1998

The effects of gender and task complexity on audit judgment

Janne Chung
Gary S. Monroe

Follow this and additional works at: https://ro.ecu.edu.au/ecuworks

Part of the Accounting Commons

This Other is posted at Research Online.
https://ro.ecu.edu.au/ecuworks/6938
You may print or download ONE copy of this document for the purpose of your own research or study.

The University does not authorize you to copy, communicate or otherwise make available electronically to any other person any copyright material contained on this site.

You are reminded of the following:

- Copyright owners are entitled to take legal action against persons who infringe their copyright.

- A reproduction of material that is protected by copyright may be a copyright infringement. Where the reproduction of such material is done without attribution of authorship, with false attribution of authorship or the authorship is treated in a derogatory manner, this may be a breach of the author’s moral rights contained in Part IX of the Copyright Act 1968 (Cth).

- Courts have the power to impose a wide range of civil and criminal sanctions for infringement of copyright, infringement of moral rights and other offences under the Copyright Act 1968 (Cth). Higher penalties may apply, and higher damages may be awarded, for offences and infringements involving the conversion of material into digital or electronic form.
THE EFFECTS OF GENDER AND TASK COMPLEXITY ON AUDIT JUDGMENT

Working Paper 2/98
THE EFFECTS OF GENDER AND TASK COMPLEXITY ON AUDIT JUDGMENT

Working Paper 2/98

School of Accounting Working Paper Series
July 1998

School of Accounting
Faculty of Business
Edith Cowan University
Pearson Street, Churchlands, Western Australia 6018
Tel: (08) 9273 8730. Fax: (08) 9273 8121. E-mail: c.lau@cowan.edu.au
THE EFFECTS OF GENDER AND TASK COMPLEXITY ON AUDIT JUDGMENT

Janne Chung
Gary S. Monroe
School of Accounting
Edith Cowan University
Pearson St
Churchlands 6018
Western Australia
Tel: 61 8 9273 8733
Fax: 61 8 9273 8121
Email: J.Chung@cowan.edu.au

Data Availability: Data are available upon request from the first author.
Acknowledgments: This study was supported by grants received from the School of Accounting, Edith Cowan University and the Small and Medium Enterprise Research Centre, Edith Cowan University. The authors thank Don Pallais for his helpful comments, Karen Pincus for the use of her case materials, and Roger Simnett, Peter Schelluch, and Grant Gay for their assistance with data collection.
Abstract

This study examines the interaction effect between gender and task complexity on audit judgment based on the selectivity hypothesis. This hypothesis states that males are selective information processors whereas females are detailed information processors. The study extends this hypothesis to an auditing context and hypothesizes that males will outperform females when task complexity is low while females will outperform males when task complexity is high. A two (males and females) by two (task complexity – high and low) full factorial experiment was carried out. The low and high task complexity conditions were created by manipulating the number of cues. The subjects were required to judge whether an inventory balance was fairly presented based on case materials that contained material misstatements. The results support the hypothesis.

Key words: selectivity hypothesis, selective processors, comprehensive processors, information processing, inventory.
THE EFFECTS OF GENDER AND TASK COMPLEXITY ON AUDIT JUDGMENT

