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Exploring the Effectiveness of ISO 14001 in Local Authorities

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Abstract

In this study the effectiveness of the implementation of ISO 14001 by Local Authorities is explored, as are the factors that hinder and/or further implementation of the standard. These include the motivations for applying the standard, its strengths and weaknesses and the consistency of it use. The research was undertaken using interviews both of key informants in a variety of councils and of those in a detailed case study of Bedfordshire County Council. The research suggests that consistency of application between different councils was poor and the motivations were mainly environmentally based, and its strengths and weaknesses, although varied, had few consistent factors as perceived by the respondents. The main strengths of ISO 14001 included flexibility and the demand for continual improvement, and its main weaknesses being the opportunity that flexibility provides for abuse of the standard.

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List of Abbreviations

BAT – Best Available Technique

BVPI – Best Value Performance Indicator

ISO- International Standards Organisation

LA – Local Authority

1.0 Introduction

This thesis is a study of the appropriateness of ISO 14001 as a tool for improving the environmental performance of local authorities (LAs). This has been carried out by examining the motivations for adopting the standard, and by a discussion of what is meant by environmental performance. To achieve this, the opinions and perspectives of different stakeholders have been explored.

1.2 Background

As environmental awareness amongst stakeholders increases, the pressure from them on organisations to demonstrate improved environmental behaviour also increases. One of the most well established methods for proving appropriate environmental behaviour is meeting internationally and nationally recognised standards such as ISO 14001 and the Eco Management Auditing System (EMAS).

ISO 14001 is an international standard that has existed since September 1996. It was developed for integrating environmental practice into organisations operations, as well as attending economic benefits such as reduced costs. There are a number of non-economic advantages to organisations implementing ISO 14001, such as improved waste management, compliance with legislation, green image, and response to pressure by stakeholders (including the local community and government), well-motivated staff, goodwill, and demonstrating commitment to quality (Environmental health & safety online, 2002, Baron D. 1996, Arora S. & Cason T.1996, Zutshi & Sohal 2002)

This research explores whether any of these benefits truly apply, the nature of their attractiveness to organisations and to LAs in particular, and the extent to which they are linked to ISO 14001 accreditation.

The commitment of senior management to environmental management may strongly depend on the motivations for implementing ISO 14001. These motivations are examined in the study. In turn this commitment will be reflected in the environmental performance of an organisation. If as Chapple et al (2001) believe organisations are motivated solely by economic self-interest and then it is unlikely that great environmental improvements will have been made unless they also lead to bottom line improvement or improved efficiency. Economic self-interest in the case

of LAs would mean saving money through environmental improvements in order to spend else where.

Although many organisations have demonstrated growing interest in ISO 14001, little empirical evidence exists for the environmental improvements that are assumed to be linked to it. However, Ammenberg et al (2001) state that in their experience the process of certification is so exacting, that irresponsible organisations (i.e. those with no genuine environmental motives) lose interest early on. The implication here is that accredited organisations will improve their environmental performance not because they wish to be accredited but because they want to improve environmental performance.

There are also some strong arguments disputing the effectiveness of ISO 14001 that need to be explored; for example, the perceived need for quantitative minimum targets that must be met to ensure a specific environmental standard voiced by many commentators (e.g. Aboulnaga, 1998). The reason that ISO 14001 does not demand such targets is to allow the standard to be attainable by everyone and to be flexible enough to enable it to be applied in a number of different industries with different degrees of impacts on the environment. Whether or not this diminishes the usefulness of the standard is discussed in the thesis.

One could also argue that too strong a reliance on management tools makes ISO 14001 more of a quality management tool than an environmental one. Many writers talk about ISO 14001 as an extention of its sister standard ISO 9000 which is a quality standard, and which may obstruct attempts to use ISO 14001 to its full potential. In the same way, it is argued that when a purchaser fails to use measurable standards to evaluate suppliers a less environmentally friendly supplier could be chosen, despite the purchaser's own certification. Therefore an organisation with superficially high environmental performance may be subsidised by low performance suppliers or highly polluting processes may be outsourced.

Another argument against ISO 14001 is that although continual improvement is one of its requirements, some organisations only apply this to a few of their ratios and thus do not proceed as quickly as they could towards becoming a more environmentally friendly organisation (Ammenberg et al, 2001). In addition, as there are no statutory regulations, an organisation may fail to meet its own targets without incurring any penalties.

A final criticism of ISO 14001 is that there appears to be great diversity between organisations audited for the standard (Ammenberg et al, 2001). If this is true then the consistency of the standard can be called into question, as can its reliability in terms of its environmental improvements. The question of consistency is examined in the thesis.

Local authorities are of interest because they are not the manufacturing firms which the standard was designed for, and thus its usefulness in local authorities needs to be explored. There is a lot of opposition in this sector against using ISO 14001. By investigating the LA sector, we have been able to explore how flexible the standard is.

To evaluate the worth of ISO 14001 to LAs we must first understand the aims behind the standard, and the motivations of those who adopt it. Then it is important that environmental performance is defined and appropriate indicators established and that these are compared with the motivations behind the standard and its adopters. Finally the consistency between adopters needs to be considered, as to be truly effective the standard must have a predictable effect.

1.3 Aim

The aim of this research is to explore whether or not ISO 14001 may be linked to an improvement in environmental performance of local authorities and what is driving this. This aim is pursued by attempting to establish whether or not stakeholders such as the government or the public apply pressure towards environmental performance, and gaining an improvement in certified environmental management system (EMS).

Local authorities have been specified as this is a sector which has some adopters of ISO 14001. Furthermore, it is a sector which has not yet been thoroughly evaluated in terms of its environmental performance. It is envisaged that the findings are applicable to some degree outside local authorities, providing insight to the value of ISO 14001 more generally (e.g. other non profit organisations). By investigating local authorities the study may also shed light on the appropriateness of ISO 14001 as a tool for service providers and not for profit organisations more generally (e.g other non profit organisations).

1.4 Objectives

To achieve the aim a number of objectives need to be met. The objectives addressed in this study follow. These will be expanded on in the following section.

1. To explore the reasons for development of ISO 14001 and the motivations on the part of the relevant organisations for seeking accreditation, in order to evaluate whether environmental performance is the most important driver, or whether other implicit drivers such as public image are more important.

2. To explore the meaning of environmental performance, from the perspectives of stakeholders, and accredited organisations, as well as those of the International Standards Organisation and to establish whether stakeholders have an opinion on this issue. In addition the role of stakeholders as a driving force will be examined.

3. To identify the strengths and weaknesses of ISO 14001 as a tool for improvement of environmental performance as perceived by local authorities.

4. To investigate the consistency of the use of ISO 14001, in terms of the approach to the standard and the resulting indicators.

These objectives are explained in the next section.

1.5 Objectives Explained

1.5.1 Objective 1

"To explore the reasons for development of ISO 14001 and the motivations on the part of the relevant organisations for seeking accreditation, in order to evaluate whether environmental performance is the most important driver, or whether other implicit drivers such as public image are more important."

It is imperative that these drivers are understood if the effectiveness of ISO 14001 is to be explored. First, it is important to understand what motivated the development of ISO 14001, which can be determined by means of a literature

review of the history of ISO 14001 to determine how the purpose and use of ISO 14001 was originally envisaged.

Motivations for accreditation must also be explored as this will shed light on whether organisations aim merely to meet the basic standards set, or to go beyond these taking on ISO 14001's guidance for best practice. This will again give an indicator of the success of the standard within the target sector (local authorities). It may also expose where the standard is weak, and why issues such as the debate on continual improvement occur.

Possible motivations for adopting ISO 14001 could include maintaining a good reputation or acquisition of new funding due to pressure from the government, genuine environmental concern, or a means to measure environmental risk.

Evaluating local authority motivations will also indicate areas where ISO 14001 may be changed to motivate new organisations to seek certification and why organisations may be discouraged from applying for certification.

This assessment can be achieved by evaluating previous literature on ISO 14001 and the motivations behind the use of ISO 14001. Examples include work by Morrow and Rondinelli, 2002, and Quazi et al, 2001. In addition, some information will need to be solicited from local authorities as LA may have specific perceptions and intricacies not found elsewhere.

1.5.2. Objective 2

"To explore the meaning of environmental performance, from the perspectives of stakeholders, and accredited organisations, as well as those of the International Standards Organisation and to establish whether stakeholders have an opinion on this issue. In addition the role of stakeholders as a driving force will be examined."

There has been little substantial discussion of what is meant by environmental performance. This is a broad term, which may mean different things to different people. For example, it could mean emissions, the life-cycle of a product, wastes, and inputs and so on. It could mean absolute measurements or simply relative improvements.

Without an explicit definition of environmental performance, there can be little idea of when a certain standard of performance has been achieved. Thus it is important to analyze how stakeholders measure it. For example, which

environmental indicators should be included, or if life-cycle analysis should play a part. In addition, if environmental performance is not defined, how do stakeholders compare two sets of data especially as organisations may produce completely different types of data?

