A REVIEW OF EXPERTISE IN AUDITING

TAKIAH MOHD. ISKANDAR
Faculty of Business Management
Universiti Kebangsaan Malaysia

ABSTRACT

This paper reviews past studies on audit expertise, and discusses some important issues relating to it. Earlier studies in this area had mainly focused on the effects of experience on auditors' performance. These experiences were measured in terms of consensus, cue weighting, self-insight, and stability of auditors' judgments. However, results were inconclusive. Further developments in the research on audit judgments showed the need to differentiate auditors' expertise according to ability and knowledge. Given that audit work requires an understanding and knowledge of specific industry, auditors' expertise is specified in terms of industry specific knowledge. Studies show that auditors develop industry-based knowledge structure. As suggested by past studies, industry specialisation is an important characteristic in auditing practice that develops into an important component of audit expertise.

ABSTRAK

Artikel ini meninjau semula kajian lepas tentang kepakaran audit dan menggenengahkan beberapa isu penting yang berkaitan. Sebahagian besar kajian lepas dalam bidang ini difokuskan kepada penelitian kesan pengalaman terhadap prestasi juruaudit yang diukur melalui persetujuan, pemberatan kiu, wawasan kendiri dan kestabilan pertimbangan juruaudit. Walau bagaimana pun, hasil kajian tersebut kebanyakannya tidak begitu mantap. Perkembangan lanjut dalam penyelidikan pertimbangan juruaudit memperkenalkan keperluan membezakan kepakaran juruaudit mengikut kebolehan dan pengetahuan. Oleh sebab kerja audit memerlukan pemahaman dan pengetahuan industri secara spesifik, kepakaran juruaudit ditentukan berasaskan pengetahuan industri juruaudit tersebut. Kajian lepas menunjukkan bahawa juruaudit membentuk struktur ilmu berasaskan industri. Seperti yang dicadangkan dalam kajian tersebut, pengkhususan industri merupakan ciri penting dalam amalan pengauditan yang menjadi komponen utama kepakaran audit.
whole, the competency and integrity of auditors are now being questioned and scrutinized. As a result of the recent business tragedy involving these mammoth corporations, the global accounting landscape has changed resulting in the merger between Arthur Anderson and Ernst and Young on 1 July 2002, and the disappearance of the once reputable Arthur Andersen from the local accounting landscape.

Do auditors have the expertise to conduct audit on big companies whose nature of business is diverse? Currently, the big audit firms dominate a large proportion of the audit market among listed companies. In Malaysia, for example, the Big 6 firms dominate about 70% of audit services for companies in the Kuala Lumpur Stock Exchange (KLSE) (Iskandar, Aman & Maelah, 2000; Rahmat & Iskandar 2002). In the US, the audit market share of the Big 8 firms among the NYSE listed companies was more than 90% (Zeff & Fossum, 1967; Rhode, Whitsell & Kelsey, 1974; Schiff & Fried, 1976; Eichenseher & Danos, 1981; Danos & Eichenseher, 1982), while in Australia the share is about 80% (Craswel, Francis & Taylor 1994).

As a result of the failure of Arthur Anderson to detect symptoms of the Enron and Worldcom collapses, the competency and credibility of the Big 5 have become questionable. Audit reports, it would seem no longer assure correct and accurate information reflecting the true financial condition of the company. In this context, this paper attempts to provide insightful information about the issue of expertise in the audit profession within the framework of audit practice. The objective of this paper is to provide some information on the concept of audit expertise, an understanding of some factors influencing the development of audit expertise and a review of some past research in this area. This paper provides an understanding of this concept within the context of Malaysia, and also based on the experience of other more advanced countries.

AUDIT EXPERTISE

The literature on audit expertise often relates the quality of audit to the audit services provided by big audit firms, which are often used as the surrogate of good quality audit. With current developments facing the profession, more research has been focused on the quality of audit offered by the Big 8/Big 6. Early studies of human information processing in accounting examined the effect of experience on performance of audit tasks. The notion implicit in the research is that
showed a negative relationship between experience and level of consensus of auditors' judgments of internal control during the audit program planning. In the study, no significant correlation was found between self-insight and experience.