INTRODUCTION

There is a growing body of literature that examines the subject of gender in the public accounting environment. However, these studies mostly concentrate on the advancement and retention of women in the profession (e.g., Hull and Umansky 1997; Hooks 1996; Anderson et al. 1994). By contrast, few accounting studies (e.g., Tymon et al. 1998; Kaplan 1995) examine the effect of gender on the psychology of decision-making. However, gender differences in decision-making have a long history in the psychology and education literature. This area of research shows that gender has an impact on decision-making. Psychology and education researchers recognize the inherent differences in decision-making between males and females and frequently report their effects on decision-making¹. The interest in gender also extends to other disciplines. For example, due to the rise in women’s economic power and importance as consumers, marketing studies have begun to report similar findings in various areas of consumer behavior (e.g., Darley and Smith 1995; Meyers-Levy and Sternthal 1991). Another area where gender differences in information processing is recognized is in the design of decision support systems (e.g., Powell and Johnson 1995). However, audit judgment studies have largely ignored this aspect of the audit environment. This is probably unintentional as until recently, males dominated the profession, and females had little impact on it. In addition, researchers had difficulty securing large numbers of female auditors as experimental subjects. As the gender make-up of the profession changes with more females entering and remaining in the profession, the number of audit judgment studies that considers the effect of gender should increase.
An important element in the audit environment is task complexity (Bonner 1994; Libby 1985). Bonner lists three reasons why understanding task complexity in an audit context is vital. First, the complexity of a task may have a significant effect on auditor performance. Second, current decision aids and training techniques may be improved when researchers understand the complexity of the different audit tasks. Third, understanding the complexity of a task helps audit firm management find the best match between audit staff and audit task. There is an emerging body of literature on the effect of task complexity on auditor performance. These studies examined the effects of decision aids (Wright 1995; Abdolmohammadi 1987), training (Fleishman 1975; Keen and Scot-Morton 1978), audit experience (Simnett 1996; Abdolmohammadi and Wright 1987), and information selection (Simnett 1996) on judgment performance. Bonner (1994) states that future research "should examine the conditions under which task complexity may have negative performance consequences" (230). No prior study has examined the effect of gender on task complexity. The purpose of this study is to attempt to bridge this gap by examining the interaction effect between gender and task complexity on audit judgment performance based on the selectivity hypothesis proposed by Meyers-Levy (1986). If there is an interaction effect between gender and task complexity on judgment, then knowing this would assist researchers in identifying the gender which may be adversely affected by task complexity. It also suggests that current education and training techniques may disadvantage a gender. In addition, it provides information to audit firm management regarding the assignment of audit tasks.

A modified version of Pincus's (1991) inventory task was used in an experiment to test the hypothesis of this study. The experiment was a two (task complexity) by two (gender) full factorial design. Task complexity was operationalized by manipulating the number of cues. Two levels of task complexity were used - high and low. An interaction effect between task complexity and gender is hypothesized based on the selectivity hypothesis. This
hypothesis suggests that males are selective information processors and are persuaded by single or salient cues, whereas females are detailed information processors and do not focus on single cues. Consequently, males are expected to outperform females when task complexity is low whereas females are expected to outperform males when task complexity is high. The results support the hypothesis.

THEORY DEVELOPMENT

Gender Differences

Social psychology often bases its interpretation of gender differences on the earlier works of Bakan (1966) and Carlson (1972; 1971). These studies categorized gender differences into agentic and communal goals. Agentic goals stress self-assertion, self-achievement and are self-focused and males fit these descriptions. Communal goals are more interpersonal and are sensitive to the concerns of both self and others and these qualities are inherent in females. Later researchers found similar male and female characteristics (e.g., Farina 1982 and Gilligan 1982). These differences between males and females develop in early childhood as a result of the ways boys and girls are socialized into societal roles (see Carpenter 1983 and Gilligan 1982). For example, Gilligan (1982) observed that when presented with social problems, boys' suggested solutions were more impersonal and their processing of information was more focused, selective and in line with their agentic goals. Consistent with their communal goals, girls' solutions displayed interdependent relationships and their processing of information was more comprehensive.

Ontogeny research suggests that the differences in information processing between the genders begin in early childhood and carry over to adulthood (Carpenter 1983; Gilligan 1982). For example, boys engage in unstructured play while girls' play is more structured (Carpenter 1983). The structure of an activity is related to the differences in selectivity
(Meyers-Levy 1986). High structure, which characterizes girls' play implies greater compliance with rules and authority and is communal in nature. Low structure activity implies less compliance with rules and/or authority and more assertive of self. The latter is more characteristic of boys' play (Meyers-Levy 1986). An explanation offered for this difference is that girls receive more adult supervision than boys do (Carpenter 1983). This difference in the structure of activities between boys and girls increases with age (Serbin et al. 1982). Since low structure activities are unorganized, adult males who generally fall into this category, will use single or salient cues as a coping mechanism when faced with a multi-cue task (Meyers-Levy 1986). When faced with the same circumstance, adult females will engage in a comprehensive and elaborative evaluation of the multiple cues (Meyers-Levy 1986).