Possible drivers for high levels of environmental performance in ISO 14001 include the demand for continual improvement from government and the public, full compliance with legislation, the monitoring of inputs and outputs, the management of emissions and wastes, and greater awareness of environmental performance. However, possible inhibitors could include the expense of implementing and running, lack of time, the absence of obligation, and the absence of a set EMS. These are explored in the research.

The role of stakeholders is investigated and how they apply pressure and the effect of such pressure is explored.

1.5.3. Objective 3

"To identify the strengths and weaknesses of ISO 14001 as a tool for improvement of environmental performance, as perceived by local authorities."

This objective relates to the definition of environmental performance, and is predominately pursued by means of the literature review. (This includes a full review of the work Rondinelli, and Vastag, 2000, Environment Health and Safety On line, 2002, Sheldon, 1997, and Zutshi and Sohal, 2002.) However, information will also be solicited from interviews of representatives of local authorities.

This will establish whether people feel that there are more weaknesses than strengths and will indicate how performance can be improved. It also addresses the question of whether or not ISO 14001 is used as it was intended by its developers and whether this is to the advantage of the environment.

In addition there are interviews to determine the perceptions of ISO 14001 amongst adopters in local authorities. The relevance of legislation and stakeholders' values will also be examined.

The most obvious strengths of an EMS such as ISO 14001 are its flexibility and ability to be applied to all industries. If applied correctly it can be used to improve environmental performance at any stage of that development from the worst to the best. It also enables the effective management of

environmental risk. But it does not set absolute standards or control the type of processes used.

1.5.4. Objective 4

"To investigate the consistency of the use of ISO 14001, in terms of the approach to the standard and the resulting indicators."

The consistency of the use of ISO 14001 between different authorities is investigated through the evaluation of organisation literature and the interviews in the case study. It is imperative that how consistent of the use of ISO 14001 is known in order to evaluate the reliability of its effect on environmental performance. By consistency we mean the extent to which organisations share the same variables for measuring environmental performance. Consistency is also necessary for verifying the results from the sample, and whether it is reflective of the sector as a whole. Other research has been examined from secondary sources has been done to do this.

1.6 Methodology

A summary of the methodology chosen to achieve the above objectives follows. Initially, a thorough literature review has been carried to establish the meaning of environmental performance, the motivations behind the pursuit of ISO 14001 accreditation, and the strengths and weaknesses of ISO 14001. Following that review a number of key contacts with in LAs were interviewed to investigate their views of ISO 14001 and its effectiveness.

Finally a detailed case study of a local authority has been carried out to explore to what extent ISO 14001 has been adopted. The case study asked respondents their perception of other views as well as eliciting new ideas. In addition motivations have been solicited in the survey to illustrate the perspective of the sector and to assess whether or not these motivations are purely economic.

The measures of environmental performance have been included in the survey, to evaluate how organisations feel they perform and to indicate whether there is consistency in the measurements used by local government.

2.0 Literature Review

In this section of the thesis previous research is discussed, and analysed to give a board picture of the current understanding of the standard and its impacts. This section also raises questions that need to be addressed in the study and outlines the main principles behind ISO 14001 and its creation.

2.1 ISO 14001

ISO 14001 was developed by the International Standards Organisation in 1996 as a voluntary standard. It is a standard developed for integrating environmental practices and procedures into operations and product standards. ISO 14001 was designed to be an on-going interactive process that consists of defining, documenting and continually improving on environmental practices. ISO 14001 has four principal requirements. These include:

- an environmental policy,
- planning, implementation and operation,
- checking and corrective action,
- review and continual improvement.

There is much debate whether these four principles are carried out in practice, due to bad auditing. It is fundamental to the effectiveness of the standard that these four areas are implemented.

2.1.1 The use of the four elements of ISO 14001

It was intended and advocates claim that these four elements listed above provide guidance for developing a comprehensive approach to environmental management. Users of ISO 14001 also argue that it standardises some of the key environmental tools of analysis, such as labelling and lifecycle assessment (Cascio 1996). This could be useful to those monitoring, controlling and auditing, as it would provide consistency and therefore allow comparison. However opposition would point out that they only provide guidance on these procedures. On the other hand it is arguable that this is invaluable in an area where there has been a vacuum in the past. Those behind the standard would also argue that it is easier to develop an EMS using ISO 14001 than without and thus enabling organisations to monitor compliance

(Rondinelli and Vastag, 2000). Those opposed to ISO 14001 point out that the standard does not ensure legal compliance, although it does require the organisation audited to be working towards that end. In addition it is expected that the adopter of ISO 14001 will go beyond compliance but this is not stipulated. An argument against ISO 14001 made by Krut and Gleckman (1998) is that it does not measure actual environmental performance of an organisation, therefore without monitoring the true status of the organisation would be unknown. (A report is not required to be made publicly available by the standard). This is because the standard does not set targets as this would exclude some organisations from achieving the standard purely due to the nature of the industry they were in. The argument against ISO 14001 is therefore that it implies that targets are being met when in fact this may not be the case. This is very important as LAs are very worried about negative press releases.

2.1.2 The Effectiveness of ISO 14001

McCloskey and Maddock (1994) point out problems that might hinder the effectiveness of ISO 14001. These include the complexity of the elements involved in monitoring on the environmental impacts of a product, which may make it difficult to design polices, procedures and indicators to reflect these issues.

In addition ISO 14001 requires fundamental change in the values and philosophy of the organisation, which may lead to opposition and potential failure. Politics may also hinder the progress of developing the EMS through the pursuit of individual interest, for example, inappropriate allocation of resources due to "empire building" or, in the case of LAs resistance because of a political agenda. In addition organisations may be reluctant to provide insight to outsiders of their processes.

Those who question the value of ISO 14001 note that the standard is not prescriptive, and therefore claim that it is not effective because it does not set standards or regulations (Sabatini 2000). This allows LAs to gain credit with little effort, which may be too tempting to them. However, by means of external auditing the standard aims to provide benchmarks by which organisations can develop and assess environmental practice (Rondinelli and Vastag 2000). In addition by not imposing regulations the government gives the organisation the flexibility to develop EMSs appropriate to a range of different operations, locations, and levels of risk (Rondinelli and Vastag 2000), useful to LAs because of the differences of scope. Advocates of ISO14000 claim that the standard will harmonise and simplify

environment management practices therefore reducing the need for multiple regulations and permits (Cascio 1996).

Donaldson and Davis (1990) point out that using a standard makes it easier to demonstrate environmental performance to stakeholders such as financial institutions, which it was originally intended for, and allows LAs to have a systematic approach to the environment. However, corporations, government agencies and others remain sceptical about the real impacts of ISO 14001 (Krut and Gleckman, 1998). It may be that ISO 14001 instead of directly influencing environmental performance demonstrates it in either a positive or negative light. Krut and Gleckman (1998) also point out that although there is growing interest in the standard there is little empirical evidence on the impacts of adopting ISO 14001.

Donaldson and Davis (1990) also argue that ISO 14001 increases awareness and responsible and appropriate management causing a fall in environmental incidents and liabilities and increasing the efficiency of operations among all employees. As stated above there is little empirical evidence for this, as these intangibles are very hard to measure especially in terms of LAs that cover a large spectrum of risks. However, with a thorough accreditation process these outcomes are likely. In a survey by Ruddell and Stevens (1998) 83% of organisations surveyed believed that ISO 14001 prevented potential negative environmental impacts, improved environmental awareness and increased responsiveness to customer demand. In a survey by Hamschmit (2000), 92% of environment managers acknowledged that since the introduction of an EMS there had been an increase in the priority given to environmental topics in their organisation.

A further argument against a voluntary EMS such as ISO 14001, as Stegers (2000) points out, is that organisations may pick and choose indicators that portray it in a good light. Therefore, an organisation may chose targets that are easily met rather than those linked to ecological priorities. In the same way they may choose easy indicators to monitor in terms of cost and risk especially as there is no additional budget for an EMS given to LAs.

In general the full impacts of ISO 14001 on organisations' environmental performance are unknown. However, no negative impacts have been mentioned in the literature other than cost. Therefore the question remains: does it improve environmental performance?

2.2 The nature of ISO 14001

The principal source of the following material is the 1996 ISO 14001 standard itself. This section indicates what the standard is, what it contains and how those who created the standard would like to see it used.

2.2.1 Scope of ISO 14001

The first phase of ISO 14001 is to scope what parts of the organisation's processes are to be included. This enables the organisation to formulate a policy and objectives taking into account legislative requirements, and some idea about significant environmental impacts. Ideally this would include all environmental impacts which the organisation can control.

The main reason for implementing ISO 14001 according to the standard is that ISO 14001 enables an organisation to implement, maintain and improve an environmental management system. It is supposed to enable an organisation to assure itself of its conformance to legislation within its environmental policy, and to demonstrate this to stakeholders. In addition it enables the organisation to seek verification of its EMS by an external organisation or allow it to make a declaration of conformance with ISO 14001.

