CHAPTER 1: BACKGROUND TO THE RESEARCH

1. Introduction

Auditing is a recognised management technique. It provides managers with an overview of the present situation regarding specific resource(s) and services within an organisation.

Many different types of audits currently exist in the commercial world, e.g. financial audits, communication audits, technical audits, employment audits, etc. This can be ascribed to the fact that auditing is recognised as an accepted management technique, applied to different types of organisational resources. In analogy with this, managers have realised that this technique can also be applied to information resources (Robertson, 1994:34). Barker (1990:2) reinforces Robertson's comment by stating that over the last number of years the focus of audits have shifted from a purely financial one to an interest in all activities performed in organisations, ranging from creativity and marketing to information resources.

In layman's terms the purpose of an information audit can be described as the identification of users' information needs. This information can be used to determine how well these needs are met by the information services department within an organisation. From an information management perspective it is significant that the information audit brings about a shift in focus from storage-related issues to service-oriented issues. During the information auditing process there is also a strong emphasis on determining accountability and responsibility (St Clair, 1995a:2).

2. Problem and context

2.1   What gives rise to the problem?

Currently there is a new awareness of information auditing, as can be deducted from the number of articles that have recently been published on this topic (cf. the sources listed in the Bibliography). Evidence of this is also found in the 1996 Special Libraries Association publication: an information audit kit (The information audit, 1996). This organisation regards the information audit as a topic that is currently very important to information professionals (Hall, 1996:iv).

Once management has been convinced of the necessity of performing an information audit, the auditor is still faced with a number of problems. The main problem seems to be a lack of information auditing methodology.

Currently, as far as the researcher could determine, there exists no one accepted methodology for performing an information audit. Methodologies differ from organisation to organisation, depending on the purpose of the audit in a particular organisation. This finding is supported by a conclusion made by Robertson (1994:35), i.e. that there exists no standardised, professionally accepted information audit methodology as is the case with financial audits, for example. LaRosa (1991:7) indicates, like a number of other authors mentioned here, that there is no set methodology for an information audit. She describes an information audit as "more of an evaluative art [rather] than a science". She discusses *guidelines* that could be followed when performing an information audit within an organisation.

Another problem relating to information audit methodology, is the issue of a lack of standards. This is in stark contrast with financial auditing where "formal Standards lay down audit guidelines, checklists, techniques and operating standards which will apply to all types of organization and have evolved over many years" (Robertson, 1994:35). The quoted author suggests that information scientists draw on the experience from the process of financial auditing to develop a standardised information auditing methodology. Such a standardised methodology is not supposed to limit organisations in the execution of information audits, but rather to guide them in terms of elements to investigate and tasks to include in the performance of such an audit, i.e. a checklist of things to do (Robertson, 1994:36).

Barker (1990:17) also refers to this issue. She identifies two main types of audits, i.e. compliance and advisory audits. An example of the compliance audit is the traditional financial audit whereby aspects regarding financial resources in an organisation are monitored. Advisory audits are used to evaluate the effectiveness and/or efficiency of a specific operation in an organisation. The results are used for long-term, strategic planning. The majority of information audits are advisory audits, but Barker (1990:17) admits that there is room for compliance information audits (as does Robertson). This is a viewpoint that should come as no surprise for information scientists, as the term "audit" brings to mind a connection with accountancy for many people. According to Orna (St Clair, 1995a:1) the information audit enables the auditor to perform "a healthy examination of 'accounts', an activity which [gives] ... an appropriate perspective from which to think about information and information delivery."

Robertson (1994:36) reckons that if a standardised information audit methodology and procedure is developed according to the example set by financial audits, the future might be different from what any information scientist could have expected. He foresees a scenario where an information auditor evaluates (according to a set of standardised criteria) the effectiveness with which an organisation has managed/manages its information resources. On determining that no major problems exist, the auditor issues a certificate to state that the organisation "manages its information resources correctly and efficiently and in accordance with established Standards, complying with best practice at that time".

Robertson (above) highlights the problem of the lack of standards for information audit methodology. Haynes (1995:30) also touches on this problem by stating that information auditing has been performed in various different ways in different environments over the years. According to the researcher, this phenomenon can only be ascribed to a lack of standardisation.