While few audit judgment studies examine the role of gender in information processing, extant psychology, education and marketing studies have examined this. Gender differences in information processing is a common finding of these studies (Meyers-Levy 1986; Farina 1982; Gilligan 1982). Meyers-Levy (1986) suggests the selectivity hypothesis as an explanation of the observed differences between the genders' information processing styles. This hypothesis states that males and females adopt different information processing strategies. Males are selective processors and often make use of heuristics as a substitute for detailed information processing. Females are detailed processors and will process all or most of the available information cues (Meyers-Levy 1986). This hypothesis suggests that males' agentic concerns are more conducive to a selective processing style while females' communal concerns are more conducive to a comprehensive processing style. Males and females also evaluate information in a manner that is consistent with their gender-roles. Males are persuaded more by self-oriented information and less by other-oriented information while females were persuaded by both self- and other-oriented information (Watts et al. 1982).
The selectivity hypothesis extends to language skills as well. Female language skills are more interpretive, that is, they are more subjective and evaluative (Haas 1979). Females are also more conscious of more subtle or less-obvious meanings. Conversely, male language skills tend to be less interpretive and they tend to discern only observable and obvious information (Haas 1979).

The differences in processing styles between the genders also include the use of heuristics (Meyers-Levy 1986). Males are more likely to use "efficiency" heuristics than females are. These include the use of a single information item or a group of information items with one or limited inference(s) (Meyers-Levy 1988; 1986). Consequently, males often rely on information items that are particularly salient and/or information items that contain a single inference. Females, however, will conduct a detailed and "piecemeal" evaluation of all the available information and rely less on heuristics (Meyers-Levy 1986). In addition, males tend to dislike written information whereas females place greater value on information and make better use of written information (Powell and Johnson 1995).

An explanation of the genders' different processing style is their attention-getting thresholds (Meyers-Levy and Sternthal 1991). This factor determines the amount of elaboration during information processing. As females have a low attention-getting threshold, information with low attention-getting properties is sufficient to induce them to engage in elaborative information processing (Meyers-Levy and Sternthal 1991). Males, however, have a higher attention-getting threshold and information with low attention-getting threshold is not sufficient to induce them to engage in elaborative processing (Meyers-Levy and Sternthal 1991). In addition, males' selective processing style guides them to select and respond more favorably to information which are consistent with their gender roles. Females' comprehensive processing allows them to evaluate and respond to all the available information (Darley and Smith 1995). Consequently, females are less likely to miss subtle
cues and their judgment is adjusted accordingly (Darley and Smith 1995). Darley and Smith (1995) found that when the description of a consumer product was changed (from low risk to medium risk), the females detected the change in risk levels and declined to purchase the product. However, the males failed to detect the increase in risk and continued to purchase the product. Similar gender sensitivity/insensitivity to cues were reported by Goldhaber and deTruck (1988) and deTurck and Goldhaber (1989). They found that males are more likely to ignore “no diving” signs and dive into the shallow end of a pool. This is because males’ insensitivity to risk cues is a result of their selective processing style and their inattention to cues (Goldhaber and deTurck 1988; deTurck and Goldhaber 1989).

Another explanation of the selectivity hypothesis is the organization of the genders’ knowledge structures. The organization of males’ knowledge structures lacks the detailed classifications observed in females’ knowledge structures (Poole 1977; Glixman 1965). Females, being comprehensive processors, encode more details and this results in more detailed classification of their knowledge structures (Anderson 1983). Conversely, males encode fewer details and their knowledge structures are not organized in the same details as the females’ are (Anderson 1983). As the comprehensiveness of a decision-maker’s knowledge structure determines the nature of information retrieved from it as well as the resultant performance (Choo and Trotman 1991), females outperform males in memory tasks (Buffery and Gray 1972). In addition, in a complex task with multiple cues, males take longer time than females to complete the task (Fairweather and Hutt 1972). In fact, compared to males, females become more efficient when information load increases (Fairweather and Hutt 1972). This suggests that in a multi-cue task, females may have an advantage over males as the latter’s processing capacity is exceeded earlier than the former’s is. Females’ elaborative processing and more detailed knowledge structures ensure their attendance to a larger number of cues.
Interaction Between Gender and Task Complexity

Task complexity comprises many elements but prior auditing studies (e.g., Simnett 1996; Wright 1995; Abdolmohammadi and Wright 1987) had examined these elements singly. The justification for such an approach is that

"different components of human task performance will be affected differently as a function of the type and level of stressor, and that measurement of changes in these components will provide quantitative evaluations of the disruptive effects of the stressor and of man's vulnerability to it" (Fleishman 1975, 1136).

