CHAPTER 4: THE INFORMATION AUDIT – AN OVERVIEW

Chapter 4: Overview

The main aim of this chapter is to provide the reader with extensive background information on information auditing. In this chapter the researcher will give an overview of different definitions of the concept information audit and will develop a working definition. The reasons for performing an information audit will be discussed and the real aim/purpose of an information audit will be identified. The researcher will pay attention to the advantages that result from performing an information audit and the role of the information audit in the information management process will be investigated.

1. Introduction

Many different types of audits currently exist in the commercial world, e.g. financial audits, communication audits, technical audits, environmental audits etc. This can be ascribed to the fact that auditing is a recognised management technique that is applied to different types of organisational resources. These resources can include basically anything, ranging from buildings, equipment and book orders to so-called "shadowy" assets such as goodwill (Hamilton, 1993:75). In analogy with this, managers have realised that this technique, i.e. auditing, can also be applied to information resources (Robertson, 1994:34).

At the beginning of the 1990s, the term "information audit" was not commonly used in information science (Lubbe & Boon, 1992:215). In doing the research for this dissertation over the period 1995-1999 the researcher has found that from 1990 onwards there has been a new (and increased) awareness of information auditing, as is evident from the number of publications focusing on this topic (cf. Bibliography). This awareness seems, however, 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. These findings of the researcher are 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.

In recent years, information has increasingly been recognised and accepted as an organisational resource. Hamilton (1993:75) even goes as far as suggesting that information is the "core commodity" of a company. In view of this, it seems imperative that the information function in a company should also be audited.

2. Definition: Information audit

In the literature on the topic one finds that individual authors define the concept of the "information audit" in different ways and describe different methodologies for performing information audits. The researcher will start this section of the discussion by giving an overview of some of these definitions.

As has been discussed in Chapter 2, an audit is a process whereby something is evaluated, studied, discovered and/or monitored. The information gained from an audit, is typically used for planning, decision making and the implementation of improvements (Lubbe & Boon, 1992:215).

The information audit is used to determine "among other things the value, functioning, evaluation and utility of information entities in an organization." Furthermore the audit

should be used to determine if and how the information entities contribute to the attainment of corporate objectives and goals. This is not a once-off process, but an ongoing one (Lubbe & Boon, 1992:215). Booth & Haines (1993:224) also stress the importance of repeating the information audit at regular intervals.

A commonly accepted definition of the concept *information audit*, is the one developed by the Information Resources Network: "An information audit is a systematic examination of information use, resources and flows, for the verification by reference, with people and existing documents, in order to establish the extent to which they are contributing to an organisation's objectives" (Gibson, 1996:12). This definition was used by Swash (1997:314) as a working definition for an information audit during a project of the King's Fund Centre in London to develop a new information policy for the Regional Health Authority. Booth & Haines (1993:224) also use this definition and in so doing contradict their statement that an information audit is the same as a needs assessment (see the discussion below: *What an information audit is not*, paragraph 2.1).

St Clair (1995a:1) quotes a definition for an information audit by Orna. According to this definition an information audit is used to determine:

- the information holdings of an organisation;
- how an organisation uses information;
- who manages the information within an organisation;
- the relationship between the information-related issues listed above and the overall functioning of the organisation.

In another article St Clair (1996:9) states that he regards LaRosa's definition of the concept "information audit" as the best one and quotes it as follows: "a systematic method of exploring and analyzing where a library's various publics are going strategically and of determining the challenges and obstacles facing those publics". In layman's terms it can be explained as follows:

- An information audit determines the users' (i.e. Employees') information needs;
- It evaluates the impact of information usage on the way in which the employees do their jobs;
- It identifies barriers to the contribution of the information services department to the success of the employees' performance;
- It determines the state of information resources within the organisation and decides whether alternative information sources are needed in order to successfully satisfy users' needs;
- It results in appropriate action being taken (St Clair, 1996:9).

In summary it can be said that the information gained from an information audit should give the library/information manager a clear indication of the current and future information needs of its users/clients and this in turn directs strategic planning.

In a study performed by Evan-Wong (1997:2) the information audit is used and defined as a tool to assess the resources that are available and that can be used to develop information products and services. Riley (1975:24-25) describes the information audit as a structured (disciplined) process whereby information products are evaluated.

Quinn (1979:18) defines an information audit[1] as a process whereby:

- An overview is given of the state of information in an organisation.
- The provision of information is reviewed.
- An opinion is given of the efficiency of the information system.
- It is determined whether the information system supports the attainment of corporate goals.

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[1] In this context, the concept INFORMATION AUDIT is a registered trademark of Arthur D. Little, Inc. (Quinn, 1979:18).

- The way in which users' real information needs are met, is evaluated.
- The current information system staff members are evaluated in terms of their expertise.

The researcher regards Quinn's definition of an information audit as limited in the sense that the concept information system as used in the definition refers exclusively to the corporate library/information centre and not to all organisational information resources.

De Vaal & Du Toit (1995:122) highlight a number of definitions of the concept information audit. The information audit is described as:

- a tool to determine the existence of corporate as well as personal records management systems;
- a method to identify corporate information resources; and
- a process whereby it is determined whether, and how, information resources support corporate, as well as department goals.

The working definition used by De Vaal & Du Toit (1995:122) state that an information audit is an ongoing process whereby corporate information resources are identified, and the value, functioning and usage of these resources are analysed with a purpose to establishing effective information management processes in an organisation.

Stanat (1990:2) defines the concept, strategic information audit. According to her, a strategic information audit evaluates:

- An existing organisational information system/network;.
- Current information needs, specifically information needs by functional unit.
- How effectively existing information sources and services satisfy the above-mentioned needs.
- How effectively information is disseminated throughout the organisation.
- The use of information technology (Stanat, 1990:2).

Furthermore a strategic information audit identifies:

- The information management objectives of the organisation.
- Areas where information gaps and/or inconsistencies exist, as well as areas where duplication takes place.
- Alternative/new information sources and services that could satisfy identified information needs.
- What could be added to the information system/network or what could be changed in order to make it more effective.

The ideal scenario is to interview as many employees from as many different units within the organisation, as is possible. The answers and suggestions obtained during the interviews help the auditor to compile a broad picture of the state of information resources within the organisation (Stanat, 1990:2-3).