2.2.2 Environmental Policy

Second, having scoped the organisation's senior management will then produce the organisation's environmental policy. ISO 14001 states that this should be appropriate to the nature, scale and environmental impacts of its activities, products or services and that it should describe these. It must also include a commitment to continual improvement and to the prevention of pollution. Other aspects such as compliance with legislation and a framework for setting and reviewing targets are also important. This should then be documented, implemented and maintained and communicated to all employees, and made available to the public. However an organisation's ability to audit itself effectively needs to be considered, as it is imperative to the process that no elements are omitted if the standard is to be obtained.

Planning means looking at the environmental impacts of its processes, the legal requirements it must comply with, setting objectives and targets, and an environmental programme.

The organisation is required to build procedures identifying the environmental aspects of its activities, products or services that it can control, enabling it to determine its most important impacts. An organisation is required to be aware of its legal obligations and any requirements to which it subscribes. Objectives and targets need to be documented and communicated at each level of the organisation. In addition, a programme of how the objectives are to be met is important. This should include reference to who has responsibility for what objectives and targeted times for their achievement.

2.2.3 Implementation and operation

Implementation and operation is the third phase of implementing ISO 14001, and can be broken down into;

- Structure of the EMS
- Responsibility for environmental impacts, monitoring these and managing them
- Training awareness and competence of the environment
- Communication of the environmental impacts and their management,
- Documentation of environmental impacts,
- Control of those documents required by the standard,
- Operational control managing the environmental impacts of the production process,
- Emergency preparedness for and response to environmental incidents.

Below the most important of the stages of implementation are discussed. Those not discussed are those commonly founded when implementing any management system.

An organisation must allocate clear cut roles and responsibilities if an EMS is to work effectively. These must be defined, documented and communicated, and appropriate resources must be allocated.

2.2.3.1 Training

Training is also important for an EMS to function. Everyone from the bottom to the top of the organisation must be aware of the environment and how their actions affect it and the importance of conformance with procedures and they must be competent to run the system. This leads to the communication internally of the environmental policy so that it can be included in decision making, and externally so that the organisation can communicate its environmental performance and be scrutinized.

2.2.3.2 Documentation

It is imperative that the EMS is documented to provide a description of the core elements of the EMS and how they are linked, and to direct people to relevant documentation. These documents must be controlled so that when required they can be located, reviewed, ensured to be current.

Operational control of the environmental impacts of an organisation's activities must be reflect and aid its objectives and targets, and procedures need to be documented. This documentation needs to cover all situations including emergency preparedness and response.

2.2.4 Checking and corrective action

The fourth phase for obtaining ISO 14001 is checking and corrective action. Firstly this includes establishing and maintaining documented procedures, monitoring key environmental impacts, and monitoring equipment (must be maintained). Procedures for dealing with and investigating all non-conformances will be established, and responsibility allocated. Actions to limit the impacts of non-conformance appropriate to risk must be identified.

Environmental records will be kept, and will include training records, audits and reviews. Periodically an audit of the EMS shall be undertaken to determine whether or not the EMS conforms to plans and is maintained, and to provide information on environmental audits.

Finally, the management will periodically review its EMS to ensure suitability and effectiveness, and that all necessary information is collected.

2.3 Motivations behind the creation of ISO 14001

All of the following material is derived from the standard itself, with the purpose of exploring the original driving forces behind the standard.

2.3.1 The purpose of the standard.

In the view of the International Standards Organisation, application for the standard implies environmental concern, as stated in the standard itself. This attitude is contested by a number of commentators who feel that organisations apply for the standard due to self interest. ISO states that the ISO 14001 offers a label which will make the organisation more likely to gain funding and creates a level playing field internationally, by allowing organisations to demonstrate that they are taking environmental action and therefore receive credit for this action in the world market.

The standard established that there is growing concern for the environment from stakeholders (investors, banks, insurers and the public) and it aims to help organisations address these concerns. It is aimed at improving the effectiveness of the organisation's reviews and audits, and to ensure that action is taken in response to these. ISO believes organisationally that on their own these concerns are not sufficient to assure that the organisation's policy or new legislation is met.

At this point it must be made clear that the standard was not intended to and does not replace legislation nor does it in itself confer immunity from legal obligation. Although it has often debated whether or not it should in journals and articles, and some governments have accepted organisations as having full compliance with the law if they have ISO 14001, such as Italy.

The main aim of ISO is to provide the organisation with the main elements of an effective environmental management system (EMS). It also intends to produce a system that can be integrated with other management systems to become part of the day to day running of the organisation, in order to allow the organisation to achieve both its environmental and economic goals.

2.3.2 What is not in the spirit of the standard

There has been much dispute from developing countries that the standard creates a non-tariff trade barrier, because of their inability to comply with the standard due to the expense of setting up a system. Thus those with EMSs would gain an

advantage which would allow one organisation to gain funding from the World Bank where others couldn't, for example. On a more local level there may be favouritism towards those with the standard which may put small companies at a disadvantage. Many organisations see this as a benefit of ISO 14001, especially as they expect governments to give them preferential treatment. However, it is not the intention of ISO to do this, as is stated in the introduction of the standard.

In the same way, it has been argued that ISO 14001 lends itself to more traditional hierarchical organisations, being a top-down process and requiring extensive documentation. This may be beneficial to local authorities as they tend to be hierarchical organisations. This is debatable and not intentional as ISO states that it feels that the standard has been designed to be applicable to all organisations regardless of type.

The theory that ISO 14001 can only be implemented in a hierarchical framework is disputed by its creators as it requires teams of individuals from all parts of the business, in line with a project-like framework.

It has also been argued that the expense and time required to implement the standard inhibits the number of SMEs and smaller organisations that can apply the standard. However, these organisations are being encouraged by the government to apply the standard, and many authors, for example Hamschmidt (2000), Donaldson and Davis (1990), Kirkpatrick and Pouliot (1996), stress the money that can be saved by doing so. Again, as stated in the standard this discrimination is not the intention of ISO. In the case of smaller local authorities there is no evidence that this discrimination occurs.

In addition to this ISO intends to accommodate diverse geographical, cultural and social conditions by not establishing absolute requirements for environmental performance, a stand that has been challenged by a number of commentators.

This also enables organisations with different levels of environmental performance but with similar activities to comply, imperative to LAs as there has been little guidance on environmental efforts leading to a spectrum of different environmental policies. Some see this as a failure of the International Standards Organisation; however, it does encourage organisations to take their first steps towards improving environmental performance. Allowing this was an intentional move by ISO.

2.3.3 What ISO 14001 does include.

The standard does require that the organisation meets legislation, so some level of environmental performance is required. As will be seen not all of the interviewees in the research reported later in this study, agreed with this. In addition, the standard also requires a commitment to continual improvement, through the setting of targets, in the hope that this will drive improvements in environmental performance both in the organisation and in industry.

By encouraging continual improvement it is the intention of ISO to encourage the implementation of BAT (Best Available Techniques) to achieve environmental objectives where economically viable. Although the standard may encourage this, it is possible for an organisation to ignore this and still achieve ISO 14001. In addition what is economically viable is subject to much debate.

2.3.4 What ISO 14001 doesn't include

In addition, there may be conflicts between environmental performance and other legislation, such as health and safety, which are not addressed by the standard, leading to problems with the integration of ISO 14001 into the current management system. It is important to note that legislation comes first both in the eyes of ISO and the government.

Finally, although ISO does not guarantee environmental performance through the adoption of ISO 14001 improved environment performance through the implementation of a range of environmental techniques.

2.4 Motivations for the adoption of ISO 14001

Vorst et al (1999) describe ISO 14001 as a tool aimed at supporting the decision making process and implementation of environmental policy. What motivates organisations to use it is discussed below.

2.4.1 Assessment of Environmental Impacts

An Environmental Management System (EMS) such as ISO 14001 can help organisations assess their environmental impacts and evaluate these in a systematic way, and prioritise their environmental management tasks (ISO 14001).

However, there is a disadvantage to certification, in that it may bring to light negative environmental impacts, opening the organisation up to scrutiny, a particular risk to LAs. (However, as local authorities are under such scrutiny that they may well be exposed anyway. There is much less risk of companies being exposed.)

2.4.2 Economic Reasons

According to Chapple et al (2001), participation in voluntary environmental compliance with ISO was and is motivated by rational economic self interest. For example, organisations including local authorities may be motivated by the cost savings that could be made and perhaps a contract that could be won. This is supported by Jaggi and Freedman (1992) who state that the plan to adopt ISO 14001 is motivated by the potential cost saving. However there are also the high costs of compliance, such as the costs of setting up an EMS, new roles, consultancy, and auditing as pointed out by Arora and Gangopadhyay (1995) and therefore limited cost savings. It may be that some councils can not afford the preliminary costs.

2.4.2.1 Reduction of costs

There are economic benefits which may motivate organisations, which can be achieved through certification. These include identifying areas for reduction in energy use, inputs and wastes. By reducing this slack, money can be saved (Morrow & Rondinelli 2002). In the same way by investigating how to improve environmental management of procedures and improvement in quality and savings and reuse of materials can be achieved, releasing funds for other departments. However, if local authorities succeed in cutting costs the government may also decide to cut the funds it pays to them, which would not happen in business. Even if this did happen the authority may gain in reputation. According to Kuhre (1995) there has been a rise in the application for ISO 14001 certification by organisations seeking cost savings.