Barker (1990:15), however, does not regard this diversity of methodologies as negative. According to her, different methodologies are suitable for application in different environments with different characteristics and objectives. There are a number of authors who discuss information audit methodology in terms of guidelines, rather than a set, standardised methodology, e.g. Hall (1996:iv), St Clair (1995a:1-5, 1995b:6-8, 1995c:5-7), LaRosa (1991:7-9) etc. Hall (1996:iv) states that there is no one standardised methodology for performing an information audit. The reason for this is that each organisation is unique, "which means the audit must be designed for the particular organisation".

In view of a number of different perspectives on the nature of the information audit, the scenario of a standardised information audit methodology can be questioned. According to (Barker, 1990:19-22) information audits cover a wide range of subjects, e.g. internal vs. external information resources, formal vs. informal information systems/channels, official vs. unofficial information.

Robertson (1994:34) "classifies" information audits in terms of their relative simplicity or sophistication. For example: verifying the existence of specific records in a records management system is a relatively simple information audit, whereas an in-depth investigation of the state of organisational information resources, the identification of problems and suggestion of possible solutions can be regarded as a sophisticated information audit.

The question that arises from the discussion above, is whether it is possible (and desirable) to develop a standardised methodology for information auditing (cf. paragraph 2.2).

2.2   Statement of problem/Purpose of the study

The researcher will investigate whether it is possible (and desirable) to develop a standardised methodology for information auditing, by investigating the nature and characteristics of a typical information audit.

2.3   Sub-problems

Sub-problems that will be addressed in this study, include the following:

- The nature of auditing will be investigated (from a financial perspective).
- The nature, characteristics and methodologies of various types of audits will be investigated, amongst which communication audits, information systems audits, intelligence audits, knowledge audits as well as the process of information mapping.
- The difference, if any, between the process of information auditing and infomapping.
- The nature and characteristics of the information audits will be investigated.
- The researcher will investigate the contribution of information auditing, if any, to information management.
- An exposition will be given of a variety of information audit methodologies and these will be compared.
- The relevance/necessity of information auditing will be discussed.
- The researcher will attempt to provide guidelines for a general/standardised information audit methodology.

2.4   Necessity for finding a solution to the problem

It is imperative that information scientists will first have to find answers to the questions raised thus far in the discussion, if information auditing is to be recognised as a valuable (information) management technique.

From the discussion thus far, it becomes clear that there is scope for the development of information auditing methodology as well as the development of information auditing as a(n) (information) management technique (Robertson, 1994:36).

2.5   Defining the boundaries of the study terrain

Information science is a science that has been developed from a variety of disciplines, amongst which are management sciences, computer science, applied computer science and library science (Blom, 1990:140). The same multidisciplinary approach applies when one looks at the information audit, as will be illustrated below:

- Auditing is a recognised management technique, as has been indicated in the Introduction (paragraph 1). In view of this, the characteristics of a typical financial audit will be investigated.
- On the other hand, a communication audit evaluates the effectiveness of communication (i.e. information flow) within an organisation. Therefore, the researcher will also investigate the nature and characteristics of a typical communication audit.
- Information mapping (also referred to as infomapping) is a technique that was developed by Burk and Horton (1987) and has been used to provide companies with an overview of their information resources. The researcher will investigate the nature and characteristics of information mapping, as there exist various perspectives on this technique, e.g. information mapping as discussed by Best (1985:75-94).
- Attention will also be given to the process of auditing (electronic) information systems, and the researcher will indicate whether this is the same as information auditing, or not.
- The main component of the study will concentrate on information audit methodology.

The study will be performed from an information science perspective, regarding information auditing as a tool for effective organisational information management. Furthermore, this study will not be empirical, but will attempt to integrate various viewpoints from the existing literature on the topic.

2.6   Definitions of key terms

As background and introduction to this research, the researcher will quote definitions for the various concepts, as it was found in the literature. Working definitions for each of the concepts will be developed as the various topics are addressed.

2.6.1 Information audit

The concepts "information audit" and "needs assessment" are sometimes regarded as synonyms. St Clair (1995a:1) stresses that this is not the case. The information audit is used when one wants to determine the real role of information in an organisation. Once this has been done, the role of information is examined within the context of the users' needs. In-depth interviews help the auditor to compile a holistic picture of the state of information resources in an organisation. This information can be used, amongst others, when developing an organisational information system.

LaRosa (1991:7) defines a corporate information audit as "a systematic method of exploring and analysing where a library's various publics are going strategically, and of determining the challenges and obstacles facing those publics". The information gained from an information audit ought to give the library manager a clear indication of the current and future information needs of its users/clients and this in turn directs strategic planning.