Dubois (1995:21) defines an information audit as the mapping, analysis, costing and rationalisation of "resources devoted to information". This allows one to determine the contribution of these resources to the effective functioning of an organisation. Previously unrecognised or "hidden" information resources might become more visible, e.g. undocumented formal and informal communication flows in an organisation that might be of crucial importance and value to an organisation.

Dubois' (1995:21) definition of an information audit is based on the definition by Stanat, but he points out that Stanat's definition does not provide for or make mention of "follow-up mechanisms" as part of the information auditing process. This point of view is supported by the researcher who has detected a similar gap in other definitions of the process.

Barker's (1990:15) definition of the concept "information audit" exceeds the limits of a definition. She gives an extensive discussion of what an information audit entails,

instead of merely defining the concept. Her discussion focuses on three issues, i.e. the nature, subject and scope of the information audit.

- Nature of the information audit

Barker (1990:17) 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 a place for compliance information audits (cf. also Robertson's view on this issue, as discussed in Chapter 1).

Barker (1990:17) warns against combining the characteristics of both the above-mentioned types of audits into one type of information audit, as the validity of such an audit might be negatively affected.

- Subject of the information audit

The subject of an information audit is the organisational information system (Barker, 1990:17).

- Scope of the information audit

Barker (1990:22) discusses the scope of the operational information audit in terms of its typical objectives. These include, amongst others, the following:

- Determine the purpose of the information system and the successful accomplishment thereof (i.e. satisfying users' information needs) – this is usually determined through user surveys and analysis.
- Determine the purpose of the information system and how successfully this supports the achievement of organisational objectives. (this presupposes a thorough understanding and knowledge of organisational functioning, philosophy and culture.).
- Determine the relevance and reliability of the information system.
- Measure the usage of resources – information audit methodologies are often lacking in this aspect as they concentrate on qualitative rather than quantitative results.
- Monitor whether regulations and standards are adhered to (if this aspect is incompatible with the objectives of the advisory information audit, it can be addressed in a separate audit).

2.1 "What an information audit is not"

Another way of defining a concept, is by focusing on what it is not. The researcher will investigate the misconceptions that surround the concept of the "information audit".

The first (and most common) misconception is that an information audit is the same as an information needs assessment. For example: Booth & Haines (1993:224) regard the concept "information audit" as a synonym for "information needs analysis". St Clair (1995a:1) stresses that this is not the case. According to him 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 for various purposes, e.g. when developing an organisational information system.

Jurek (1997:42) also points out that an information audit (performed within the context of secondary research) differs from a traditional needs assessment. The scope of the information audit goes beyond the mere identification of information needs. An information audit also includes a phase during which the monetary value of

information resources is calculated. This information is important in determining budgetary priorities and in working out a cost-effective information management plan for the organisation (Jurek, 1997:42).

The researcher comes to the conclusion that a typical information audit would include, amongst other things, an information needs assessment.

Furthermore, the information audit is not just an inventory of computers, information sources and the like. When the expenses of these types of equipment are added up, the result reflects the money spent on information conduits, whereas the information audit attempts to determine the real value of information content within the context of the specific organisation (St Clair, 1996:9).

A third misconception is that an information audit is a form of industrial espionage. This originates from the well-known fact that the term *audit* often creates fear. Owing to this connotation, it is often thought that an information audit is aimed at identifying staff who should lose their jobs, or seizing personal documents, i.e. a form of industrial espionage. This is not the case (Webb, 1994:9).

With this explanation of what an "information audit is not", one can clarify 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).

Many, if not all, of the aspects mentioned in the previous paragraph may be included when an information audit is conducted in an organisation, but the nature of a proper information audit is not limited to one of the above (St Clair, 1996:9).

2.2 Working definition: Information audit

For the purpose of this study, the researcher has formulated the following definition of the concept "information audit":

An information audit entails the systematic examination of the information resources, information use, information flows and the management of these in an organisation. It involves the identification of users' information needs and how effectively (or not) these are being met. In addition to this, the (monetary) cost and the value of the information resources to the organisation are calculated and determined. All this is done with a view to determining whether the organisational information environment contributes to the attainment of the organisational objectives and furthermore, to the establishment and implementation of effective information management principles and procedures. This is done so that information can be used to help the organization maintain its competitive edge.

3. The aim of an information audit

Following on the discussion of the various definitions of the concept, "information audit", the researcher will determine what the major (and minor) aims/purposes of the information audit are. Different authors describe the aim/purpose of an information audit in different ways. A number of these perspectives will be examined.

The researcher has determined that auditing is a recognised management technique. According to St Clair (1995a:2) auditing is used to provide managers with an overview of the present situation regarding specific resource(s) and services within an organisation. It then follows that the purpose of an information audit is to determine the users' needs as well as how well these needs are met. In the information environment 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 focus on determining accountability and responsibility.

Three authors, Haynes (1995:30,32), Underwood (1994:61) and Hall (1996:iv), describe the main purpose of an information audit in the same way. According to them 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. The identification of the real information needs within an organisation and the compilation of an inventory of information resources available to the organisation are central to the information audit. All the information that is gathered during the auditing process is used to compile an overview of the state of information in an organisation and this in turn, is used for, amongst other purposes, the identification of information problem areas and/or gaps in information provision, irrelevant information sources and the need to find new/alternative information resources.

The main aim of a strategic information audit as identified by Stanat (1990:1,2,21) is similar to that identified by the three authors above. Stanat states that the main aim of the information audit is to assess the utility of information, information services and products within the organisation by identifying strengths and weaknesses of this system/network. Furthermore the attitudes of the users towards the system are determined, as well as the way(s) in which they use and disseminate information (Stanat, 1990:2). The information audit can therefore be regarded as a powerful tool to help determine organisational information needs and the findings of the audit can be harnessed for effective strategic planning and proactive decision making (Stanat, 1990:21).

From a different, technology-oriented perspective, the main aim of an information audit differs from what has been discussed thus far. According to Hamilton (1993:77) the main aim of the information audit is to prove that information management should be integrated with the management of the information technology function in an organisation. Current situations where the two functions are managed separately, have been proven to be ineffective, resulting in duplication, inefficient access to information and wasting of financial resources (Hamilton, 1993:77-78).

Yet another perspective is provided by Riley (1975:24-25) who states that the main aim of the information audit is to evaluate the (potential) value of an information product before acquiring it.