But, there is the problem of diminishing returns to investment in environmental projects. Eventually the cost of environmental improvements could outweigh the benefits and, at this point environmental improvements may stop (Welch et al 2002). This follows the law of diminishing returns, which state that as more is invested in the product, comparatively less return is realised. For example, if an organisation was investing in waste minimisation the first year substantial cost

savings may be made, but by the fifth year all significant improvements that can be made have been made thus return on investment is smaller, and eventually additional investment will reap no financial reward. The point at which a non-profit organisation would stop this investment is drawn into question but it is this writer's opinion that the returns on other uses for the money would have to be considered just as in a commercial organisation. Diminishing returns could also be used by politicians as a reason for not investing even when appropriate in an LA.

2.4.2.2 Public Image

Organisations perceive that a positive environmental performance may help to impress government or the public making it easier to raise funds; this is a strong motivator. In business a good public image would be used as a marketing tool, to sell the product or service. In an LA it might attract new funds or re-election of a politician or promotion of an officer.

However, green differentiation such as this may not be valuable to the public or may diminish in value as other organisations imitate this behaviour, thus an organisation may never see an outcome from its investment (Josee Roy and Vezina 2001). In an LA this can be measured in the popularity or profile of the LA. In addition customers are very sceptical of green services, thus trust needs to be built up, especially as the quality of ISO 14001 has been drawn into question (Josee Roy and Vezina, 2001). For an LA diminishing returns can be seen in terms of the relative benefits for the amount of tax spent on the environment or other issues. So this may be less of a motivator than it first appears, depending on whether organisations believe that the public are sceptical or not.

2.4.3 Legislation and Regulations

By evaluating its management system an organisation will be able to see where it does and doesn't comply with legislation enabling it to avoid fines and other penalties, (Morrow and Rondinelli, 2002). The LA may reduce the risk of negatively affecting others making it easier to avoid liability. However if an LA is responsible to central government it may incur penalties. By demonstrating a diminished environmental liability the organisation could also find it easier to obtain financial support and insurance. This is the same in the wider context of industry.

Although many commentators have stated that this could occur, no evidence of this has been found.

Another reason for accreditation may be to discourage new legislation, which might be stricter than if local government improves its standards voluntarily. It has also been suggested that accreditation may obtain regulatory relief (Kirkpatrick and Pouliot 1996, Rondinelli and Vastag, 2000). However, no examples of this have come to light either in this research or that of others. On the other hand the current lack of legislation has given organisations flexibility to develop EMS appropriate to their operation, location and level of risk (Rondinelli and Vastag, 2000). Through voluntarism organisations often are able to get involved in the development of legislation enabling them to manipulate the regulatory system (Becker 1983, Peltzman, 1976, and Stigler 1971). This may apply particularly in local government rather than industry as it had considerable input into central government affairs through their MPs and other government links. In addition, making changes now to operations and the way in which the organisation is run in terms of the environmental impacts, means that future compliance costs will be less.

2.4.4 Efficiency motivations

ISO 14001 is seen by some (e.g. Burstrom von Malmborg 2002), as a tool for communicating action and organisational learning, thereby improving communications within the organisation, which might be argued to be a benefit and hence a motive. One benefit of an EMS is that it provides LAs with a co-ordinated approach to the environment. In the same way they may benefit from government incentives to become greener, although the literature suggests that this has not happened in the UK. Furthermore, it seems unlikely as the government can simply order local authorities to adopt environmental practices. However, "in a commercial context" this approach could encourage firms to become greener, but it may go against international law if firms use it to gain a competitive advantage over firms outside the country.

There are also intangible benefits to be had through the introduction of EMS, such as employee awareness of the processes they are a part of, greater operational efficiency as the right hand understands what the left hand is doing, and improved logistics (this maybe more relevant to industry than to local government). All of the above will bring efficiency savings (Ruddell and Stevens 1998, Victory 1998). In the

same way not only are managers aware of environmental issues but of the process but also, all issues leading to operational effectiveness. In addition officers are also aware of their responsibility. There are many expected gains such as public recognition, financial savings and the technical assistance offered by ISO 14001 certifiers, and the potential to avoid liabilities.

However, there are a number of difficulties which must be overcome if an EMS is to become successful, which may act as disincentives. The first is that decision makers must recognise that the EMS is amongst its highest priorities, and so must take precedence over other initiatives (ISO 14001, 1996). This is difficult for an LA with large numbers of initiatives and conflicting priorities. Communication on environmental issues must also be established and maintained from the top to the bottom of the organisation which may have cost implications (ISO 14001, 1996). Clear accountability is also important and this may lead to training needs and so more costs (Affisco and Soliman 2002). But by overcoming these difficulties the organisation concerned may reap the rewards of stronger communications and structure.

2.4.5 Stakeholders

Accreditation may also create goodwill amongst stakeholders such as NGOs and the public (Buckens and Hinton 1998, Coulson and Marks 1999). It indicates that the organisation is responding to stakeholder pressure, giving it a strong standing with those with a financial interest such as government and the tax payer (Kirkpatrick & Pouliot1996, Tyteca et al 2002). A good relationship with stakeholders is vital to LAs.

Another reason for pursuing accreditation is that it can increase benefits to the electorate. By critically examining processes, better quality services may be produced at lower cost, satisfying the public. This in turn will improve the authority's reputation.

This advantage may become more prevalent as the public are taking environmental values into account more and more (Lin 1995, Aboulnaga 1998, Baron 1996). However the public tend to be sceptical so evidence such as either third party accreditation is needed to persuade them, or reporting. To counteract this mistrust many organisations are producing environmental reports and policies, and asking the public and NGOs not to trust them but to track them (Stegers 2000). The success of this approach has yet to be seen. By achieving the requirements of ISO 14001 an

organisation demonstrates it has a management system that can control and reduce the organisation's environmental impacts over time.

2.4.6 Previous Research on Motivations

The question therefore arising is whether organisations are motivated by the greater good or by self interest. The survey done by Ammenberg et al (2001) found that of the accredited organisations surveyed 75% believed that there were less seriously environmentally focused organizations than their own which were, pursuing certification for marketing purposes. (Self interest in this case may mean promotion, re election, or credit or more funds from government.) However, others believe that certification is so tough that irresponsible organisations lose interest (Ammenberg et al 2002). The survey by Environmental Health and Safety Online (2002), states that of the organisations that responded 92% agreed that adoption of the standard had been due to a genuine concern for the environment. In addition, in a survey by Ruddell and Stevens in 1998, 83% of 33 organisations felt that accreditation enabled them to prevent potential negative environmental impacts, improve environmental awareness and respond to customer demand. On the other hand, 65% said that they were motivated by corporate image, and 50% were using ISO 14001 to gain market access. The survey does not state whether this is their sole motivation, primary or secondary motivation. However, as the total of the percentages reported exceeds 100% it must be assumed that a number of respondents were declaring multiple motivations.

Some may use ISO 14001 for more sinister reasons such as defence from negative publicity or to distract attention from failings else where. It has been often suggested that ISO 14001 has been used to influence perception as a marketing tool, to boost public image. These may be all strong motivators, but little evidence suggests this is the case.

Finally, as Welch et al (2002) states it is widely believed that organisations adopt this voluntary initiative because the benefits of voluntarism out weigh the costs. However, despite the significant improvement in disclosure of environmental performance the level and extent of disclosure was still low (Solomon and Lewis 2002). Many organisations acknowledge that they do not have a system that identifies and tracks past, present, and future environmental costs or savings (Josee Roy, 2001).

It is possible to conclude that although some commitment to the environment exists there are many other reasons that organisations seek EMS accreditation.

2.5 Environmental Performance

There is not much discussion on the meaning of this term apart from the definition given by ISO 14001, which states that it is the measurable results (such as the emissions of sulphur to air) of the environment management systems, related to an organization's control of its environmental aspects, based on its environment policy objectives and targets.

Note that this first does not specify any specific standard or whether the outcomes are positive or negative.

2.5.1 Measures of Environmental Performance.

There is little literature on measures of environmental performance at an organisational level; therefore, it is necessary to look at international standards of measurement. The UNDP human development Index (UNDP, 2003), the World Bank's wealth of nations Index, World Resources Institute, all have different indicators. The most commonly used indicators according to Kazi F. Jald and Rogers (2002), is the cost of remediation (COR), environmental elasticity and the environmental diamond.

COR is measured in dollars. It starts by measuring existing levels of environmental emissions and degradation is assessed. Then a set of targets for improvement are established, and the costs of achieving these standards are then estimated. This is an expensive means of evaluating environmental impacts and does not allow you to measure future or current impacts, as well as not proactively encouraging change. The future cannot be measured because it is impossible to predict total future impacts and knock on effects that occurs. This would be especially difficult for an LA which has very diverse impacts.