One determinant of task complexity is number of cues (see reviews by Bonner [1994] and Campbell [1988]). The complexity of a task is a function of the amount of information that has to be processed as decision-makers have limited processing capabilities (Hogarth and Einhorn 1992). Processing capacity is constrained by a decision-maker's limited memory (Bonner 1994) and limited ability to integrate cues (Driver and Mock 1975). Different levels of task complexity make different demands on processing capacities. When these are exceeded, judgment quality begins to fall off. The number of information cues that must be integrated to form the judgment is positively related to task complexity (Wood 1986). A single-cue task is less complex compared to a multi-cue task. With a large number of cues, the decision-maker must divide his/her attention between these cues (including selecting and weighting them), and integrate them into a judgment. Judgment performance suffers when the number of cues being considered exceeds the decision-maker's ability to attend to these cues.

In this study, task complexity is operationalized by manipulating the number of cues. An interaction effect between gender and task complexity is expected. Males are expected to outperform females when task complexity is low while females are expected to outperform males when task complexity is high. When task complexity is low, there are less information and less cues to be processed. Since males are selective processors, this condition is ideally suited to them. As they focus on obvious signals and inferences, they are better able to
identify any inconsistency or misstatement in the task information. Hence, they outperform the comprehensive processors (i.e., the females) who complicate a low complexity task by the thoroughness of their information processing. When task complexity is high, the amount of information and the multiplicity of cues would exhaust the males' processing abilities earlier than the females'. As females attend to more cues than males, in a complex task, the former are able to identify the cues that are vital in determining superior performance. The males' selective processing causes them to miss these cues and results in lower performance. Therefore, females are expected to outperform males in the high task complexity condition.

\[ H_1 \] Males will outperform females when task complexity is low while females will outperform males when task complexity is high.

THE EXPERIMENT

Task

The inventory audit task used was a modified version of the task used by Pincus (1991). This task contained a material misstatement of the inventory balance by management. The modifications made included the conversion of weights and measurements to metric, the use of current dates and food items and proper names to reflect an Australian environment. Only some of the original 70 information items were used and only the information for the latest three years was given (see below). The dollar values were not changed. Such changes were not considered necessary because the type of restaurant had been changed from a Mexican restaurant to a fast-food restaurant. The final version of the case was examined by two experts in the hospitality and restaurant industry for realism. Both experts were of the opinion that the case was realistic and reflective of current Australian restaurant practices. While the case had been simplified, it still contained sufficient information for the subjects to identify the misstatement and therefore to successfully test the variables manipulated in this
study. In this task, participants were required to make a judgment on whether or not the inventory balance is fairly presented.

The case provided information on the background of the company as well as current year's and prior years' inventory and other financial data. The information provided included both positive and negative indicators of the fair statement of the inventory balance so the judgment was not clear-cut. The results of the current year's audit procedures for inventory were also available together with selected client records. The fraud was committed by management by overstating ending inventory quantities and values. This can be detected via the various risk indicators such as excessive ending inventory, inventory count procedures, management control, over-ride of internal control procedures by management, and inconsistent opening and closing inventory amounts for the year being audited.

Procedures

The experiment was a 2 (gender) x 2 (task complexity – high and low) full factorial design. The two levels of complexity were achieved by manipulating the number of cues. In the low complexity condition, the case materials included 38 out of the 70 information items used by Pincus. In the high complexity condition, 48 out of the original 70 items were used. This represents an increase of ten information items (26%). The increase in the total number of words is 23%. A list of the information items used is shown in Appendix A.

All subjects received the case materials in the form of a booklet. The front of the booklet provided some introductory information that explained the purpose of the experiment (which was to examine auditors' inventory judgments) and provided an assurance of confidentiality. The subjects were told to spend 15 minutes familiarizing themselves with the case material before answering the task questions. They read the initial information of the
case materials that contained a general description of the operations of a chain of fast-food restaurants. The instructions to all participants read:

**Instructions**

In order for you to perform an audit of Tucker House’s inventory balance, the following information items are available. You should only evaluate those information items you consider are necessary for forming an opinion on whether or not the inventory balance is fairly stated.

They were then presented with the content pages showing the types of information available. This was followed by the actual information items. After acquainting themselves with the information, the subjects performed the task of evaluating the fair presentation of the inventory balance. The subjects recorded their answer on a nine-point Likert-type scale anchored by “fairly presented” (1) and “not fairly presented” (9). In the post-test questionnaire, the subjects provided various demographic and diagnostic information.