From the discussion thus far it becomes clear that it is difficult to generalise the aim/purpose of an information audit. The goal(s) of an information audit will vary, depending on the environment within which the audit is performed, as well as the scope of the audit. According to Jurek (1997:42) four basic audit goals can be identified. These are:

- clear articulation of information needs/services
- target identification of information sources/resources
- proper profiling of information users
- development of an actionable improvement plan (Jurek, 1997:42).

Ellis et al (1993:134) attempt to generalise the aim/purpose of the information audit and list the objectives of a typical information audit as follows:

- to establish the major goals of the organisation and to identify the organisational constraints that affect organisational information systems;
- to identify users' information needs;
- to compile an inventory of the available information resources;
- to use the information gathered during the first three stages to develop an overview of how the organisational information systems function.

According to Lubbe & Boon (1992:215) as well as De Vaal & Du Toit (1995:122) the eventual aim of an information audit is to implement effective information management practices and to improve on existing information management practices in an organization.

The researcher comes to the conclusion that the main aim of an information audit is specific to the environment in which it is performed. If one were to attempt to generalise the main aim of an information audit, it could be said that an information

audit would be performed with the aim to ensure the collection of information that is needed to manage organisational information resources effectively, i.e. so that organisational objectives are met.

4. Benefits of an information audit

Based on the research conducted thus far, the researcher has determined that an audit is regarded as a comprehensive process for collecting information on a specific aspect of an organization. In the same way an information audit yields detailed and accurate information on organisational information resources. Specific benefits result from performing an information audit in an organization, as will be explained in the next section of the discussion.

Before moving on to a discussion of the benefits to be derived from the performance of an information audit, it is interesting to look at the article by Stanat (1990:3). In this article she includes a number of examples (taken from practice) through which she illustrates that not performing an information audit, may have one or more of the following consequences:

- inability of the company to react in time to business/market developments and therefore money being wasted on information;
- unnecessary expenditures on information that is not being used by the organisation;
- due to insufficient/irrelevant information resources, the company loses its competitive edge in the marketplace.

It is common knowledge that the business environment today is highly competitive. In such an environment it is of the utmost importance that the information sources that an organisation uses, be current, relevant, and flexible enough to meet information needs that are constantly changing due to business and environmental changes (Stanat, 1990:4). From the discussion in the rest of this chapter, as well as the next one, it will become clear that an information audit can help a company to meet its specific information needs and thus help the company to maintain its competitive edge.

4.1 Benefits according to Downs

In contrast to the approach taken by Stanat (i.e. focusing on the disadvantages of not performing an information audit), Downs (1988:5-9) discusses a number of benefits that result from performing a communication audit. In studying the literature, the researcher has determined that these benefits are similar to the outcomes of an information audit. The categorisation of benefits as discussed by Downs (1988:5-9) will subsequently be used to discuss the benefits of an information audit. These benefits are:

- Validity benefit
- Diagnostic benefit
- Feedback benefit
- Information benefit
- Training benefit

4.1.1 Validity benefit

One of the results of a properly performed information audit, is valid and accurate information on the status of information as a corporate resource. The quality of planning and management should therefore improve, as accurate, relevant and valid information is readily available (adapted from Downs, 1988:5). To illustrate this, the researcher will include statements by various authors who refer to the validity benefit.

Webb (1994:11) regards the information audit as an invaluable tool for planning because it can be used to keep in touch with the latest (information-related) developments in the organisation. Probably the most important benefit resulting from

the auditing process is that it provides management and staff with information that will make it possible for them "to maximize the potential of information in achieving the organization's objectives."

The validity benefit is also discussed by Hamilton (1993:78) who states that the main benefit of an information audit is that it provides management with "a proper, complete picture of the information resources within an organization".

This is possible because the results of a typical information audit will provide information on:

- what information resources are in use;
- how these are used;
- whether any marketable products exist;
- what equipment is being used by whom;
- exact cost(s);
- the value of information to the organisation.

This means that a clear picture is provided of the contribution of information (resources) to achieving corporate goals and that this information can be used to develop and implement a corporate information management plan (De Vaal & Du Toit, 1995:122). Another author, Dubois (1995:20-21), states that information auditing can contribute to the good management of information resources. He points out that the results of an information audit, when implemented, can have a profound effect on (management) structures within an organisation.

Booth & Haines (1993:231) discuss the validity benefit under the heading of "Outcome benefits", i.e. the benefits accruing from the implementation of recommendations made in the report. Examples include the following:

- A large collection of information is made available that can be used for planning purposes.
- Owing to the increased corporate awareness of information resources, these can be incorporated with the business objectives of the organization.
- A framework can be developed for common standards and procedures.
- Responsibilities can be defined for individual information functions, e.g. current awareness services, records management, information technology, etc.
- Individual areas of expertise, skills gaps and common training needs can be identified (Booth & Haines, 1993:231).

The validity benefit also becomes evident in specific situations, e.g. in the article by LaRosa (1991:17). She lists a number of marketing questions which typically arise when planning for a new year has to be done. She states that the best information one can use when doing such planning, is the results obtained from a corporate information audit.

Yet another perspective on the validity benefit is given by two authors (Quinn and Orna) who describe this benefit from a financial perspective: "The information audit can make the difference between the company overwhelmed by the burden of changing information and one that can manage the incoming data in a way that reflects corporate goals, serves employee needs, and gives top management the best information for the money" (Quinn, 1979, 19). Orna (Gibson, 1996:12) states that the information audit helps to obtain "a 'hard' value of information, rather than a 'soft' value." This in turn contributes to the increasingly cost-effective management of organisational information resources. The researcher has identified this phase, during which the value of information is determined, as very important, as this helps to quantify the so-called "information phenomenon" in the organisation.

The researcher concludes that the validity benefit relates directly to the long-term strategic benefits that an information audit has. From the discussion above it is clear that the information gained from an information audit can be used strategically, e.g. in

support of decision making, planning, and various types of management functions (including information management, financial management), to name just a few.

4.1.2 Diagnostic benefit

The researcher has determined that the diagnostic benefit is one that is characteristic of the majority of audits. This has already been illustrated by means of various definitions of the concept "audit(ing)" as discussed in Chapters 2 and 3. For illustrative purposes, one of these definitions is included here: The term *audit* traditionally refers to the legal requirement to formally examine the way in which an organisation has conducted and recorded its financial transactions. A more general definition of auditing is "a methodical examination and review of a situation" (Webb, 1994:9). The diagnostic element of an audit allows for strong points and weak points (or "gaps") to be identified. This information can be used to build on the strong points and to eliminate the weak ones (adapted from Downs, 1988:6).