Environmental elasticity is the percentage aggregate environmental change divided by the percentage economic change times weighting on the severity of the environmental impact (which is both subjective and debatable). It is debatable, as the effect of environmental change is an unknown and so a figure very much depends on the evaluator's outlook. Again this calls into question how reliable are estimates of economic change, which is highly subjective. In the same way estimating total

environmental change is very expensive, a huge task for an organisation. This calculation could be used to compare benefits of economic improvement against environmental loss. Measuring this would most probably be very expensive for an LA, to do for every project but may be appropriate for large endeavours.

The environmental diamond consists of the four aspects of air, land, ecosystems and water, on all of which organisations generally can calculate their impacts by measuring end of pipe wastes. By doing this an organisation can draw a picture of environmental impacts and over time of improvements.

2.5.2 The OECD measurements.

The OECD has created similar a number of indicators for countries to use to measure environmental impacts that could be adjusted to help illustrate environmental performance at an organisation level, based on the four elements of air, land, water and ecosystems (OECD, 2002). These measures are already used by some organisations.

The first issue the OECD addresses is climate change, stating that greenhouse gases (GHG) and carbon monoxide (CO) emissions per unit of GDP should be measured, and an organisation could measure emissions per unit of output or profit. This is to be recommended as an increase in production may be expected to increase emissions although they may be proportionally less. Air pollution is the next area covered. Again the OECD suggests it could be measured in relation to GDP, but it is also possible for an organisation to measure it in terms of profit or output. It suggests measuring nitrate oxides (NOX), sulphur oxides (SOX) and fine particulate matter, and volatile organic matter. This would be appropriate for business that has physical outputs but less useful in a service provider such as an LA.

It is important to note here that certified organisations already monitor air, water and land emissions; however there is little consistency between countries and few formulae. In addition local authorities rarely have a direct impact on these media, causing them to have to aggregate the impacts of their projects, which is difficult and of questionable value. In some cases they have no impact on emissions such as nitrate oxides.

The OECD goes on to describe measures for impacts on Forests and Natural Resources, Fisheries, and Biodiversity, which due to the fact that these impacts are small and so indirect they may be deemed to be irrelevant to many organisations.

In the same way for water, sewage per person is given as an indicator by the OECD. In the case of an organisation this could be converted to sewage per unit of output. In the same way total abstraction of fresh water per unit of GDP, can be converted in to fresh water used per unit of output. Waste it suggests should be measured in absolute terms; however it may be more effective to measure it in terms of output as mentioned later on. On the other hand direct material input per unit of GDP is suggested as an indicator by OECD for countries , which can be logically converted into direct material input per unit output for organisations.

2.5.3 Motivations for monitoring environmental performance

It is necessary that organisations continually monitor environmental performance, in order to satisfy the public needs, such as a demand for green services, clean environment, as expressed through stakeholder wishes. This need not be a burden as proved in the early nineties, when business performance and environmental performance became more synchronised. The pressure of stakeholders may not be the same for all organisations and needs to be evaluated in terms of LAs.

2.5.4 The Welford and Gouldson model for measuring environmental performance

Welford and Gouldson (1993) identify 4 key areas of environment performance in an organisation:

- The Organisation and its services
- Direct environmental impacts
- Infrastructure
- External Relations

The organisation and its products or services relate to processes, procedures and operations and covers aspects like the involvement and integration of the environment in the organisation supply chain and product use and disposal.

Direct environmental impacts covers energy use and the impacts of the organisation on nature and ecosystems.

The organisation's infrastructure and environmental performance areas include buildings and management systems.

External relations include education of those outside the organisation and environmental initiatives.

2.5.5 Priorities and Indicators for measuring environmental performance

However, no indicators are suggested by Welford (1993) and these areas could prove difficult to measure. All these aspects must be integrated with other business performance as stakeholders will not be impressed if environmental performance severely affects costs. Each organisation must decide its priorities based on its EMS, however the main receptors of land, water, air, and ecosystems are generally considered. This should include information on the worst environmental impacts of the organisation. This may be difficult for an LA to evaluate.

It is important to note that priorities often coincide with national and international legislation or agreement on the reduction of certain substances and processes, because of outside pressures and opinions of groups such as government, the press and the public. An organisation must appease these groups if it is to retain a good reputation. When choosing indicators it is imperative that some form of system is used to justify those chosen and to ensure they are relevant.

Some guidance is given by Welford and Gouldson (1993) for choosing appropriate measures. First it is important to consider what areas are capable of being measured. This should be very carefully considered so that areas are not dismissed just because they are harder to measure. Measures need to be consistent with environment policy objectives, without which they are merely another expense. The policy provides the framework for understanding and using the indicators, and provides the targets to which the results are compared, and which determine the need for indicators. It is also necessary to limit the number of measures: too many may confuse and incur excessive cost. To be of use in communicating to stakeholders measures must be transparent and clear. In addition if an organisation is to gain a positive reputation it is imperative that the measures are not controlled by hidden

agendas of management, such as power struggles to gain more resources and influence. In addition measures must be able to be mapped over time to illustrate changes in organisational performance.

2.5.6 How to pick indicators

The summary above is a concise illustration of how to pick environmental indicators; however James and Bennett (1994) have put forward more rigorous criteria, for the selection of environmental indicators. These are:

a. Cascade
b. Commitment
c. Comparison
d. Comprehensive
e. Continuous improvement
f. Controllable
g. Cost
h. Credibility
i. Customer Focus

a) Cascade means that measures must be derived from strategic objectives at top management level. These are then split into sub measures appropriate to different levels of management and activities, for example the waste water produced by a process, the amount of material used in production of a specific product These measures will vary between organisations, as services and processes vary. Therefore this study can not judge these indicators, but solely whether they exist.
b) If an environmental policy and measures are to work, it requires the commitment of all employees, as these are the individuals that will implement these measures. Involvement in the design and implementation of measures will aid commitment, and is the best means of ensuring that measures are workable.

c) The comparability of indicators is important as it will enable the organisation to compare itself to others in the sector and enable it to measure changes from year to year.

d) At least some of these indicators must be something that can be continuously improved over time, if they are to retain the standard. See section 5.6.

e) Those indicators used should cover all those aspects that are controllable outcomes of production and use. Here James and Bennett differ from Welford and Gouldson who would also include the monitoring of uncontrollable outcomes. Indicators must be of controllable outcomes if improvement is to be shown through the indicators and to prevent discouragement due to lack of control.

f) Cost is also important monitoring and measuring inputs is expensive. This may be an expense that the organisation cannot afford, as there is no guidance on where to stop. Therefore good judgement is required to balance environmental impact against cost. It is important that an organisation considers the cost –benefit to the environment, if it is to remain profitable and appease stakeholders. This will ensure money is spent wisely and that win –win opportunities are found. However, these win-win opportunities will eventually run out and some cost will be incurred. This is due to the law of diminishing returns, which shows that after a peak amount of investment returns fall. But at this point some environmental improvements will still be more beneficial than others.

g) Measuring uncontrollable outcomes may allow the organisation to measure its liability. In addition it may be demotivating if there are no actions for improvement. Another way to measure environmental performance is the use of ISP (Indicator of Sustainable Production). This like the other methods of environmental performance measure works on the principle that you can't manage what you don't measure. It is imperative to know whether established goals and objectives are met, and how an organisation compares with others in the sector. This set of indicators relates environmental metrics to output as suggested before, it also makes it possible to track over time. This set of

indicators relates to consumption of raw material and production waste, and emissions to production of goods and services, including issues such as transportation, packaging, product use, distribution, and lifecycle analysis .The indicators given above are listed in Global Reporting Initiative GRI, and are given later. The main problem with these indicators is that they are burdensome to SMEs and small authorities. As with some of the sets of indicators discussed there is a set of core indicators and then supplemental indicators. This is because environmental impacts vary from industry to industry, and from organisation to organisation.

h) Credible measures must be made if the organisation is to win over stakeholders. They must be focused on the most important areas not the easiest. Here this criterion differs from Welford's which would allow the organisation to reap the low hanging fruit first. This may be a good way of encouraging organisations to take the initial steps to improved environmental performance. However looking at Welford's (1993) indicators few are relevant to local authorities.

i) It is important that each measure is designed with a stakeholder in mind, to prevent unnecessary expenditure and to ensure that the indicators meet their needs. Thus there is a customer focus, which is important if the company is to win the hearts and minds of its stakeholders and gain recognition for its environmental work, either in terms of a good public to marketing.

2.6 Assessing the impact of environment management system on performance.

In this section, environmental performance is discussed in relation to ISO 14001, and how this standard influences it.

2.6.1 Traditional views of Environment Performance

Traditionally improvements in environmental performance were seen as a breach of the fiduciary duty to stakeholders to minimise costs. Porter (1991)

challenged this by demonstrating that it was possible to have increased profit and a fall in pollution, thereby sparking a debate.

