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# Investigating Information Auditing

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## The Author

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## The Occasion

The dissertation on which this article is based was awarded a commendation by the 1997 LIRG postgraduate award panel.

## Abstract

A research project explored information auditing. For this information management technique there are no agreed standards and little explicit recognition of what constitute the basic steps. Through a critical examination of published literature common key stages were identified, extracted and plotted on a series of matrices for analysis. The findings highlight the necessary stages of an information audit, comment on good practice identified, and explore some features only applicable in certain circumstances.

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## Background

The research was undertaken over a three-month period in 1997 as a dissertation project. The focus for the research came from recognition that much of the literature concerning information audit was lacking in explicit details of information auditing procedures. It was considered that making these stages explicit would prove useful to those managing information in organisations.

The main findings of the research are summarised in this article. However, the most extensive literature review has not been detailed here.

## Introduction to the study.

Current sources of literature have reached a consensus that information audits are an essential management tool, vital to any organisation's effective deployment and use of its information resources. It is only relatively recently however, that the term 'information audit' has been used to refer to a specific process - although other terms in the literature such as 'information resource management' have referred implicitly to the processes involved in information auditing.

Despite this gradual recognition of information auditing as a stand alone procedure there has not been any explicit recognition or agreement amongst authors of what constitute the necessary basic steps in conducting an information audit. Indeed Robertson (1994) remarked that there is "no single accepted methodology for auditing in the information sector" and this is still the case today. This situation contrasts with other auditing procedures. Financial auditing has standards such as those formulated by the Association of Certified Accountants (Howard, 1982). Quality auditing has the standards ISO 9000 and BS 5750 (Philip, 1994). Although less well established even communications auditing can follow the guidelines of the International Communications Association (Goldhaber and Rogers, 1979) where the necessary stages of the process are clearly outlined.

It is possible that the mutable nature of information, the many different forms which it takes, and the resultant wide range of processes that an information audit may be required to cover have resulted in authors expounding methodologies to fit



specific circumstances and philosophies. No study has attempted to analyse fully the variety of methodologies required to identify and make explicit the steps that all information audits should follow. Such an analysis might enable a model of the complete information auditing process to be constructed.

### **Aims and methodology**

The main aims of the project were:

- To examine the trends, suggested routine procedures and "good practice" that should be followed in conducting an information audit.
- To evaluate the disciplined routine procedures used in other types of audits and information management activities.
- To highlight the "core" stages necessary in any form of information audit and identify additional processes applicable in particular circumstances.
- To determine whether it is possible to model the information audit process.

### **Methodology**

An extensive literature review was conducted. This involved an examination of the published literature on information auditing in a number of environments. In addition, some consideration was given to other types of audit methodology, for example, communications audits and quality audits to ascertain whether these methodologies have features which may provide useful contributions to a set of information auditing procedures.

From the literature individual stages of audit methodologies were identified and extracted and tabulated for analysis and comparison. Data collected was analysed in order to discover which features were common and were therefore a necessary component in a complete model of the information audit process. Unique features were also noted, which could be used as modifications to a model to suit specific circumstances.

In addition to an analysis of full methodologies, other sources of literature concerned with

information audit were examined. In some cases these presented partial methodologies and were not very detailed. In other cases sources presented examples of good practice. All these sources were valuable in that they provided information about the stages and activities that an information audit must necessarily contain.

The data collected from the literature review was plotted upon a series of matrices for comparison and analysis. The matrix approach was considered to be the most appropriate method as it provided a means of obtaining a complete picture of all of the procedural features cited in the literature. The process consisted of identifying all these features and plotting them on one axis of the matrix - with the source from which they were identified plotted on the other axis. As a result, one axis of the matrix contained a listing of every element that could be thought to be involved in an information audit from the entire body of literature examined. The other axis was useful as it allowed references to a particular stage to be followed up in the literature. Upon completion, the matrices provided a clear picture of which features were considered to be part of an information audit and made it possible to identify all the features which a comprehensive information audit should contain.

Although the literature review examined a wide range of sources and outlined the methodologies and "good practice" found therein, ultimately sixteen items of literature which were mainly concerned with information auditing made the most significant contribution to the production of the matrices. (Two of these covered communication auditing and quality auditing.)

Data collected from the above stages were then used to determine whether the information audit process could be modelled.