St Clair (1995a:1) refers to Orna who discusses the diagnostic benefits of an information audit. For many people the term "audit" brings to mind a connection with accountancy. According to Orna this enables the information auditor to perform "a healthy examination of 'accounts', an activity which [gives] ... an appropriate perspective from which to think about information and information delivery."

Booth & Haines (1993:231) also refer to the diagnostic benefit as one of the "outcome benefits" of an information audit (i.e. a benefit accruing from the implementation of recommendations made in the report). This enables the auditor to identify areas of duplication and so-called "information gaps" and to address the identified problems.

4.1.3 Feedback benefit

An information audit is an important element in the process of feedback. The information audit is used to determine whether specific information inputs deliver the expected/desired information outcomes. The information audit is therefore an instrument of evaluation and provides information that can be used to plan and implement corrective actions (adapted from Downs, 1988:7).

Mention of the feedback benefit is made by LaRosa (1991:9). According to her 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. Following on this, the researcher has identified a "fringe benefit", i.e. that once the information specialist has customized the information service to satisfy basic information needs of users, he/she is left with more time to focus on satisfying complex information needs/requests of users.

More specifically, an information audit provides the librarian with a sound basis from which to evaluate his/her contribution to the organisation. An information audit "forces" the librarian to allocate time to investigate service-related issues, for which there normally just is no time. Once the librarian has a clear picture of the role of the library and information within the organisation, strategic repositioning can take place (St Clair, 1995a:3).

A practical example of the feedback benefit of an information audit, is explained by Jurek (1997:42-43). He had determined that secondary research analysts are often faced with the problem of identifying internal client information needs. In view of this, he recommends that the secondary research analyst performs an information audit. A formal information audit will provide the analyst with information needed to match information needs to information resources, as well as information that will enable him/her to provide needed information proactively (Jurek, 1997:42).

A very important observation is made by St Clair (1996:9) who notes that an information audit enables librarians/information services managers to evaluate their department on the same level as other departments in an organisation. He concludes with the statement that a properly conducted information audit can only enhance the performance and value of the information services department to the organisation.

4.1.4 Information benefit

A communication audit focuses attention on the process of communication in an organization and the improvement thereof. In the same manner an information audit can help to focus staff members' attention on the value and benefits of the use of information as a corporate resource (adapted from Downs, 1988:7). This benefit is discussed by various authors.

Dubois (1995:20,24) states that information auditing can contribute to increased corporate awareness of the role of information services and resources. Following on this an information audit can also help to create a more positive perception of the value of information in an organisation and this in turn can convince top management of the benefits of employing qualified information professionals to manage information resources and services (Gibson, 1996:12; Booth & Haines, 1993:23).

Performing an organisational information audit provides the librarian with an excellent marketing opportunity. Not only will personnel throughout the organisation be made aware of the value of information as strategic resource, but the librarian will have the opportunity to raise awareness of available information products and services offered by the library (St Clair, 1995a:2; LaRosa, 1991:9).

Eddison (1992:9) also recognises the information audit as an effective marketing tool. She suggests that the auditor tell interviewees about potential information resources (already available within the organisation) that can satisfy their information needs.

Following on this, Web (1994:11) states that the results of the audit can be shared with everyone in the organisation, thus creating a means of "wider information sharing". This in turn, will help to raise the level of information awareness in an organization.

Finally, a "fringe benefit" of the "information benefit" of an information audit is that it not only increases awareness of the importance of information services and the costs of these, but that these in turn, raise the status of information professionals (Hamilton, 1993:79).

4.1.5 Training benefit

According to Downs (1988:9) this benefit is the one that is most often overlooked. An information audit provides the ideal opportunity to involve staff in the auditing process and at the same time to teach them more about the processes, philosophy and structures that support the usage of corporate information resources. By the time the information audit has been completed, these staff members will have a better understanding and picture of information and its role in the organization (adapted from Downs, 1988:9). The researcher feels that an information audit provides the opportunity to train staff members who will become information managers, or who will be involved in corporate information management processes in future.

Booth & Haines (1993:230-231) give examples of training benefits in a discussion of "Process benefits", i.e. the benefits accruing from the auditing techniques used. Examples are:

- Staff members who formed part of the auditing team, also serve as a source of knowledge of information(-related) activities in the organization.
- Staff members who conducted interviews, have new skills that can be used in the organization.
- The above-mentioned staff members have a greater understanding of the role of information in the organization, because of their participation in the auditing process.

Booth & Haines (1993:225) also suggest that staff members be involved in the process of information auditing and that the process be used to train staff in various steps of the

strategy. The researcher sees this as an investment for companies where information audits will be performed periodically.[2]

4.2 Benefits according to Underwood

Another perspective of the advantages of information auditing, is provided by Underwood (1994:62) who discusses the value/benefits of information mapping. These are similar to the benefits of the information audit, as discussed above and the researcher will briefly list and discuss these and also classify the benefits according to the categorisation of benefits as proposed by Downs:

- The involvement of staff in supplying information during an information mapping exercise, can increase awareness of information resources in an organisation, as well as their value to the organisation (Underwood, 1994:62). [Information benefit]
- When the findings of the exercise, are presented graphically, it is relatively easy to identify groupings of information resources, as well as areas where information gaps exist (Underwood, 1994:62). [Diagnostic benefit]
- The results of information mapping can be used to improve information management in an organisation, through strategic planning and recommendations for improved information handling (Underwood, 1994:62). [Validity benefit]

4.3 Specific benefits: Case studies

As can be seen from the discussion on the aims/purposes of an information audit, it becomes evident that in many situations, an information audit is performed with a view to obtaining *specific* results, e.g. in a study performed by Alderson (1993:2), the main benefit resulting from the information audit, was relevant information that enabled the organisation to take steps to control the costs associated with online information. Orna (1990:20) performs an information audit in order to obtain the information that is needed to develop an organisational information policy. The typical results of the information audit are knowledge of all the information resources/activities in an organisation – depending on what the scope of the audit was, i.e. departmental or organisational (Orna, 1990:20).