**Subjects**

The subjects were 159 accountants attending a national program that prepared them for the auditing section of the Institute of Chartered Accountants Professional Year examinations. At the time of the experiment, all the subjects had completed their first university degree and were employed by chartered accounting firms in auditing, business services or taxation. The experiment was carried out after the subjects had completed four days of auditing training which included topics such as analytical procedures, risk analysis and inventory audit procedures. Their average age was 24.3 years (sd 3.35) and their average working experience was 35.1 months (sd 28.41). Fifty three percent of them had audit experience and this ranged from one to 108 months (mean 19.6 months [sd 16.6]). They were each paid AS20 for their efforts.
RESULTS

Diagnostic Tests

To test the success of the task complexity manipulation, the subjects were asked to record their perception of the complexity of the task on a nine-scale Likert-type anchored by “not at all complex” (1) and “extremely complex” (9). There is a significant difference in the perception of task complexity between the high and low complexity conditions (means 7.11 [sd 1.36] and 5.96 [sd 1.55] respectively) (t = 2.12, p = .037). This result indicates that the manipulation of task complexity was successful. However, there is no significant difference between males’ and females’ perception of task complexity and (means 6.24 [males] and 5.85 [females]) (t = 1.1, p = .29).

Analyses of H1

H1 predicts an interaction effect between gender and task complexity on judgment performance. Specifically, it hypothesizes that males will outperform females at the low complexity level whereas females will outperform males at the high complexity level. Since the case materials contained material management fraud, the inventory balance was not fairly presented. As the scale was anchored by “fairly presented” (1) and “not fairly presented” (9), the higher score represented the more accurate judgment. To test the interaction effect between gender and task complexity, ANOVA analyses were carried out. There is no significant main effect for gender (F < 1, > .1) and there is a marginally significant main effect for task complexity (F = 3.59, p = .06). A significant interaction effect between gender and task complexity is observed (F = 6.40, p = .012) (Table 1, panel A). Figure 1 shows the interaction effect. To test the hypothesis, planned comparisons were carried out. Females’ performances at the two levels of complexity are not significantly different (t > 1, p < .1 [one-
tailed]), indicating that the interaction effect was driven by the males' performance. The males outperformed in the females in the low complexity condition and this superior performance is significant ($t = 1.93$, $p = .029$ [one-tailed]). The females outperformed the males marginally significantly in the high complexity condition ($t = 1.61$, $p = .055$ [one-tailed]). These results support $H_7$.

A general observation of the accuracy levels of the participants can be made. That is, the accuracy levels were generally low. Apart from the males in the low complexity condition (whose mean judgment was greater than the mid-point [5]), accuracy scores of the rest of the cells were below 5. There are two explanations for this. First, the participants were relatively inexperienced, and this inexperience may have resulted in the lack of accuracy. Second, and perhaps more probable, is the inherent complexity of the case materials. These were adapted from an actual audit where the original auditors failed to identify the misstatement (Pincus 1991). Pincus's (1991) participants also recorded low accuracy. Even though the case had been modified in the present study, the participants' relatively poor performance was to be expected.

**CONCLUSION**

This study is designed to test whether males outperform females when task complexity is low and whether females outperform males when the complexity of a task is high. One hundred and fifty nine subjects (comprising 101 males and 58 females) were asked to evaluate case materials containing material misstatements. Two levels of task complexity were created by manipulating the number of cues. The results suggest that males' judgments are superior to females' judgments when task complexity is low. When task complexity is high, females generally outperform males. Consistent with prior education, marketing and
psychology literature, the results suggest that males are selective processors while females are comprehensive processors.

The results of the study suggest that both genders are disadvantaged by task complexity – females at the low level and males at the high level. This has implication(s) for the way audit tasks are assigned. While it may not be ethical or legal for management to assign audit tasks based on gender, the results do provide insight into the way task complexity affects the genders. As both genders are disadvantaged by task complexity, retraining for both appears necessary. The challenge to educators and researchers is to design and test decision aids to facilitate this.

As this is one of a very limited number of auditing studies to suggest the presence of gender differences in information processing, further research is needed before firm conclusions can be drawn. In addition, future studies could examine the interaction effect between gender and the other elements of task complexity on judgment outcome. Future studies could examine whether females’ superior information processing is achieved as a trade-off for efficiency. As relatively inexperienced subjects took part in this study, it is unclear whether the generalizability of the results is affected by their lack of experience.