In an attempt to define what an information audit is, one can investigate what type of results can be expected from an information audit. An information audit attempts to provide a realistic picture of the state of the information resources in an organisation. Therefore, the information audit is more comprehensive than a traditional "needs assessment", as the information audit "links the provision of information services with a healthy examination of 'accounts'" (Orna, 1990:44). The information audit is also used to determine/investigate accountability and responsibility in terms of organisational information resources (St Clair, 1996:9).

2.6.2 Financial audit

Auditing is the process whereby an independent examination of financial information of any entity (whether profit-oriented or not and irrespective of its size or legal form) takes place with a view to express an opinion thereon (Puttick & Van Esch, 1992:44). It can therefore be said that the main objective of auditing is to express an opinion on the fairness of presentation (by management) of the financial position at a specific date and the results of its operations as well as the cash flow for the period (Human, 1996:3).

2.6.3 Information mapping

From an information science perspective, infomapping is a technique that was developed by Burk and Horton (1987). Mapping is a recognised resource management technique and was adapted for information resources management by these two authors. Infomapping is a process whereby organisations can discover all their corporate information resources, i.e. "critical sources of supply". Infomapping involves the identification, location and measuring of organisational information resources (Burk & Horton, 1987:2-4, 28).

2.6.4 Communication audit

A communication audit is a process whereby the state of organisational communications is examined. This is done by focusing on aspects such as "communication needs, policies, practices, and capabilities". The purpose of a

communication audit is to collect information that can be used to design a communication strategy for the organisation. A characteristic of a communication audit is that the findings should be used to make recommendations and/or find solutions to identified problems (Kopec, 1982:24).

2.7   Assumptions made

The research for this dissertation will be conducted based on the premise that information is a recognised strategic resource within organisations. In view of this, information (as a resource) should be managed within the organisational context. Information is however, a unique resource in terms of its characteristics.

2.8   The contribution of this study to the solution of the problem

During the period that this research was conducted (1996-1999), the researcher could not find many documents in which different information audit methodologies were critically discussed. What one finds in the literature is either individual authors who discuss individual information audit methodologies or case studies of the use of specific methodologies. Very few of these documents can be regarded as integrated documents on information audit methodology. The only exceptions are the publication by the Special libraries association (The information audit, 1996), the occasional paper by Barker (1990) and the article by Ellis et al (1993:134-151). As has been mentioned, the Special libraries association published an Information audit kit. Strictly speaking this is not an integrated document, as the publication consists of reprints of a number of articles on the information audit. As Hall (1996:iv) states in the introduction to this collection of articles, the various articles focus on different aspects relating to the information audit, e.g. St Clair discusses how one can conduct and information audit within a one-person library, while Robertson discusses the information audit from a financial perspective. Barker (1990) investigates a number of information audit methodologies and designs a methodology based on these. This methodology is used to perform an information audit in the R&D division of a pharmaceutical company. The third "integrated" source, the article by Ellis et al (1993) focuses on different information audit methodologies, communication audit methodologies and information mapping methodologies. These are discussed in terms of the different types of focuses adopted. The methodologies are then evaluated in terms of their applications in different organisations.

With this study the researcher will integrate a number of perspectives on information auditing into one document. The researcher will investigate the viability of developing a standardised information audit methodology in the light of different opinions of various authors. In conclusion the researcher will attempt to develop a general, standardised information audit methodology, or if this proves not to be possible, to lay down general guidelines for information audit methodology.

3. An overview of the current state of research on the topic

3.1   Nature of theory and research

Robertson (1994:34) claims that a modern audit is more limited in its scope and execution than is implied by the definition of a traditional audit. A modern audit is usually limited to an interview with key personnel in order to find a solution to a specific operating problem or to justify the implementation of a new service in an organisation.

Robertson (1994:36) identifies three general types of financial audits commonly used in the commercial environment. These are financial audits used for:

- "the physical verification of assets and liabilities;
- control and compliance issues; and
- investigative matters".

According to Robertson (1994:36) the majority of information audits currently performed in organisations, can be classified as similar to the first type of financial audit listed above, i.e. these information audits are used to compile inventories of organisational information resources. A few of the information audits performed in organisations can be classified as similar to the third type of financial audit listed above, i.e. investigative for reasons that differ from those for which an investigative financial audit is performed (e.g. in situations where improper handling of funds are suspected).