Another example is of the results (benefits) of the audit performed by De Vaal & Du Toit (1995:122-128) in the insurance company. These can be summarised as follows:

- Top management realised the value of proper records management in the company (i.e. that proper records management will ensure that records are used to support decision making, planning, the solving of problems, as well as other tasks in the company).
- Top management realised that information is actually a strategic resource in the company, and should be managed as such;.
- The information inventory that has been compiled could be used as a basis for implementing a records management strategy in the organisation (De Vaal & Du Toit, 1995:127).

The researcher comes to the conclusion that the majority of the benefits described above, can also have long-term positive financial implications for an organisation, directly or indirectly. This is a very important benefit in view of the highly competitive economic environment that companies have to "survive" in.

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[2] It is necessary to perform information audits periodically, as a typical information audit only provides "... a snapshot of information resources, activity and flow frozen at a given point in time" (Swash, 1997:317).

5. The value of information

The determination of the value of information products/entities/services has been, still is, and most likely will remain a controversial topic in the literature and in the information environment. This is pointed out by Willemse & Du Toit (1996:9): "Assessing the value of information represents a very large and complex set of problems. Furthermore, there are no reliable, simple or even standardized or generally acceptable ways of assessing information value."

In the next section of this discussion the researcher will give a brief overview of the problems surrounding the process and methods of determining the value of information. The researcher will not, however, attempt to provide solutions to these problems as this topic warrants extensive research as an independent research topic.

5.1 Information as a resource

Information can be defined is that which a person needs on a daily basis in order to perform tasks. Some organisations regard information is that which reduces uncertainty; as that which is used for problem-solving; and as that which provides the organisation with a competitive edge (Britz, 1992:5). All the previous statements about information are true, resulting in the increase of productivity and also the recognition of information as a corporate resource.

As a resource, information shares the following characteristics with other resources:

- Information is used in the management of other resources.
- Information is used to manufacture products.
- Information has to be processed, as other resources, before it can become a product.
- Information is scarce, meaning that it is difficult to find the right information and provide it at the right time, in the right place, to the right person (Britz, 1992:6).

In contrast to other recognised resources, information resources have unique characteristics that make it extremely difficult to determine the value thereof:

- Information exists only through human perception.
- Information can be packaged in different formats and is easily transportable by means of information technology.
- Information is shareable, i.e. it can be given away or sold, while the seller retains that information.
- Information is substitutable (it may save money by substituting the use of other resources).
- Information is diffusible – it tends to leak despite attempts to contain it.
- Information has value, cost and a price.
- The value of information is relative (Willemse & Du Toit, 1996:8).

5.2 Determining the value of information

Value is an abstract concept that is discussed in a variety of disciplines. Value can therefore not be defined on its own. The concept must be defined in conjunction with a qualifier in order to make the definition meaningful. This is explained by Griffiths (1982:269): "Value is an attribute (it does not exist independently) that can be applied to almost any entity. The act of attributing a value to something, in effect establishes an equivalence relationship (or set of relationships)...". The characteristics of value include the following:

- Value is a subjective criterion that can be awarded to a specific characteristic of an entity, by any person or group.
- The determination of value is situation dependent and may vary as time passes.
- Value can be awarded to a specific characteristic of an entity in the form of a positive or negative value (Griffiths, 1982:270).

From the statements above it becomes clear that value is subjective, i.e. different people with different perspectives will award different values to the same entity or characteristic of that entity. For example: a student who needs to pass his final year Information Science examination will most probably attach no value to a copy of a final year Obstetrics examination paper, except if this student sees an entrepreneurial opportunity of making some money and selling the paper to a number of medical students.

Historically, the value of information was determined by the number of people who were prepared to pay a given price for an information entity, e.g. for a specific book (Griffiths, 1982:272). In such instances, value is usually determined according to the principles of cost and price. It was found that the method that was based solely on the economic principles of determining value, could not be used successfully to determine the value of usage, i.e. the real value of the content to the user thereof (Repo, 1986:373). This is the case because the value of information can only be determined *after* it has been used.

The value of information is determined in one of two ways, i.e. either by determining the use value or the exchange value of the entity.

Exchange value is defined as that which a person is willing to pay for a specific product – whether it be monetary or not (Griffiths, 1982:270). Exchange value is expressed in terms of price and cost and can therefore be measured quantitatively. The monetary value that the owner of the product wants for it, is the price of the product. The money that was involved in producing the product is expressed as the cost of the product. In view of these explanations/definitions, the exchange value of an information product only reflects the quantitative value of the product and is therefore not a reflection of the value of the content of the product.

Use value is determined by the user of the information. Use value is defined as the value that a person derives from using a specific information entity/product. According to Taylor (in Griffiths, 1982:270): "The value of information has meaning only in the context of its usefulness to users. There is no way of analysing value of information except by reference to the environment of those who are its intended clientele." There is therefore no accurate way to determine use value. Attempts are made at determining use value and this is usually done by determining whether a person is willing to pay for information, or by measuring the time that is saved by using the information (Repo, 1986:275).

As has been pointed out at the beginning of this section of the discussion, it is extremely difficult to determine and to measure the value of information, as the value of information is not intrinsic. The value of information is in the meaning that the information has to the user thereof, taking into account the specific context within which the user finds him-/herself. The researcher wants to stress the importance of determining information value and calculating costs when performing an information audit – cf. discussions by Dubois (1995:21); Jurek (1997:43); Worlock (1987:52); and Underwood (1994:60). The method that is used for determining value is dependent on the choice and approach of the specific auditor.

6. The role of the information audit in the information management process

Information is increasingly recognized as valuable and important to organisations. The realization of the importance of information as a resource can be attributed to:

- increasingly complex organisational structures;
- the recognition of the role that information plays in attaining organisational goals;
- the realization that information costs money and has value; and
- the shift from information technology to information content as the main solution to information problems (Lubbe & Boon, 1992:214).

In view of the recognition of information as a resource, it follows logically that it should therefore be managed as such. A distinction is made between information as an

economic resource, as opposed to a management resource. In instances where information is used as a production aid and in support of basic decision making, it is regarded as an economic resource. In situations where information is used to manage other resources more effectively, it is regarded as a management resource. Lubbe & Boon (1992:214) view the concept "economic resource" as the umbrella term, with the concept "management resource" as an important component of information as an economic resource.

Seeing that information is a resource and should be managed as such it becomes important for organisations to develop and implement an information policy as part of an information management plan. An information management policy is aimed at ensuring the availability of appropriate resources, organisational structures and training to meet the information requirements of the organisation (Booth & Haines, 1993:225).