1 Studies prior the 1980s typically found females’ judgment quality to be inferior to males’. Subsequent analyses of these studies questioned the validity and reliability of the research design and the measuring instruments (Powell and Johnson 1995; Gillian 1982; Eagly 1978). Studies after the 1980s found mixed results but the general conclusion is that whether males’ or females’ judgments are superior is dependent upon the nature of the tasks. For example, females are more superior in information processing and verbal tasks whereas males excel in quantitative and spatial tasks (Powell and Johnson 1995).

2 A complex task places high cognitive demands on the decision-maker (Campbell 1988) and stretches the limitations of his/her information processing abilities (Hogarth and Einhorn 1992). Task complexity includes the absolute amount of information in a task (Bonner 1994; Campbell 1988; Steinman 1976), and the number of cues contained in the task input (Bonner 1994; Campbell 1988; Schwab and Cummings 1976; Schroder et al. 1967).

3 While these ten items do not provide conclusive evidence on the existence of fraud, they do suggest the need to exercise professional skepticism.

4 The low complexity condition comprised 4,170 words whereas the high complexity condition comprised 5,140 words.

5 The Institute of Chartered Accountants require members to have at least one year of working experience with a chartered accounting firm in order to sit the Professional Year examinations.
ANCOVA analyses were carried out with audit experience as a covariate. The results showed that audit experience did not have a significant effect on the results, and the interaction effect remained significant at the .05 level.

Further analyses were carried out using the responses captured on a dichotomous scale. Fifty-nine percent males and 50 percent females made accurate judgments in the low complexity condition. While this is in the hypothesized direction, the difference is not statistically significant ($X^2 < 1, p > .1$ [one-tailed]). Twenty-three percent males and 38 percent females judged accurately in the high complexity condition and this difference is marginally significant ($X^2 = 2.13, p = .072$ [one-tailed]).

Reference:


Table 1
The Effects of Gender and Task Complexity on the Fair Presentation of the Inventory Balance

<table>
<thead>
<tr>
<th>Panel A</th>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender (G)</td>
<td>.01</td>
<td>1</td>
<td>.00</td>
<td>ns</td>
</tr>
<tr>
<td></td>
<td>Task Complexity (T)</td>
<td>15.55</td>
<td>1</td>
<td>3.58</td>
<td>.060</td>
</tr>
<tr>
<td></td>
<td>G x T</td>
<td>18.28</td>
<td>1</td>
<td>6.40</td>
<td>.012</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>637.98</td>
<td>155</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B</th>
<th>Means* (SDs) Task Complexity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Females</td>
<td>4.86</td>
</tr>
<tr>
<td>Gender</td>
<td>(1.98)</td>
</tr>
<tr>
<td>(n = 30)</td>
<td>n = 28</td>
</tr>
<tr>
<td>Males</td>
<td>4.13</td>
</tr>
<tr>
<td>Gender</td>
<td>(1.98)</td>
</tr>
<tr>
<td>(n = 57)</td>
<td>n = 44</td>
</tr>
</tbody>
</table>

*"Fairly presented" (1) and "Not fairly presented" (9).
Figure 1

Interaction Effect Between Gender and Task Complexity on the Fair Presentation of the Inventory Balance

![Graph showing the interaction effect between gender and task complexity on the fair presentation of the inventory balance. The graph plots Fair Presentation of Inventory Balance against Task Complexity, with separate lines for females and males, illustrating the differences in their perceptions under low and high task complexity conditions.](image-url)
Appendix A
The Client: Tucker House Ltd

Tucker House Ltd operates a chain of fast food restaurants. The company began in 1991 and by the end of 1996 had grown to 41 units, located primarily in the eastern states. Tucker House uses a financial accounting year end of 31 October.

Restaurants
The atmosphere of the restaurants is similar to most fast food restaurants, attractive, bright and clean. All of the restaurants open 7 days a week for lunch and dinner. The busier restaurants open for breakfast as well. The menu is more up-market than most hamburger outlets serving steak sandwiches, beef burgers, selected chicken items, and the usual drinks and desserts.

Operational control has been maintained through a computerised information system. Each restaurant is equipped with specially designed computerised cash registers that have the menu items incorporated on them. This system is used to compute on a daily, weekly and monthly basis, separately for each of the restaurant units, profit and loss, sales and cost breakdown by product, labour productivity, payroll and variations from budget.

The Purchasing and Warehousing Division
The company operates its own purchasing and warehousing division (PWD) from which all the restaurants are supplied with portion-controlled units of meat, poultry and other food items, as well as paper and other supplies.