2.6.2 EMS and Environmental Performance

Corporations, government agencies and environmental interest groups are sceptical about the real impacts of EMS on environmental performance (Krut. and Gleckman 1998). However, many businesses, organisations and individuals assume that an EMS will lead to improved environmental performance (Rondinelli, 2000). As illustrated by Pun et al (1998) whose survey showing that most interviewed organisations agreed that the adoption of ISO 14001 was effective at attaining environmental goals.

2.6.3 ISO 14001

According to Sayre (1996) ISO 14001 enables an organisation to establish an environmental policy appropriate to the organisation. It facilitates planning, controlling and monitoring to ensure that the policy is complied with. It enables the organisation to identify legislative requirements and environmental impacts and to establish a programme to implement these policies and objectives with a disciplined process of evaluating and achieving targets. This includes seeking continual improvement. Ideally it should also mean clear assignation of accountability and responsibility making it more likely that environmental improvements will take place.

According to Victory (1998) environmental performance will reap benefits in corporate performance. These benefits include:

- employee awareness of how the organisation works
- a better environment,
- operational efficiency,
- managerial awareness of how the organisation works and environment,
- operational effectiveness.

An EMS can help organisations to assess environmental impacts and to organise, systematize and prioritize the environmental management tasks of an organisation (Sheldon 1997, Hillary 2000), although whether this takes place depends on the ethics of the organisation. In the same way having an EMS should include providing resources for training. According to Sayre (1996) an EMS should also

include a management process to review and audit the EMS and environmental performance.

Finally an ISO 14001 organisation should encourage contractors and suppliers to become compliant with legislation and organisation policies. The assumption exists that by helping an organisation to focus on each stage of its manufacturing process the organisation will develop better environmental management practices and ultimately achieve better environmental performance.

2.6.4 Hidden advantages of having an EMS

In some people's opinion including Hamschmidt (2000), an EMS not only improves environmental performance but also overall performance. This is certainly a possibility but there is little evidence either way. It is felt that improved environmental performance will improve the value to the customer giving the organisation a strategic advantage (Arora and Gangopadhyay 1995). However, this advantage may be lost through imitation, as may all competitive advantages. In addition by improving environmental performance the organisation may gain in reputation (Arora and Gangopadhyay 1995). Corporate performance may improve through being able to gain contracts based on having an EMS (Buckens and Hinton 1998, Coulson and Marks1999). For example, having an EMS is a prerequisite for World Bank projects.

One of the most important contributions of an EMS according to Burstom (2002) is the provision of information, and the structural and procedural platform for enhanced communication on environmental and sustainable issues.

Morrow and Rondinelli (2002) state that performance is improved through reduction in costs and fines, and that environmental performance is improved by a reduction of energy, materials use and waste production.

However, these are relatively short term advantages; it is worth considering the long term costs and benefits of ISO 14001.

2.6.5 Diminishing Returns

It is worth noting that the low hanging fruit,(i.e. the most accessible environmental improvements such as waste elimination and reduced cost), will be exploited first, giving way to more expensive initiatives with less value to the organisation. This is an issue raised by Litsikas 1999. He also points out that EMSs

are time consuming and expensive. Whether environmental performance continues to improve over time is an area that could be investigated by another researcher, but it suggests the need for a longitudinal study beyond the scope of this thesis. It might be that because the LA is a not for profit organization it is less tempted to go for low hanging fruit.

Like Litsikas (1999), Walley and Whitehead (1994) argued that there was a negative relationship between investments in environmental initiatives and stockholder value. However there are many who would argue this point.

On the other hand as technology develops cheaper, means of improving environmental performance are created, both in terms of reuse, recycling, energy and material efficiency and new products, thus counteracting diminishing returns.

2.6.6. The pitfalls of an EMS

However, it is important to note that ISO 14001 is just a tool not a panacea or a substitute for human action. It is also important to note that even if an EMS facilitates co-operation, communication and learning, many believe that it would not necessarily make an organisation successful in environmental management (Welford 1997). These commentators remind us that ISO 14001 is merely a structure.

At present organisations can pick and choose which environmental impacts they monitor on and improve, and therefore they may not improve environmental performance as much as they could have had they followed a set of ecological priorities (Stegers 2002)

2.7 Conclusion of Literature Review

The standard requires a fundamental change in the philosophy of the organisation. It is therefore necessary for the implementation of the standard to overcome difficulties such as politics and power struggles.

The main benefits to the standard are that it makes it easier to manage environmental impacts, and enables achievements to demonstrate them to stakeholders. In addition some felt that money could be saved, and that they would be more likely to gain funds. However there was little evidence that the standard increased efficiency, and that organisations would pick and choose indicators that suited them. In addition it was clear that the standard did not replace legislation and that the EMS could not be used to get around this.

It was also felt that cost may inhibit smaller organisations from joining. Leaving us with the question, how strong are economic motivations and does he standard really cut costs? Another strong motivation is public image, it will be interesting to understand how this motivation impacts performance. However, it is clear from the literature review that legislation and regulation are weak motivations, as is efficiency improvements with its intangible benefits. This is tested later on. The reading also suggested that although most people feel that others are not motivated by the environment, the majority of people say they were (See Ammenberg 2002, and Results from the Case study).

The standard is not prescriptive allowing management to take its own approach provides all the basic elements are addressed if this is a good thing, is investigated by this study.

It is also felt that stakeholders are very influential, this was tested later. Finally adoption appears to be based on concern for the environment.

3.0 Methodology

Below is a description of how the methodology of this work progressed from the literature review to interviews and finally a case study. It describes the reasons for the chosen approach at each stage.

3.1 Literature Review

Initially a detailed review of the literature on ISO 14001 was carried out. This revealed the motivations of organisations adopting the standard (which varied from a desire to enhance public image to pursuing environmental interests), outcomes resulting from the adoption of ISO 14001, and the strengths and weaknesses of ISO 14001. Also investigated were the motivations of those originally responsible for development of the standard. Conflicting evidence from the review gave rise to questions such as:

- What the strengths and weaknesses of the standard really were and whether or not the standard is flexible enough to be used in LAs;
- The need to rank motivations in terms of the most important and frequent;
- Strengths and weaknesses.

These questions arose due to the varying responses to these issues in the texts studied. Other issues such as what motivates the adoption of ISO 14001, and whether organisations with different levels of performance should be allowed to have ISO 14001, were drawn out because of conflicting evidence and opinion in the literature. In the case of measuring environmental performance the issue was mainly a complete omission in most sources (see section 5.5 on environmental performance). Other issues such as whether the standard is sufficient, or whether accredited organisations should go beyond the standard and whether this is possible, needed further examination. These questions arose as the literature under review questioned the effectiveness of the standard and whether it went far enough, as it is questionable whether it really does improve environmental performance.

3.2 The Interviews with different Councils.

The questions and conflicts arising from the literature review, insofar as they were relevant to Local Authorities, were addressed by the analysis of primary data generated from LAs as follows. A series of detailed interviews with key personnel in a number of LAs was carried out to answer some of these questions, and to clarify and

prioritise the key issues. A list of questions was drawn up from the background reading. Telephone interviews were chosen as opposed to a postal survey, because so few LAs had adopted ISO 14001 and because of those who had, little was known about it outside of a few key personnel. Thus a postal survey was likely to reach ill-informed respondents, which would dilute the value of any data generated by that means.

The first set of interviews was initially started by word of mouth, in other words using existing networks between councils to obtain contacts. This was because at the time very few councils had ISO 14001: those with an EMS tended to have EMAS rather than ISO 14001 and even fewer were prepared to talk about it. Through using others' contacts it was considered more likely to reach the right person as the councils often were confused by a cold request and would pass the call around and evidentially turn the researcher away. In addition a number of councils who had ISO 14001 had not communicated that to all staff so without direct contacts an enquiry would result in being passed around, or simply being turned away. The next approach was to use the comprehensive list of councils found on the government central website[1] and by using the internet to identify those with an EMS. This was a lengthy procedure because there were few with ISO 14001 (approximately 1 in 10). Having made a few initial contacts other LAs with the standard were identified by these original respondents. All of the LAs were always investigated on the internet before contacting them.

Before interviewing them they were asked to confirm that they had an operational ISO 14001 and an appropriate time to do an interview was arranged. Great care was taken to include respondents from councils that had just implemented a system as well as some that had had one for some years. Qualitative data was sought because the sample was too small to measure quantitative data that would yield any statistically significant results. In addition qualitative data was needed to design the case study which was to follow this initial survey. Also the range of responses I was getting meant that it was impossible to measure results quantitatively because they were so diverse.

The interviews each took between 30 and 40 minutes, and dealt with a range of issues, (see appendix 2 for a copy of the questions). These interviews in turn, led to a series of further questions, such as:

- Why do LAs really choose to pursue the standard?
- What pressure do LAs apply on the supply chain?
- Are motivations for adopting the standard viewed the same by everyone in the LAs?
- What makes people sceptical of ISO 14001 within the LA?
- Does there have to be a powerful champion of the standard for it to be implemented effectively?
- To what extent are the LAs influenced by outside pressure?
- Have the LAs accurately measured the rewards of having ISO 14001?
- Are the LAs setting and meeting targets?
- How do the LAs measure and guarantee environmental performance?
- What are the main inhibitors to improved environmental performance?
- Is there consistency between LAs with EMS?