It is ironic that many organisations invest a lot of money in information resources, without paying any attention to the management thereof. Information is an expensive resource in terms of its acquisition, storage and processing. Information resources are dispersed throughout the organisation and include internal as well as external sources of information. Information can also be found in different formats, ranging from paper to the expertise of an employee. Swash (1997:312) highlights the importance of also identifying hidden (or unexploited) information sources. The same is done by Burk & Horton (1988:22) and Fuld (1991) who call these "hidden information entities". According to these two authors information sources may only be called information resources once their strategic worth to the company has been identified/measured.

The development of information technology has led to a heightened awareness of information and the value thereof, but at the same time this has also highlighted the accompanying problems, e.g. the pervasiveness of information. The focus during the 1990s is on so-called knowledge workers, who process information, rather than raw materials, as has been the case in the past. In view of this development, Drucker stresses the importance of suitable tools for handling information. A large number of businesses now recognise the value of information, i.e. information is increasingly being recognised as a corporate resource. This has implications in terms of the management of information resources, as effective information management can increase productivity and help a company to gain and maintain a competitive and strategic advantage over its competitors (Swash, 1997:312).

In view of the complexities surrounding information as a resource and the problems experienced, information management is an organisational necessity. Information management includes the control and co-ordination of corporate information resources. It should also be ensured that information systems and services provide accurate, relevant and timely information (Lubbe & Boon, 1992:215).

6.1 Definition: Information management

Prior to defining the role of the information audit in supporting information management, it is necessary to define the concept *information management* and to determine exactly what it entails.

In the literature one finds a large number of definitions and interpretations of the concept *information management*. The researcher will look at a few of definitions before developing a working definition of this concept, for the purpose of using it in this dissertation.

For example: Many authors (e.g. Wilson, 1989:204) define information management by focusing on information technology. According to this school of thought, technology seems to be the main component of the information management process, while the functions that make up the information life cycle, as well as the content of information messages, seem to be ignored or largely undervalued. Ponelis & Fairer-Wessels (1998:6) also stress the fact that in the business/practical world (as opposed to the academic/theoretical environment), information management is incorrectly defined (as far as the academic world is concerned) as the management of information technology and systems.

Orna (1990:19) gives a much more comprehensive overview of what the information management function entails:

- The acquisition, recording and storing of information.
- Patterns of information flow in an organisation.
- Information usage in an organisation.
- The way in which information is handled and the co-operation that goes with this.
- The use of information technology.
- The management of the budget.
- Ensuring that all these information-related activities contribute towards the objectives of the organisation.

The confusion as to how information management should be defined, is highlighted by Wilson (1989:204): "It is not always clear ... whether even the schools and departments of information studies are talking about the same thing when they use the term information management." The same opinion is expressed by Broadbent (1990:5): "at present ... the case [remains] that definitions and explanations of 'information science' and 'information management' are contextual in nature and the term 'information' is not 'owned' by any one area of study or professional grouping."

The researcher comes to the conclusion that it is difficult to develop or identify a general, all-encompassing definition of the concept, information management, as this concept is used in a variety of environments, in different contexts, implying something different in each of these. For the purpose of this dissertation, the researcher will define information management from an 'academic' perspective (cf. Ponelis & Fairer-Wessels above), as follows:

Information management can be described as the process whereby resources are used with the purpose of optimising the use and dissemination of information within an organisation. This information is organised and repackaged according to specific, pre-determined information needs so that the information needs of users can be satisfied. Furthermore, the supply of the right, accurate, relevant information to users and their subsequent use of this information ought to give them a competitive edge, thereby supporting them in attaining the mission and goals of the organisation. The dissemination of information and the usage thereof are optimised through the application of management functions to organisational information resources.

6.2 The need for information management: Typical information problems

The value of (or necessity for) effective information management will subsequently be discussed by looking at typical information problems that are the results of the absence of proper information management procedures.

Lack of an information management plan, can lead to one or more of the following problems:

- Information not being recognised as a corporate resource (and the accompanying lack of financial resources).
- No corporate responsibility for managing information resources strategically.
- No co-ordination, i.e. Information resources that should be managed in an integrative manner, typically resorts under different organisational heads.
- Information costs and values are not reflected in the financial statements of the organisation.
- Lack of a corporate information policy to guide the management of information resources.
- Information technology is acquired and utilised in an uncoordinated fashion (Lubbe & Boon, 1992:215).

The value of (or necessity for) effective information management is highlighted by Swash (1997:321) who also discusses a number of problems that result from the absence of proper information management procedures. These include, amongst others:

- duplication of effort and reproduction of existing information;
- the failure of employees to respond to important developments;
- a lack of information awareness that in turn results in an inability to optimally exploit existing information resources.

A common problem of the "information age" is information overload which in turn results in information fatigue (also referred to as IF). The sheer volume of information has implications for the management thereof, e.g. the acquisition of information, by whom, the method of processing information as well as the results thereof. Swash (1997:313) summarises this discussion by focusing on the question (that should be) central to organisations today and that is whether information is critical to achieving the strategic objectives of the organisation and how this is done. The researcher has determined this to be the central issue of information management today, i.e. the purpose of organisational information management.

Information problems also arise from an "information insensitivity", i.e. when people are unaware of available information sources and how these are disseminated. The information management process in an organisation must be geared towards ensuring that all (and that includes new) employees are aware of the scope of information sources and services as well as the information management procedures. During times of organisational change, the information management process should contribute towards maintaining continuity of information usage and flows (Swash, 1997:314).

In recent years information technology has heightened the expectations that customized/value-added information is readily available through electronic information delivery. In reality, however, information technology has added to the problems experienced when managing information sources, e.g. the availability of seemingly "free" information in the electronic environment, have obscured the real value of information. The electronic availability of information has also contributed to problems with duplication and overlap (Worlock, 1987: 51).

Swash (1997:314) concludes that all the problems discussed above, point to the need for "a co-ordinated and top level approach to the management of corporate information resources". In turn, the organisational information management plan and process can be facilitated by an information audit. The latter is regarded by Swash (1997:314) as an invaluable management tool. This will be explained in more detail by the researcher in the next section of the discussion, paragraph 6.3.