The PWD includes meat cutting rooms, refrigeration and freezer storage space. The PWD processes much of the meat required by the restaurants and makes all the sauces and dressings. The company purchases other items in large quantities in anticipation of seasonal price fluctuations.

The effort to control meat cost is the most important area of cost control at Tucker House. Meat represents 80% of food costs, or almost 33% of sales, and management feels that one of the keys to Tucker House's success is the PWD which makes it possible for Tucker House to cope with changes in the prices of meat.

The Account: Inventory at financial year end 31.10.96

<table>
<thead>
<tr>
<th>Type of Inventory</th>
<th>$</th>
<th>Percentage of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat</td>
<td>2,615,546</td>
<td>75.0%</td>
</tr>
<tr>
<td>Other (non-meat) food/beverages</td>
<td>335,620</td>
<td>10.0%</td>
</tr>
<tr>
<td>Total food/beverages</td>
<td>2,951,166</td>
<td>85.0%</td>
</tr>
<tr>
<td>Supplies</td>
<td>266,942</td>
<td>7.5%</td>
</tr>
<tr>
<td>Others</td>
<td>269,286</td>
<td>7.5%</td>
</tr>
<tr>
<td>Total: All inventory</td>
<td>3,487,394</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Instructions
In order for you to perform an audit of Tucker House’s inventory balance, the following information items are available. You should only evaluate those information items you consider are necessary for forming an opinion on whether or not the inventory balance is fairly stated.
ADDITIONAL INFORMATION AVAILABLE

Information about Tucker House Directors, Management and Employees
1. Key management personnel
2. Members of the Board of Directors
3. Board structure and number of meetings
4. Board members comments regarding managing director and financial director

Other Information about Tucker House
5. Menu prices for main meals, 1994-96; average bill per customer
6. Main meal sales by type (percentages)
7. Number of restaurant units in operation, 1994-96
8. Expansion costs and plans
9. History of share offerings and debt financing
10. Management forecast of 1996 sales/earnings

Inventory and Inventory-related Financial Report Data/Ratios
11. Weighted average annual sales per restaurant unit, 1994-96
12. Cost of Sales as a percentage of Sales, 1994-96
13. Cost of Sales percentage breakdown (food/beverages vs. labour), 1994-96
14. Total purchases of food and beverages, 1994-96
15. Total inventories ($), 1994-96
16. Inventory turnover and number of days sales in ending inventory, 1994-96
17. Inventory location (Restaurants vs PWD), 1995-96
18. Percentage breakdown of inventory by type, 1994-96
19. Percentage breakdown of meat inventory by type, 1996
20. Purchase commitments ($) for meat at financial year end, 1994-96

Other Financial Report Information
21. Current assets, by type, as a percentage of total assets, 1994-96
22. Current liabilities, by type, as a percentage of total liabilities and shareholders equity, 1994-96
23. Gross sales, 1994-96
24. Net income as a percentage of Sales, 1994-96

Financial Ratios (Other than inventory-related)
25. Current ratio and Quick ratio, 1994-96
26. Receivables turnover & Number of days sales in ending accounts receivables, 1994-96
27. Earnings per share, 1994-96
28. Price-Earnings ratio, 1994-96
Results of 1996 Audit Procedures

29. Results of physical inventory observation at restaurants
30. How restaurant test units for inventory observation were chosen
31. Results of analytical comparisons/reviews for unobserved restaurants
32. Results of physical inventory observation at PWD
33. Results of inventory pricing tests
34. Results of inventory cutoff tests
35. Audit procedures performed related to purchase commitments
36. 1996 Management Letter comments re internal control weaknesses
37. Evaluation of effectiveness of Internal Audit function
38. 1996 Solicitor's Letter

Inventory Policies/Background and Selected Client Records

39. PWD history (size, expansions) - 1992-96
40. Beef processing and purchasing policies
41. Accounting records/internal controls for PWD inventory
42. Sources (vendors) for food, beverage and supply purchases
43. Client records: Receiving Log, Week 52, FY 96
44. Client records: Receiving Log, Week 1, FY 97
45. Client records: Weekly Inventory Summary, Week 51, FY 96
46. Client records: Weekly Inventory Summary, Week 52, FY 96
47. Client records: Physical Inventory Counts, 3 largest items, FY 95
48. Client records: Weekly Inventory Summary, Week 1, FY 97

(The information items in italics represent the items in the low complexity condition).