In materiality/disclosure decisions, Messier (1983) provided further insight into the issue of whether experience in an audit task improves the quality of professional judgment criteria (consensus, cue weighting, self-insight and stability). Based on the response from subjects with three levels of experience, the results indicated that the less experienced group had less intra-group agreement than the more experienced groups. Results also indicated that auditors with more experience had a better understanding of the decision-making process. The significant effect of experience in terms of consensus in this study is the opposite of that reported by Hamilton and Wright (1982). Messier (1983) suggested that the difference may be due to the nature of the materiality/disclosure decision task, which was considered more complex than an evaluation of the payroll internal control system.

Abdolmohammadi and Wright (1987) offered a similar suggestion in concluding that experience plays a greater role when the judgment is not well structured. They argued that experience might be vital for complex judgments, but unimportant for routine structured decisions. Hence, auditors' experience would result in significant decision-making differences in audit judgments between experienced and inexperienced auditors across tasks of varying complexity when task complexity is explicitly considered. The study relied on the number of years of audit experience for the classification of the two experimental groups. It was concluded that the expertise variable should be properly defined to reflect task complexity and auditor skill/knowledge base (Abdolmohammadi & Wright, 1987, p. 12).

According to Krogstad et al. (1984) and Carpenter and Dirsmith (1992) auditors would exhibit greater consensus, consistency and self-insight than the novice, and no significant difference should be observed in the degree of consensus between partners and seniors. In these studies, experience effects were analysed in the context of assessments for a proposed adjustment to the allowance for bad debts of a hypothetical company by using the hierarchy of positions in the accounting profession (i.e. staff, senior, manager, partner) as the framework. Hence, it was suggested that the different functional role and decision-making context at each of the professional levels might lead to corresponding differences in the tasks. The inexperienced would focus on a greater
ence determined the categories of controls that were recalled. Experienced auditors recalls were more clustered, indicating the use of knowledge bases.

During audit work, auditors receive a large amount of information upon which they make judgments. It is argued that the order of information received would be influenced by the amount of experience an auditor has. A study on sequential belief among auditors involved a role-play of audit managers confronted with an inventory obsolescence issue (Krull et al., 1993). Subjects received pieces of information about the inventory issue in either of two different orders. They were formed into 2 groups of audit managers: one group with less than 4 years experience; and the other group with 4 or more years of experience. The study showed that experienced and inexperienced managers’ judgments were affected differently by the order in which they received evidence. Experienced managers gave weight to last pieces of evidence more heavily than the inexperienced managers. The findings suggest that experienced managers may respond more to new evidence than less experienced managers.

The decision-making behaviour of experts and novices has also been studied using the protocol analysis approach. Bouwman (1982) used protocol analysis to identify the specific strategies and processes they used in analysing financial statements. The analysis of subjects’ protocols demonstrated that novices followed a simple undirected sequential information search. Novices examined information on the basis of a simple trend and lacked diagnostic reasoning processes. In contrast, the experts relied on hypotheses, prototypes and standard lists of questions to organise and direct information search. Experts analysed the data in terms of complex trends and searched for contradictory evidence by first building an overall picture of the firm.

Bouwman (1984) conducted a follow-up study to analyse protocols of a novice group and an expert group in the evaluation of a firm’s position and identification of the underlying problem areas. The study showed that novices and experts followed similar decision-making processes but they used a different process mix in analysing the financial information and in selecting the data for evaluation. They differ significantly in their focus when integrating observations, and findings showed differences in behaviour during the reasoning phase (i.e. the formation of the final decision). Experts developed a “picture of what is going on” and summarised groups of related findings, formulated hypotheses and used a list of typical problems. Novices did not use these tools.
evidence regarding the empirical relation between experience and performance. Secondly, using experience to indicate expertise allowed no conceptual basis for differentiating among auditors with the same level of experience. Some audit managers were likely to be more expert than others at specific audit tasks. The rest of this section reviews some of the studies of knowledge structure in accounting and auditing.