Haynes (1995:30) regards the information audit as a tool to support the development and design of organisational information systems. Radical changes brought about by business process re-engineering (BPR), often lead to new demands for information services and products. An information audit can provide the information necessary for improving and/or implementing information services and products to satisfy users' needs.

The main purpose of an information audit is to improve organisational performance (by ensuring that users' needs are being met by information systems and products) (Haynes, 1995:30). This purpose implies a number of objectives to be met, e.g. the identification of information problem areas and/or gaps in information provision (Haynes, 1995:32). The researcher will provide a more comprehensive overview of the purpose and advantages of the information audit in Chapter 4.

3.2   Main findings from the literature

It is a well-known fact that information is increasingly being recognised as a strategic corporate resource. Following from this, organisations invest valuable resources - "often considerable resources" - in information services departments. The information services manager has the responsibility of justifying this investment to management (St Clair, 1996:9).

The traditional way in which this is done, is by means of reports to management. The information services manager usually compiles these reports on a monthly, quarterly and/or annual basis. Typical information included in these reports, are feedback from the users of the information services department, interpretations of statistical information, e.g. frequency of usage of specific information services and/or products, etc. These tools contain sufficient information on the functioning of the information services department. At times, however, more information might be needed. In order to obtain an overview, a so-called "big picture", of the state of the information services department, an information audit can be conducted. Examples of times when an information audit could ideally be conducted, include the following: when the purpose, services and/or products of the information services department must be evaluated, when a need for new information services and/or products are identified, or when management questions the existence and/or value of the information services department, (St Clair, 1996:9).

The results of a well-performed information audit are relevant information on the state of information (resources) in an organisation. Once one has an understanding of the way different types of information are being used in an organisation, so-called "information gaps" can be identified and new information products and services can be developed. This information can be used effectively for planning purposes by the corporate library or the chief information officer/information manager.

When organisations face economic difficulties, the first cutbacks are usually proposed in the information centre. In view of this, the information audit can be invaluable in documenting the value of information for the organisation. Additionally, by identifying ways in which to meet the real information needs within the organisation, the cost-effectiveness of the information centre can be improved (Hall, 1996:iv).

At the same time, the audit interviews provide an opportunity for marketing the library or corporate information function and its services and products, a so-called information advantage.

3.3 Conclusions/proposals from the literature

- Information audits represent the state of information in an organisation at one particular point in time. A way/method will have to be found to follow up such an investigation in order to keep information on organisational information resources up to date. Robertson (1994:35) suggests once again that information scientist can look to financial auditors for advice on this issue, as financial audits are performed frequently in organisations for a variety of reasons.

- In order for the above scenario to become reality, it is imperative that properly qualified information auditors should be trained, preferably by means of acknowledged training programmes and professional examinations (Robertson, 1994:36).

3.4 Motivation from the literature for the continuation of the research

The awareness of the importance of information auditing seems to be limited to a small section of the information science community. The majority of (general) managers still do not realise the full value of organisational information auditing, i.e. that the results/findings of an information audit form the basis for proper organisational information management, while at the same time often helping to resolve information (and communication) problems that have not been apparent. This is verified by a statement made by Robertson (1994: 34): "At present, information audits are usually conducted as specific projects to address particular issues", e.g. mergers, introduction of new information technology into an organisation etc. Convincing managers of the value of information auditing remains a challenge, as the real benefits of this process are intangible and largely unquantifiable.

From the above it becomes clear that there is scope for the development of information auditing methodology as well as the development of information auditing as a(n) (information) management technique (Robertson, 1994:36).

4. Methodology

This dissertation is a literature review and critical synthesis of the available material on information auditing. As this study is not empirical, the researcher has conducted a number of literature searches on the topics of the information audit, the communications audit, infomapping, the financial audit and other types of audits, amongst which the environmental audit. Searches were performed on CD-ROM databases (e.g. LISA and INSPEC). Literature searches were also performed on a number of online databases, via DIALOG database host as well as databases through other vendors such as Gale Group and Ebscohost. Literature searches were furthermore done on the Internet via the World-Wide Web. By means of e-mail communication with students doing research on the same topic, more references were obtained.

The dissertation consists of a critical analysis and synthesis of the literature that were studied. Where applicable different opinions from the literature are critically compared.

5. Structuring of chapters

The chapters making up this study, will focus on the following topics:

1. Introduction and background to the research

2. The financial audit

3. The communication audit, information mapping, the information systems audit, the knowledge audit and the intelligence audit

4. The information audit

5. Information audit methodologies

6. Conclusion.