In this piece of research the more familiar research methodologies and techniques commonly employed in LIS research, such as interviews and questionnaires, were not used as the research focused on auditing methodologies available in published material. As such, this was predominantly an extensive piece of desk research, which would not have benefited from the qualitative or quantitative data which a questionnaire survey, for example, would provide. Any unpublished



methodologies are most likely those that are intended to be kept confidential. The research included an examination of the literature on information auditing in a number of environments such as libraries and information centres, health services and commercial enterprises.

Quality auditing and communications auditing procedures were included in the examination of the literature in addition to some consideration of other methods of examining information use such as information mapping and Soft Systems Methodology.

### Research Findings

The following outlines the key findings.

The literature review was an ongoing process during the research. As a result, the headings under which the literature was categorised were constantly revised and evolved as new items of literature were discovered and examined. The review considered each source of literature in terms of the particular headings identified, adding headings if and when necessary, in order to identify what the current body of literature had in common. In other reviews of the literature concerning information audit, some authors, for example, Ellis et al. (1993) have categorised methodologies in a more simplistic manner, such as into those which were cost / benefit or geographical approaches.

Plotting the procedural features on a series of matrices enabled precise methodological stages to be identified. In a few cases the headings used in the literature review and those in the matrices of procedural features were the same, although generally the items in the matrices were more detailed and focused only on procedural methodological stages. The analysis of the matrices and the literature review showed that individual methodologies and suggestions about what constitutes good practice vary greatly. However, some points of commonality, which a comprehensive information audit would necessarily contain, were identified.

The list below gives the headings that were ultimately used in the literature review and outlines the most relevant topics identified. The items in

bold text are major headings and items in plain text are subheadings.

### **The Importance of Information**

Information Audits - Some Definitions  
How They Are Used - Audit Philosophy  
Who Conducts the Audit?  
What is audited? Defining Boundaries and Goals

### **Preliminary Stages**

Initial Motivation  
Management Support  
Initial Investigation  
Planning the Information Audit  
Proposals and Informing Staff  
Data Gathering Techniques, Analysis Tools and Reporting  
Piloting and Revision  
Sampling and Training

### **Conducting the Information Audit**

Fact Finding - Inventory of Information Resources  
Fact Finding - Assessing Users Needs  
Fact Finding - Mapping Information Flows  
Analysis and Interpretation  
Costing and Valuing Information Resources  
Alternative Solutions

### **Reporting**

### **Monitoring Review and Follow Up**

The following points of commonality which all information audits should contain were identified:

- a particular philosophy should be adopted; scope and objectives should be clearly defined  
*Apart from being considered a routine procedure fundamental to managing information resources, a number of other philosophies which govern why an information audit will be conducted. These include: formulation or review of corporate information policy; a precursor for business process re-engineering activities; a precursor for the introduction or upgrading to an organisation's IT infrastructure; and an examination of a library's effectiveness in providing information to its users. The initial philosophy needs to be made clear from the beginning of the audit.*
- must involve at least one of the functions of inventorying, advisory or compliance: a comprehensive information audit would contain



a combination of all three of these functions

*The inventorying function involves building a comprehensive profile of the information resources (including individuals) present within an organisation. This may also include identifying areas of ineffective information use - for example, gaps in information provision and unnecessary duplication of resources. Compliance testing examines information generation and use to ascertain whether the correct information is available to allow an organisation to conform to internal and external standards - such as legal liability, best practice and agreed service standards. The advisory function addresses particular issues: for example, an information audit might be used to improve information use in a functional unit, as a precursor to the formulation of an organisational information policy, or when making strategic decisions and managing change.*

- constraints on the audit should be carefully considered:

*It is important to note that this does not refer to artificial constraints on the information audit process, but that factors such as confidentiality, security, limits on time scales and availability of resources are actual constraints which impact on the process and need to be carefully considered beforehand. In addition, corporate culture will have an influence on the way in which the audit is approached.*

- organisational goals and strategies should be recognised
- senior management backing is essential
- extensive preparatory work is important:

*This must include the development of necessary data capture instruments and include liaison with, and presentation of information, to all staff as individuals and departmental members whose units will be subjected to the audit process. In essence for the process to be applied to a particular organisation, it should be developed for that organisation. If the process is not fully developed before initiation the staff may lose confidence if they see developments being made 'on the hoof' as the audit progresses.*

- appropriate and consistent data gathering, analysis and reporting tools should be assembled
- must contain activities which fall into each of the categories of: fact finding; analysis and interpretation; and reporting
- must be systematic and consistent in approach throughout
- inventorying information resources and examining users' information needs through questionnaire and interview are common activities.