A number of studies have attempted to examine how knowledge structure helps auditors to perform their audit work. These studies have used different audit tasks to gain an understanding on auditors' knowledge structure and its effect on performance. Libby (1985) examined auditors' prior knowledge of financial statement errors and the effect of frequency and recency of experience on accessing the memory for these errors. He also examined how auditors organised financial statement errors in memory. His objective was to provide insights into the knowledge structure which underlay the decisions of experienced auditors. Based on the positive relationship between recency of experience and the generation of error hypothesis, it was concluded that auditors developed error prototypes and perception of error frequency through personal experience, experience associate and training. He suggested that auditors brought to the audit, a wealth of task-related knowledge acquired through years of training and experience. He examined the role of prior knowledge of financial statement errors in the generation of initial diagnostic hypotheses in the preliminary analytical review.

With the knowledge structure they have developed, experts (auditors) perform important auditing tasks that novices cannot (Frederick & Libby, 1986). Frederick and Libby (1986) argued that two types of knowledge are required when predicting financial statement error implications of internal control weaknesses. These are knowledge of the double-entry generating process, which resulted in the concurrence of certain pairs of account errors and knowledge of the association of internal control weaknesses with particular account errors. The relation between financial statements error and internal control is a basic element of audit knowledge, as it forms an important part of the experienced auditor's knowledge store. Auditors were expected to have both types of knowledge, but students were expected to possess only knowledge of account relations. The results demonstrated the manner in which an auditor's knowledge interacts with characteristics of the audit task to produce the predictable expertise effects. It was concluded that although abilities were a part of auditors' expertise, a greater portion of the expertise was composed of task-specific knowledge. Experienced decision-makers used decision heuristics to incorpo-
In this respect, Bonner (1990) found that task-specific knowledge aided the performance of experienced auditors both in the selection and weighting of cues in the assessment of analytical risk, but not in the assessment of control. According to Bonner and Lewis (1990), knowledge and ability are important determinants of expertise which could better explain variations of auditors’ performance in various types of audit task. Variations in task performance occur as a result of differences in the type of knowledge and ability to successfully complete the tasks. They found that, on average, the senior managers performed better than the seniors on all audit tasks, and scored significantly higher on tests of knowledge and problem-solving ability. However, the general experience variable explained less than 1% of the variance in performance scores. Task-specific training and experience, and innate ability provided most of the explanatory power. Hence, general experience is an incomplete measure of task-specific expertise (Bonner & Lewis, 1990). Years of experience will not necessarily be a good indicator of expertise. Different tasks, particularly in accounting/auditing, require varying types of knowledge. Persons with a given amount of experience acquire not all types of knowledge equally. They suggested that auditors’ expertise be designated general domain knowledge, sub-specialty knowledge, world knowledge, and general problem-solving ability. One or more of these types of knowledge and problem-solving ability are required for expert performance. Bonner and Walker (1994) added that the acquisition of auditing knowledge would be further enhanced through outcome feedback combined with understanding of rules.