These interviews were mainly concerned with respondents' opinions of ISO 14001, and their theories of its success and failure. Not surprisingly this led to some conflicting data, which was re-examined in a detailed follow-up case study.

3.3 The Case Study

This in depth case study was carried out to seek answers to the questions raised by the initial interviews. This also allowed us to move on from data based largely on subjective opinion and to make a more objective analysis, because information gained from one respondent could be 'triangulated' by reference to information from others within the same organisation. This allowed us to assess how accurate the interviews were, and to see whether implementing the standard was biased. For example did they merely exalt the virtues of the standard because this was what they were employed to do, or because they had a set outlook. It also allowed us to see how the perceptions revealed in the interviews were reflected in the reality of a detailed contextualised case. It was felt that this would be a more effective way of measuring environmental performance because it relies on multiple sources of evidence. These include:

- the whole range of 7 interviews carried out for the case study

- The case study organisation's manual which contains documentation of the EMS system and where literature on the system can be found.
- Minutes from meetings, internal monitoring and so forth.

However, formulating the case study was aided by the prior development of theoretical propositions as derived from the initial interviews.

The case study was of Bedfordshire County Council, which is one of the most long running LA users of an EMS. It was chosen because of the typical pattern of adoption across directorates. In addition the standard had been well communicated across the LA so it was possible to explore the opinions of those who weren't implementing the standard.

The case study was designed to use the different sources of data mentioned above to create a picture of what the employees in the case study authority believed was happening and to compare this with what was actually happening. First a set of interview questions was designed and tested on a close contact. Second, the 7 interviews were carried out, starting at the bottom of the organisational hierarchy so that the juniors' responses did not simply mirror what they thought the bosses were saying. Staff interviewed included

- Those in the directorates that were audited
- The EMS officer
- Those who headed the initiative, namely the senior officer and the councillor who was the relevant portfolio holder.

With a help of the EMS officer the archives were searched for information on targets and whether these were being met, and how they were set. Information on the motivations behind adopting the EMS was also researched. Bedfordshire was chosen because it is quite advanced in terms of experience having been developing an EMS for a long time, and being one of the first to "sign up". Thus it has been through all the teething problems of being something of a pioneer and so has a good idea of all the issues. Its extended experience has been able to provide a long term view. In addition, the staff interviewed were co-operative. Furthermore, like most LAs with the standard it has been applied to only some of the directorates although it is gradually widening it scope.

The approach to the case study can be split into five key components:

- A case study question

- ❖ Propositions
- ❖ Units of analysis
- ❖ The logic linking the data to the propositions
- ❖ The criteria for interpretation

The case study's main aim is to enquire into whether adopting ISO 14001 may be linked to an improvement in the environmental performance of local authorities. Then from this aim the main propositions of the study were drawn (these are listed under the objectives and given in more detail in section 1). These objectives are repeated here for ease of reference:

1. To determine the reasons for development of ISO 14001 and the motivations on the part of the relevant organisations for accreditation, in order to evaluate whether environmental performance is an important driver.
2. To determine the meaning of environmental performance, from the perspectives of stakeholders, and accredited organisations, as well as those of the International Standards Organisation and establish whether stakeholders have an opinion. In addition, whether stakeholders are a driving force will be examined.
3. To identify the strengths and weaknesses of ISO 14001 as a tool for improvement of environmental performance.
4. To measure the consistency of the use of ISO 14001, in terms of the approach to the standard and the resulting indicators. Consistency with respect the approach to the standard and resulting indicators.

In this study the unit of analysis is an individual local authority. Yin (1994) states that a unit of analysis can be any thing from an individual to a country; it is basically the scope of the case study.

Linking propositions or objectives to the literature review is hard as there is a lot of existing research into ISO 14001 generally therefore we must try to find patterns in the initial interviews and in the case study which can be used to verify the theories about ISO 14001 in general.

Yin, (1994) identifies four tests of validity commonly used in case studies. These are:

- ➢ Construct validity; establishing correct operational measures for the concepts being studied

- Internal validity; establishing a causal relationship whereby certain conditions are shown to lead to other conditions
- External validity; establishing the domain to which a study's findings can be generalised
- Reliability: demonstrating that the operations of a study, such as the data collection procedures can be repeated or replicated.

Construct validity can be assured by establishing indicators, and using these to measure operational change. The indicators chosen in from literature have been proven in the telephone interviews and the literature review. (Section 4.1)

Internal validity or in this case, establishing an internal link between EMS and environmental performance is the purpose of this research. The research can therefore be seen as exploratory. This form of validity is something we explore in the case study, the success of which is reviewed in the conclusions. However there has been much research linking environmental performance to ISO 14001, thus it can be assumed that it is a possibility.

The external validity of the research is achieved because not only is the case study authority typical of a number of others, in terms of outlook and the way the standard is implemented, but it is an informed group having carried out similar research. Its external validity was checked by considering the extent to which the case study findings were consistent with the findings from the earlier telephone interviews.

Reliability of the case study was ensured by having a single set of interview questions, which were based on questions used in the telephone interviews. In addition using the LA manual and internal monitoring, minutes and so forth, should ensure replicability in that the same methodology of research could be used in any other local authority.

A single case study was chosen, due to the lack of experienced holders of the standard, which meant that a large sample for comparative research purposes was not practical. This was discovered working through a comprehensive list of LAs on a central government website and an EMAS website, as it was clear that some time was needed for benefit to be shown, and targets met after accreditation was achieved.

Bedfordshire can thus be seen as a critical case used to challenge the outcomes of the interviews.

Bedfordshire was chosen not only because it was advanced in this field in terms of time, but also for its comprehensiveness in applying the standard, which can be seen in the documentation it has produced. In terms of departments involved and the detail of documents produced.

4.0 Results

What follows is an outline of the results of primary research undertaken for the study. The results of cold calling telephone interviews were key personnel in LAS around the country were contacted are given below. These reflect the format and nature of the questions asked. This is followed by a presentation of the in depth case study which was undertaken after the interviews, including new interviews and auditing documentation followed by discussion of my results.

4.1 Results from interviews

The questions used in the telephone calls are given below and are followed in each case by a summary of responses.

What are the strengths and weaknesses of ISO 14001?

There is a great variation of responses to this question. However, most of the strengths and weaknesses are what you would expect from the background reading.

Weaknesses given started with the issues of practical application. For example, commitment of manpower costs and time. They also included integral problems, such as no guiding scale, e.g. no absolute targets and no guidance on the targets they should be setting, no guarantee of environmental performance, red tape, and the fact that the standard records environmental performance rather than driving it.

In addition there was possible abuse of the standard, due to the fact that the standard is too flexible and it could be used as a cosmetic badge rather than as an engine for progress.

Strengths include the rewards of an effective EMS, such as legal compliance, cost cutting, competitive advantages and the opening up of new markets, although this is less relevant to LAs. Additional advantages are that by demanding a lot of commitment the result is an effective EMS, with a good framework. Other strengths mentioned are outcomes of the EMS such as pollution prevention.

Please list and explain your motivations for accreditation.

The main reason given for applying for accreditation was the commitment of an individual with some power. Public image and convincing the public of

environmental performance was a close second, then came the idea of leading by example and the reduction of costs.

Is it reasonable to go beyond the requirements of the standard?

All of the respondents thought it was reasonable to go beyond the standard, although opinions on what form this should take varied. A lot of people were for public environmental reporting and a few felt going for EMAS was appropriate. Others felt that adopting some of the characteristics of EMAS was appropriate. Some suggested stricter recording and more training, and monitoring less significant impacts and indirect elements was also suggested. Consistent approach to monitoring, however was flagged up as a real problem in recognising those who go beyond the standard.

Is going beyond the requirements of the standard expected by the public and government?

The majority feel that the public does not expect the LA to go beyond the standard. This it is felt is mainly due to the lack of knowledge about the standard. However the respondents are evenly split (as only six responded negatively to this question) on whether the government expects the LA to go beyond the standard. Some feel that the government is trying to correct a negative environmental image, but others feel that the government is not prepared to give the resources to go beyond the standard.

Do you apply pressure on your suppliers to gain accreditation?

The majority of councils did not apply pressure on their contractors. However, it is apparent that the environment is considered in those cases where pressure is supposedly not applied. For example, in 3 cases active environmental management on the part of suppliers is discussed as preferable. However, an insight was given by one respondent who stated that due to legislation the LA must also consider those with an EMS that would be ISO 14001 compliant if tested. In addition it is also important to note that other factors such as using local business are sometimes considered more important.

Is there pressure from the public for accreditation?

The majority felt that there was no pressure from the public, due mainly to lack of knowledge. Those that stated that there was pressure felt it was part and parcel of the pressure to perform well generally or from pressure groups.

What does environmental performance mean to you?

The majority of people felt that environmental performance was about reaching targets and having an effective EMS and a good environmental review. However, they also felt that issues such as waste minimisation and life cycle analysis were important.