### **Identification of features applicable to particular circumstances**

In addition, there were identified some significant points of divergence, i.e. features which may be only applicable in certain circumstances. It is not the intention to comment on all of these, but attention will be paid to those of most interest.

- variations in approach, e.g. top-down, bottom-up or a combination of both
- focus can range from a single functional unit to a whole organisation
- a specific problem area or system may be audited e.g. IT infrastructure or internally generated information
- audits may include a combination of two or more of the inventorying, compliance testing or advisory functions:

*Information auditing is not generally considered to be a compliance audit process. However, with the increasing recognition that the information provision can have a legal liability aspect, it could be suggested that there is a developing need for the evolution of a compliance approach to information auditing. In the context of a comprehensive model of information auditing this would be a fundamental requirement. An appropriate model could enable the limits of liability to be identified and defined. Compliance, however, is an important aspect of other types of audit such as quality audit.*

- the audit team may be composed of members of staff from the organisation being audited or external staff or a combination of the two:



*General consensus suggests that the audit should ideally be conducted by a combination of external professionals and members of staff from the organisation being audited to ensure an in-depth understanding of the organisation while building in audit objectivity. Where the ownership of the audit is so shared, it can have an extremely positive effect on the level of co-operation in achieving the audit objectives.*

- piloting may or may not take place:  
*Piloting is referred to in only a few literature sources. Piloting of the audit process can, however, be important as it allows for fine tuning and assessment of whether the correct types of data are being collected which provide coherence between: expectation of target audience; analysis tools; and reporting methods.*
- variations occur in data collection, analysis and reporting techniques
- a cost/benefit approach may or may not be taken
- an inventory approach may or may not be taken
- alternative solutions may or may not be generated
- recommendations and/or solutions may or may not be proposed
- monitoring and feedback processes vary
- specific pre-audit activities may be separated from the audit proper or they may all be considered as part of the information audit.

### **Considerations for modelling the Information audit process.**

The review of the literature and matrix analysis of the data provided valuable insights into the possibility of modelling the information audit process. The list of features extracted provides the complete range of processes involved. However, the literature revealed no clear definition in terms of breadth and depth of what constitutes an information audit.

If it is assumed that by taking the various procedural stages presented the total scope of the information audit process is defined, then all the unique elements identified in, and extracted from, the literature could be considered for potential inclusion in the information audit model.

A further deduction is that writers have tended to consider the information audit process in specific contexts or particular circumstances so none have included every feature of the total process which might be involved in an information audit. It would seem that an all embracing model should have built within it the possibility and potential for adaptation to fit particular circumstances.

The apparently exhaustive list of ideas that feature in this comprehensive information audit process may be regarded as a series of coherently organised reference points, or check lists, which could be used to build audit models for particular situations. The author has the development of one such model in hand in current research work.

### **Conclusions**

Some conclusions drawn from the project deal with quite specific matters and others are more general. Amongst the more important general conclusions are:

- information auditing can be considered a useful technique to assist in and conduct an evaluation of an organisation's information resource management activities
- the range and quality of the existing literature is extremely variable with few fully explicit methodologies; the activities which constitute the analysis involved in an information audit are generally not well documented in the literature
- useful information relevant to information auditing can be extracted from other auditing procedures
- most of the literature fails to emphasise the importance of an extremely thorough examination of an organisation as an essential part of the information audit
- methodological considerations, procedures and recommended good practice vary greatly in the literature and information audits are currently used to fulfil a number of diverse objectives and to fulfil a variety of expectations
- a wide variety of techniques of analysis and data collection and forms of presentation can be employed, although inventorying information resources, mapping information flows and assessing users' information needs are the most common fact finding activities

- no standard information auditing procedure exists which can be reflected in the variety of objectives outlined
- information audit practice remains tightly focused on evaluating the current information condition of an organisation, but fails to provide a baseline for comparing what the information condition should ideally be or for introducing standards of performance for various information activities
- due to the 'soft' nature of information and the fact that it is most commonly evaluated qualitatively there is less possibility of formulating rigid universally applicable standards and procedures to which other types of audit, such as quality audits and financial audits, adhere.

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