Further studies show that auditors organise their knowledge structure differently for different audit tasks. Differences in the knowledge structure of experienced and inexperienced auditors is evident in their judgments, namely, in recall of typical and atypical information in a going-concern situation (Choo & Trotman, 1991). Experienced auditors recalled more atypical than typical items than inexperienced auditors, and showed a significantly higher clustering of recalls on the basis of atypical/typical items. With respect to financial statement errors, auditors structured their memory primarily on the basis of audit objective rather than transaction cycle while their audit tasks are structured based on the transaction cycle (Nelson, Libby & Bonner, 1995). Hence, this difference hindered auditors drawing on previous experience when performing certain audit judgments. It was suggested that knowledge has adverse effects when applied to audit tasks which do not have the same structure. Thus, auditors’ knowledge structures for financial statement errors and the structure of audit planning tasks adversely affected auditors’ ability to access and use previously experienced error frequencies. In addition, auditors’ organisation of knowl-
ferent circumstances signalling the occurrence causes of the errors across industries would be expected to affect the knowledge structure of auditors. Common errors that occur include errors in account payable, purchases, sales, account receivable and inventory (Ham et al., 1985). Although the occurrence of errors and error rates may be influenced by a few factors including accounting category and size, Ham et al. (1985) found that industry is the most significant factor causing differences in error incidence. Specifically, the error incidence rate for accounts receivable were lower in the service and manufacturing industries than that in the distribution industry. The error incidence for inventory category was higher in the manufacturing industry than in the distribution industry. The error incidence for purchases category was the highest in the service industry.

In an extended study using a larger set of detected errors drawn from a different time period, Wright and Ashton (1989) also found similar results of great variability in the distribution and pattern of errors across industries. The number of inventory and cost of goods sold errors was relatively larger in manufacturing and merchandising companies; receivables and marketable securities/investments errors were larger in commercial banks, and savings and loans; accrued liabilities and long-term liabilities errors were larger in insurance companies; and property, plant and equipment errors were larger in natural resource companies.

Inter-industry differences are also evident in the employee compensation and accounting-based firm performance variables including stock returns, accounting returns, sales revenue and net interest income (Ely, 1991). Significant inter-industry differences in the relation between compensation, measured as the change in salary plus the short-term bonus award for the current year, and firm performance variables were found between banks, electric utilities, oil and gas firms, and retail groceries from 1978 to 1982. These industry differences existed as the result of differences in production environments, and the way they were reflected in accounting variables.

Differences between industries in terms of the production of audit services are the results of differences in industry inherent risks (Stein et al., 1994). The existence of industry differences in the production of audit services is recognised in terms of professional labour mix provided by audit partners, managers, and seniors (Stein et al., 1994), namely between industrial firms and financial institutions. The measurement of risk and its impact on audit production varied across industries. For instance, the ratio of book value of liabilities to total assets was a significant determinant factor of partner and manager hours for indus-
Iselin, 1999). For instance, materiality thresholds for the finance industry by finance specialist auditors are lower than those for the retail industry by retail specialists.

AUDITORS' INDUSTRY SPECIALISATION

As a result of the industry differences discussed above, auditors develop their expertise according to concentration on specific industries. In assessing the overall audit risk, for example, auditors utilize their knowledge of an entity’s industry as the framework for materiality judgments about the company accounts or class of transaction level. In the US, specialisation by industry has been established among major audit firms (Zeff & Fossum, 1967; Rhode, Whitsell & Kelsey, 1974; Schiff & Fried, 1976; Eichenseher & Danos, 1981; Danos & Eichenseher, 1982). In those studies, it was shown that the Big 8 audited more than 90% of large corporation in the US, whose revenue comprised 94.8% of the total revenue for all companies. The examination of audit work done for large corporate clients revealed the predominance of the Big 8 audit firms in large US industries particularly industrial companies (Rhode et al., 1974). Overall, results indicate the existence of leadership criteria, whereby a firm owed its position to one or two very important clients. The client-industry concentration for large public accounting firms and their leadership position did not change significantly over the period (Schiff & Fried, 1976). The dominance of the Big 8 audit firms in many industries in the US remain stable over the period until 1978 (Eichenseher & Danos, 1981). About four or fewer CPA firms received at least 50% of the revenues deriving from clients in the industry. The level of auditor concentration in a specific industry is a positive function of the degree of client-specific regulation and capital market activity (Danos & Eichenseher, 1982). Danos and Eichenseher (1982) concluded that changes in industry specific CPA firm market share were dependent on the firm intra-industry market share, overall market share and the regulatory nature of the client industry. In “non-regulated” industries, the large industry-specific market share tended to erode.

