidance.

The results show that the mean likelihood judgment for accountants who perceived the task as less complex and were not provided with additional guidance on the accounting standard is 5.25, while for the accountants who perceived the task as less complex but were provided with the additional guidance, it is 4.94. This shows that when accountants find the task simple and are provided with decision aids in the form of additional guidance, their judgment accuracy decreases.

This result therefore supports the notion that when accountants find the task less complex, decision aids in the form of additional guidance bore them, which leads to information overload; as a result, the judgment accuracy of these accountants decreases.

Overall, the results show that the most accurate judgment was made by the participants in the group that found the task complex and were provided with additional guidance. This clearly shows that when undertaking complex accounting tasks, accountants should be provided with support in terms of additional guidance on IFRS so that they are able to make accurate judgments. The results generally provide support for H3. The descriptive results are reported in Table 7, the ANOVA results in Table 8, and the graphical representation is shown in Fig. 2.

Table 7

Descriptive statistics of interaction effects of perceived task complexity and availability of guidance on judgments of accountants.

Perceived task complexity	Availability of guidance	Mean	Standard deviation	N
Less Complex Task	No additional guidance	5.25	0.754	12
	Additional guidance	4.94	0.854	16
	Total	5.07	0.813	28
Complex Task	No additional guidance	3.48	0.849	27
	Additional guidance	5.26	1.023	27
	Total	4.37	1.293	54
Total	No additional guidance	4.03	1.158	39
	Additional guidance	5.14	0.966	43
	Total	4.61	1.194	82

Table 8

Univariate analysis of interaction effects of perceived task complexity and availability of guidance on judgments of accountants.

Source of variance	Sum of squares	Df	Mean square	F	Significance level
Availability of guidance	9.763	1	9.763	12.066	0.001 *
Perceived task complexity	9.518	1	9.518	11.763	0.001 *
Perceived task complexity * Availability of guidance	19.869	1	19.869	24.555	0.000 *

* Significant at $p < 0.01$.

6. Conclusion and implications

The purpose of this study was to empirically examine the effect of additional guidance provided on IFRS as a decision aid on the accuracy of judgments of the accountants. We also examined the interaction effects of the additional guidance and perceived level of task complexity on the judgments of accountants.

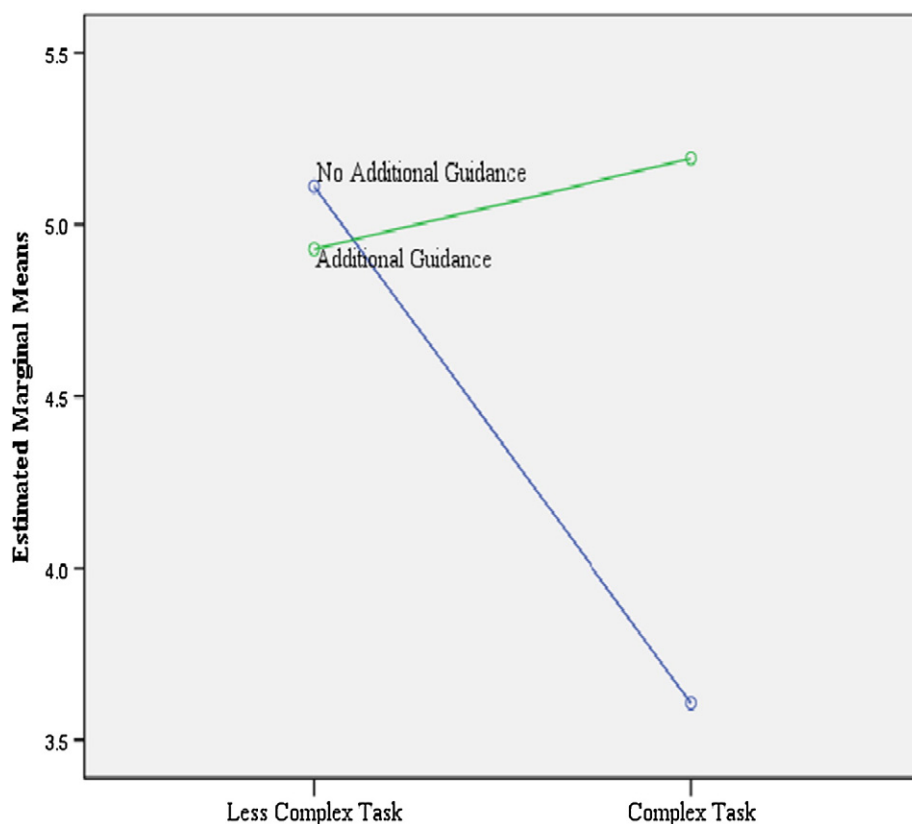


Fig. 2. Interaction effects of perceived task complexity and additional guidance on the judgments of accountants.

The results show that those accountants who are provided with decision aids in the form of additional guidance on IFRS make significantly more accurate judgments than those accountants who are not provided with additional guidance on IFRS. This result makes intuitive sense in suggesting that a decision aid in the form of additional guidance is a relevant judgment and decision-making improvement tool in the accounting setting.

The findings show that decision aids in the form of additional guidance being provided on accounting standards improve the judgments of accountants when they undertake tasks that are perceived to be complex. The results support the view that additional guidance on the accounting standards can moderate task complexity and reduce the amount of cognitive processing required.

The findings overall show that the most accurate judgment is made by those accountants who find the task complex and are provided with additional guidance. This suggests that when accountants undertake complex tasks that require the interpretation and application of IFRS, it is essential that they are provided assistance, such as additional guidance on IFRS.

This study contributes to the wide and still growing literature on decision aids acting as an important tool for improving judgment. The findings provide support for the claims made by Schipper (2003) that provision of additional guidance on IFRS will help to reduce the complexities involved in the application and interpretation of IFRS, and will facilitate the adoption of IFRS by first-time adopters.

Furthermore, the convincing results that additional guidance significantly improves judgments signal to IASB that the inclusion of more guidance on IFRS will avoid the issue of countries that adopt IFRS turning to other sources for guidance. The findings further signify the importance of having additional guidance on IFRS, because this may accelerate the process of IASB-US accounting convergence, considering that ACIFR has suggested that the US can move away from rules-based accounting standards to principles-based accounting standards, given more guidance.

Finally, there are a few limitations that are specific to this study. We used a single case in this study, and asked the respondents about their perception of the level of task complexity. Future studies can moderate the accounting task complexity by using more than one case.

This study has only considered the decision aid as a judgment improvement tool for accountants undertaking complex accounting tasks. Future studies can examine the effects other possible judgment improvement tools, such as the provision of more instructions, or of practice and feedback on the judgments made, may have on the judgments of accountants. Future studies could examine the effects of additional guidance on a different accounting standard to provide further empirical evidence of the effectiveness of using additional guidance as a decision aid to enhance accuracy of judgments.

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