6.3 Information auditing and information management

The next section of the discussion will be devoted to an investigation of the contribution of the information audit, if any, to the process of information management. In paragraph 6.3.1 the researcher will investigate the relationship by linking the typical functions of information management to information auditing. Different authors' viewpoints of the contribution of the information audit to information management will be discussed in paragraph 6.3.2. The researcher will conclude the discussion on the contribution of information auditing to information management by highlighting the actual benefits that were derived from an information audit that was performed at a university (paragraph 6.3.3).

6.3.1 The functions of information management

Following on the discussion of what information management is, the researcher will examine the typical functions of the information management process, before drawing conclusions as to the value of information auditing for the information manager, if at all.

The most comprehensive approach to explaining the functions of the information management process, is provided by Boon (1990:320-321). He identifies different

levels of information management and links different functions of the information management process to these levels. It should be noted, however, that these levels are complementary to each other and that the distinctions between the functions on the different levels, are not mutually exclusive.

Boon (1990:321) identifies four different levels of information management, namely personal, operational, organisational and corporate strategic.

Level 1: Personal information management

Information management function	**The role of the information audit in supporting the information management function**
Use of information	The knowledge of the information sources that are available and where these are can contribute to the use of information.
Archiving information and disposing of information	The information inventory is analysed in terms of the usefulness of the information sources and according to this information, decisions regarding archiving and disposing can be made.
Marketing of information	An information audit is an effective marketing tool in itself as it heightens information awareness.
Dissemination and reproduction of information; Organising information; Making information accessible; Protecting and storing information (Boon, 1990:321).	A sound knowledge base of the status of organisational information resources can aid information management decisions about the dissemination, reproduction, organisation, accessibility, and protection/storage of information sources.

Level 2: Operational information management

Information management function	**The role of the information audit in supporting the information management function**
Identification of information needs	A very important component of the information audit, is an information needs assessment.
Information is generated and/or needed information is procured; information is disseminated	The comparison of the information inventory to the identified information needs will highlight where and what types of information is needed as well as to whom it should be made available.
Relevant information is identified	Identified information sources are evaluated in terms of their value to the users thereof.

Level 3: Organisational information management[3]

Information management function	**The role of the information audit in supporting the information management function**
Development and provision of an information technology infrastructure	The information audit can be structured to include an examination of information technology tools that can be used to support the effective management of information sources.
Determination of the value and cost of information	Not all information audits include this as a phase but the researcher reckons that it is essential that the valuing and costing of information sources should form part of an information audit (also see the discussion on this in Chapters 5 and 6).
The compilation of an inventory of information entities	This is an essential component of the majority of information audits.
The co-ordination and implementation of an organisational information policy	This can be a result of an information audit. Orna, for example, performs an information audit with the aim of developing and implementing an organisational information policy (cf. Chapter 5, paragraph 3.19).
The organisation of information in an information system	Once again the information audit renders sufficient information to make decisions as to how organisational information sources should be organized.
Information education	The information audit can be used as a sensitising tool, i.e. to make people aware of information and the value thereof.
Information consultation	The information audit is performed with the purpose of consultation.
The planning, development and continuous evaluation of information systems.	The information audit should be repeated at regular intervals for the purpose of evaluating information systems and sources.

[3] The functions that make up organizational information management are typically performed while keeping in mind the organisational mission and goals, as well as the resulting organisational information and marketing needs (Boon, 1990:321).

Level 4: Corporate, strategic information management

Information management function	The role of the information audit in supporting the information management function
The formulation of an organisational information policy	As indicated in the previous table, the results of the information audit can be used for formulating an organisational information policy.
The management of financial, physical and human resources in order to provide information systems; The facilitation of the sharing of organisational information that is relevant to planning; The co-ordination of the development of information resources for improved organisational and strategic decision-making; The management of the access to information needed for the accomplishment of organisational goals and objectives, as well as the dissemination of this information	The information audit provides a knowledge base that can be used for making management decisions about information sources.
The identification of strategic information needs (Boon, 1990:321).	As has been indicated before, the information needs assessment is an essential component of the information audit.

Boon (1990:321) concludes that the functions on the personal and operational level are mainly information activities, while management processes are dominant on the organisational and corporate strategic levels. These management processes are aimed at ensuring that resources are managed in such a way as to optimise information management functions.

The researcher comes to the conclusion that an information audit can contribute significantly to effective information management.

6.3.2 Different perspectives from the literature

This part of the discussion is based on various authors' statements that the information audit is a basic (and important) information management tool. For example: "The information audit is a management tool which can help an organisation to begin to understand how its information assets are being put to use and how these can be more effectively harnessed to achieve optimum productivity and strategic advantage" (Swash, 1997:318). Also: An information audit is a useful management tool that can help evaluate the information management situation in an organisation. In using the results to suggest improvements, the way in which information is managed, can be maximised, i.e. in terms of information provision, use, providing quality access to information, and information retrieval (Webb, 1994:9).

The researcher will investigate and provide an overview of how different authors view the relationship between information auditing and information management.

Information management is becoming increasingly complex. This can be attributed to a number of developments in the information environment, e.g. the increase in the volume of information that is available, the rapid development of information technology, more legislation governing the handling of information and the trend to

access information external to the company (as opposed to buying all the information that is needed and stocking it in the organisation) (Quinn, 1979:18).

Quinn (1979:18) suggests that the information manager use an accepted management tool to solve information management problems. One generally accepted management tool is the audit, e.g. the financial audit that provides a manager with an overview of the state of financial records in an organisation as well as their accuracy. In a loose correlation with the financial audit, Quinn (1979:18) suggests conducting an information audit to obtain an overview of the state of the information environment in a company.

Eddison (1992:8) also regards the information audit as a solution to many information(-related) problems experienced in organisations. This is the case since the information audit is used to determine how employees currently use information and from where they obtain this information. The audit also sheds light on the information-seeking behaviour and needs of non-users of the information centre and helps to explain why they use alternative information sources. The information gained from the information audit can therefore be used to help to solve information problems and in this way contribute to effective information management.

An information audit is a useful management tool that can help evaluate the information management situation in an organisation. Upon completion of the information audit, the auditor ought to have "an accurate description of the information system currently in operation". The information that has been collected will enable the auditor to give an opinion on the efficiency of the current organisational information system. Problem areas can be identified and recommendations made for the improvement of these. The auditor will also be able to indicate whether the organisational information environment supports corporate goals, as this comparison is done throughout the auditing process. The different pieces of the profile must be adjusted to fit into the proposal for improvement, i.e. the new information management plan (Quinn, 1979:19). In using the results to suggest improvements, the way in which information is managed, can be maximised, i.e. in terms of information provision, use, providing quality access to information, and information retrieval (Webb, 1994:9).