In Malaysia, Big 6 audit firms dominate about 60% of companies listed in the Kuala Lumpur Stock Exchange (KLSE) between 1991 to 1996 (Iskandar, Aman & Maelah, 2000). Over the period, the Big 6 has expanded their market share within a particular industry as well as into another industry (Iskandar & Aman, 2003). In the year 2000, the Big 5 audit market share among the KLSE listed companies has increased more than 70% (Rahmat & Iskandar, 2002).
the level of audit experience increases, the judgment consensus also increases. Self-insight into the judgments was also found to be positively associated with experience. More experienced auditors exhibited greater insight into their decision-making processes and applied stricter materiality thresholds, particularly in more problematic accounting areas. However, other studies of the effect of experience on audit judgments have produced inconclusive results.

With further developments in the research of audit judgments, the role of experience in auditors' performance has become less important. The use of experience as an operational measure of expertise in auditing research has received a number of criticisms. Bonner and Lewis (1990) argued that general experience is an incomplete measure of auditors' expertise. Bonner and Pennington (1991) questioned the use of experience per se, without adequately incorporating task-specific experience as a predictor of high quality performance or expert skill. They argue that the experience variable does not differentiate auditors' specific experience and training through which they acquire different knowledge. Also it does not have a conceptual basis for differentiation among auditors with the same level of experience, although some auditors may be more expert than others at a specific task.

Since different audit tasks require different types of knowledge, the nature of experience effects on audit judgments cannot be studied in isolation without considering task-specific knowledge (Bonner, 1990). In order to predict the effects of experience on audit task, it would be necessary to specify knowledge and abilities that are necessary to complete such a task (Libby & Luft, 1995). Auditors' performance in a variety of judgment tasks is determined by the appropriateness of the auditors' ability and knowledge, based on a specification of the knowledge necessary to complete particular tasks. On the basis of this argument, auditors would require knowledge of a particular industry in order to perform judgments within the environment of that industry.

For the purpose of certain audit judgments, such as materiality judgments, auditor expertise is specified as industry-specific knowledge. It is necessary that auditors have this industry-specific knowledge to complete a particular task relating to the industry. It can be argued that auditors' industry-specific knowledge is acquired through years of relevant audit experience in a particular industry. Auditors with different amounts of professional experience or with specialised experience in various industries may have different audit strategies (Moriarity & Barron, 1979, p. 130-131). Auditors who have knowledge of a specific industry can be expected to perform better in the judgments made within that industry than in other industries. Like-
Past studies on expert systems provide the basis for arguments that judgments of auditors differ between different industry specialists. Bouwman (1984) showed that financial experts' knowledge bases contain knowledge of specialised industries. Financial experts store a number of company templates in their memory to analyse different types of company for portfolio selection decisions. Cocks and Iselin (1991) examined the content and structure of knowledge bases of expert portfolio managers for corporate equity investments. They found that expert portfolio managers use primary and industrial schemata in equity portfolio selections. The industry basis produced a high consensus between managers in the selections. Cocks and Iselin (1993) studied the corporate memory structure of expert portfolio managers. They found that these experts used primary and industrial schematic bases of categorisation to assist in equity portfolio selection. Results of their multi-trial list presentations and free recall experiments showed that, of the schematic bases, industrial schemata dominate the memory structure of the expert portfolio managers. These schemata helped to facilitate the portfolio managers' recall of companies. Cocks and Iselin (1993) concluded that it is the industrial schemata that dominated the memory structure of the expert portfolio managers. These findings suggest that the industry factor has a great influence on experts' decisions. Since auditors specialise by industry, this research argues that they too will have important industrial schemata in their knowledge structures that will guide audit judgments (including materiality item judgments). Hence, industry specialisation is an important component of overall audit expertise (Craswell et al., 1994:4). It is concluded, therefore, that there is a theoretical link between industry specialisation and audit expertise.

REFERENCES


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