The findings of the audit will provide the analyst with an overview of individual information needs, as well as an overview of trends of information needs. This information must be used to develop an information management plan (the so-called "action plan") aimed at delivering a value-added information service (Jurek, 1997:43).[4] Furthermore, the extent to which information contributes to the business objectives of an organisation, can be investigated by means of an information audit (Booth & Haines, 1993:224).

One of the problems that hamper effective information management is the negative perception regarding the value of information sources and the accompanying ignorance regarding the potential value and role of information professionals in organisations. Dubois (1995:20-24) proposes that an information audit be performed to help solve some of these problems - or rather, to find possible answers. According to him, the information audit is an important tool for information management, even though there exist no standardised methodologies/guidelines for performing information audits. Currently, in many information centres/corporate libraries there is a constant threat of cost-cutting. The ideal scenario is that the value of information be recognised and that information be used for decision making at all levels in an organisation. Few companies have the ability to identify and evaluate whether information is available internally and at what cost. Dubois (1995:20-21) regards information auditing as a potential solution to these and other information problems that occur in organisations. Jurek (1997:43) is another author who stresses the importance of building a phase into the information audit during which the cost of information sources/resources will be determined. The cost of information must be connected with the value of information in the organisation. Worlock (1987:52) discusses the information audit as a tool to help determine the value of information and to examine whether the use of information technology could increase the value of information. Following the same line of

[4] The development of an information management plan forms an integral part of the information audit methodology proposed by Jurek (1997:42-43).

thinking, Underwood (1994:60) points out that even though organisations view information as "important" to them, the value and existence of information remain largely unrecognised. According to him the main value of an information audit lies in the fact that it can help an organisation to survive various periods of crises, as far as information management is concerned.

According to Alderson (1993:4) the a "new" approach to organisational information management is to deliver appropriate information services, by limiting information resources to those *actually used* within the organisation, as opposed to managing *potentially useful* information resources. As the researcher has determined, the information audit is the ideal tool to use to identify those information resources of real value to the organisation, as well as the costs of these information resources to an organisation.

The information manager must find answers to two questions. These two questions form the basis for proper information management:

- Is the information service geared towards supporting corporate goals?
- Is the information service being managed in a cost-effective manner? (Quinn, 1979:18).

Swash (1997:314) characterises the information audit as "a basic management tool" since the purpose of an information audit is to identify *what* information exists in an organisation; *where* it is; by *whom* it is used; at what *cost*, and to what *effect* [own italicisation] (Swash, 1997:314).

While finding answers to the questions listed above, it is important to determine what information needs exist within the organisation and to evaluate whether these are satisfied and if not, what the implications are. The information audit will furthermore help to determine redundant or irrelevant information sources and this in turn will result in suggestions for corrective action (Swash, 1997:314). It is important to note that these issues also apply to the so-called hidden (i.e. under-utilised) information sources in an organisation.

The results of an information audit can be used to formulate an organisational information policy (Webb, 1994:9). The policy is a core element of an organisational information management programme.

Major changes in an organisation, e.g. restructuring, a re-examination of its main business, etc. provide an excellent opportunity for reviewing the role of information in the organisation. According to Booth & Haines (1993:224) the information audit " is an information management tool that facilitates such a review."

Hamilton (1993:78) explains the importance of performing an information audit, by pointing out that very few, if any, other management functions in the organisation would tolerate ignorance to the extent that it exists about the information function.

The information audit should not be conducted with the promise of eventually saving an organisation money. The focus should be placed on increasing the competitive edge of the organisation, through the optimal use of information resources. The results of an organisational information audit can be used when looking towards the formulation of an organisational information policy. In the case where management is not interested in an organisational information policy, the results of the information audit will be useful for compiling a plan for the future development of the information resources (or even the information management function) of the organisation (Hamilton, 1993:96).

6.3.3 The role of the information audit in the information management process: A practical example

A more specific application of the information audit is where it is used as a tool for the development of a better corporate library/information service. According to Quinn (1979:18) the obvious (and easiest) solution to the information management problem, is the development of an improved library/information service. Before resorting to such drastic measures, the information manager needs to have an overview of the information centre in relation to its position in the organisation, i.e. "where and how it fits in the company".

A university functions as an information-intensive organisation where information resources are used to support the four main functions (teaching, research, management and community service) of a typical university. Examples of information entities in the university environment include, amongst others, the following: the university library, the computer centre, general administration, academic support services, personnel administration, the public relations department, the finance department, management information systems, the physical facilities department, posts and telecommunications services, etc. These information entities are usually dispersed throughout the organisational environment. Lubbe & Boon (1992:215) regard the mentioned information entities as strategic organisational information resources in that they are used to support the internal functions of the university, as well as to maintain a competitive edge.

In view of the discussion above, it is clear that information in a university environment should be recognized as a corporate resource and should subsequently be managed as such. Information management includes the control and coordination of corporate information resources. It should also be ensured that information systems and services provide accurate, relevant and timely information (Lubbe & Boon, 1992:215).

The results of the information audit that was performed at Vista University enabled the auditor to identify various shortcomings and needs relating to the objectives, management, use, value and cost of the corporate information resources. In view of these results, the auditor suggested the development of an integrated, corporate information management plan (Lubbe & Boon, 1992:222).

The results of an information audit performed at Vista University were used to find answers to a number of questions regarding the state of information management at the University, e.g.:

- Is information recognized as a corporate resource that should be managed as such?
- Is there anybody who has the responsibility for corporate information management?
- Is there an information policy in place?
- Are the purchase and utilization of information systems, sources and technology done according to proper planning and co-ordination?
- Does the University [organisation] know what the costs and value of its information resources are?
- Are information investments constantly re-evaluated in terms of its current use and value to the organisation?
- Do current information resources meet information needs and are those resources which become obsolete, removed?
- Are there any information standards/guidelines?
- Is information flow understood, recorded and monitored?
- Are strategic planning/organisational goals and objectives taken into account when planning for information services? (Lubbe & Boon, 1992:221).

7. Conclusion

The researcher comes to the conclusion that the information audit is a critically important information management tool. The information audit does not only contribute to effective organisational information management by providing detailed and accurate information on the organisational information environment, but also by providing an understanding of the way in which the organisation functions.