Other issues such as cost cutting, donation to charity and the relationship with the press were also considered important elements of environmental performance by some.

Who are your main stakeholders?

The most obvious response to this question is the public. When asked to split this into groups the respondents came up with a large variety of groups. The most frequently named groups being, politicians, services, employees, suppliers and pressure groups.

What do you think environmental performance means to your stakeholders?

Generally ISO 14001 is outside of what is expected in terms of environmental performance by stakeholders. Although targets could relate to what is considered significant, such as reducing local pollution, recycling, supporting local environment groups, land use, transport etc.

In addition compliance with legislation is part of ISO 14001, and is expected by stakeholders. The public tend to see environment in terms of headlines.

What do you think environmental performance means to other certified organisations?

There is a wide range of opinions when it comes to this question. Some are cynical indicating that it is cost savings and competitive advantage, and legal compliance that are the measures of environmental performance. A few state similar issues to those that they gave for themselves such as waste recycling, meeting targets. Further research may be appropriate here.

Do think other certified organisations share your view on environmental performance?

The majority said yes (40%) (40% either didn't answer or claimed not to know) indicating some cynicism about other organizations and how they view ISO 14001. However, there is also a negative side the remaining 20% believe that ISO 14001 does not synchronize thought and does provide a consistent outlook.

Is ISO 14001 flexible enough to be applied to all sectors of the economy?

The response to this question is varied. Some organisations feel that the standard delivers, others question that. However, the majority feel that ISO 14001 delivers in that it is flexible enough to be applied throughout the economy. But some feel that it is not appropriate to LAs as they do not always have direct impacts. A couple of respondents did not see this as an issue, claiming it is merely a system that allows an organisation to choose its own priorities and address them. Others claim that it is more complicated and depends on resources. It would be informative to investigate whether this feeling comes at the beginning or later stages of implementation, to better understand how perceptions change as a result of the implementation experience.

Do you think its right that organisations with different levels of environmental performance can all be certified to the standard?

The majority of respondents felt that it was right that organisations with different levels of environment performance should be certified to the standard. They felt that it was enough that organisations must improve performance over time, and that they would be put off unreasonable targets due to different levels of pollution between industries.

Some felt that there should be different ranking methods, such as being ranked by age of accreditation, and ranked within industry. However, these LAs also realised that this may not be feasible. One of the main criticisms against ranking is that it would be highly subjective depending heavily on auditors.

Do you think that ISO 14001 is an appropriate environmental standard for local authorities?

The majority felt the ISO 14001 was appropriate to LAs, although this was often qualified. Some thought EMAS was perhaps a better standard to use as it requires a public statement of intention. Others felt that the standard was only appropriate in some directorates. A few said that although it was appropriate it was more so to industry. But one felt that a completely new tack was required such as a sustainable code of practice.

Is the principal of continual improvement important?

The response was unanimous that continual improvement was vital to the standard. It was felt that without continual improvement, progress would stop after

the first year of accreditation and the standard would simply be a badge. In addition if the LA were not seen to make progress it would be difficult to sway companies in their communities to follow their example. The LAs think of themselves as a role model for local business.

What are the issues that might inhibit organisations from using the standard?

A wide range of answers were given to this question. The most common were the perceived cost and time and the need for knowledge, experience and expertise. Some criticised the standard stating it was badly planned needing adjustment and had no clear agenda, but a lot of red tape. Others criticised the organisations stating that they were not prepared to input the necessary resources, work, and effort at maintaining such a system. It was felt that this may be due to the diminishing returns of having such a system. Others felt that the media put organisations off through publicising misinformation.

Do you think ISO 14001 is used as originally intended?

People have a range of beliefs of what it was meant to do and how it follows this. In addition many people do not have any idea of the point behind the standard. While others feel that it depends on the organisation using it. Those who feel that the standard is meant to improve environmental performance directly do not feel that it does this. On the other hand those who feel it was introduced to improve regulatory compliance feel that it does that. Finally those who feel it was introduced to manage environmental impacts feel it does that.

How do you think ISO 14001 is being used in the local authorities?

Several of the LAs avoided this question. However, those that answered again gave a range of answers from compliance with legislation and improving environmental impacts, to having little use. Other responses included the delivery of social wellbeing, setting an example, and having a nice badge.

Is the way ISO 14001 is used by local authorities consistent?

Again there were quite a few "don't knows". Although the slim majority thought that the standard wasn't consistent, 2 said that it was. Of the "Nos" it was generally considered that it varied due to the services included in the remit, as well as the priorities of the LA. One thought that it depended on the approach taken by the individual in charge of the EMS. Those who responded "yes" tended to think that consistency was implicit in the standard.

Will environmental performance reap benefits in terms of management performance?

The majority thought that ISO 14001 would improve management performance through improving management skills such as auditing and document control skills, giving experience in these areas. In addition, it is perceived that this will give greater understanding of the LA, enabling management to scrutinize how they run the LA.

Below is an overview of the responses given and whether these were positive or negative.

Table 1 : Positive and Negative Responses.

Question	Yes	No	Don't Know
What are the strengths and weaknesses of ISO 14001?	N/A		
Please list and explain your motivations for accreditation	N/A		
Is it reasonable to go beyond the requirements of the standard?	10		
Is going beyond the requirements of the standard expected by the public and government?	2	6	2
Do you apply pressure on your suppliers to gain accreditation?	3	7	
Is there pressure from the public for accreditation?	3	7	
What does environmental performance mean to you?	N/A		
Who are your main stakeholders?	N/A		
What do you think environmental performance mean to your stakeholders?	N/A		
What do you think environmental performance mean to other certified organisations?	N/A		
Do you think other certified organisations share your view on environmental performance?	4	2	3
Is ISO 14001 flexible enough to be applied to all sectors of the economy?	6	4	
Do you think that it is right organisations with different levels of environmental performance can be certified to the standard?	7	3	
Do you think that ISO 14001 is an appropriate environmental standard for local authorities?	6	2	1
Is the principle of continual improvement important?	10		
What are the issues that might inhibit organisations from using the standard?	N/A		
Do you think ISO 14001 is used as originally intended?	4	3	3
How do you think ISO 14001 is being used in the local authorities?	N/A		
Is the way ISO 14001 is used by local authorities consistent?	2	5	1
Will environment performance reap benefits in terms of management performance?	9	1	

4.2 Case study Results

Below are the results of the Bedfordshire County Council case study interviews, in order of the major topics that the questions addressed.

4.2.1 Targets

There was little opinion on whether councils were under or over performing in terms of the standard, although it was felt that as with most initiatives some would over perform and others would under perform. This was mainly due to a lack of understanding of what is an acceptable performance.

The way targets are set was mainly related to what had been done by other councils. As targets were based on what others had achieved they were not all feasible for the case study. Thus the council was forced to reassess targets through research to discover whether these targets are feasible; some had to be changed and some new areas need addressing. New corporate targets are being set based on such research.

The majority felt that although some targets were being met not all of them were, while others felt that they were all met.

They all felt that the government's BVPI targets were completely irrelevant to EMS targets.

Pressure groups were not seen to be a large influence on setting targets as they were largely unaware of the standard. Although of those who were aware of the standard were considered in its implementation and a balance reached between their needs and others in the community.

There is confusion around whether the council has measured the rewards of an EMS. Those at the top of the hierarchy think they have done so through financial and environmental indicators. Thus in the council the rewards of ISO 14001 are seen as cost benefits and improved efficiency. The respondents are evenly split on whether these can be directly measured.

4.2.2 Environmental performance

On whether there is a guarantee of environmental performance the respondents are evenly split. Some feel that it is guaranteed by the price mechanism. In other words the benefit of cutting costs through environmental practice will lead to lower prices. This in turn will fuel competition, driving the need to cut costs and

therefore improve environmental performance. However the law of diminishing returns would limit this effect. In other words as the proportionate costs to returns in environment performance falls over time, the LA may find that politically the money could be better spent else where. Other felt that by performance was guaranteed through actions plans and others by legislation. However, enforcing legislation is difficult although it may be easier when dealing with the LA, due to more public and government scrutiny.

Continual performance was generally not considered to guarantee environmental performance, as it requires no substantial change and you can still remain outside the law according to some key personnel.

However, it was felt that the EMS drove performance by setting objectives and targets and the need to see benefits. It was felt in Bedfordshire that the EMS was driven by a champion and pressure from central government.

The EMS was felt to make individual departments accountable, and enabled to progress measured in audits forcing departments to monitor environmental affects. In addition committee reports also are judged on the progress the department has made in terms of the environment among other things.

The gap between stakeholders' view of environmental performance and LA results is enlarged because the results are not released to the press fully but only highlights. This may mean that when negative results are exposed they do more damage.

The general ignorance about the EMS is important because the council feels that it is part of the standard to release the results of EMS. The majority did not feel that it mattered that there was a lack of knowledge about the standard in the community. However, one respondent felt that the purpose of having the standard was to lead by example and it was therefore imperative to educate the community.

The majority felt that the views on environmental performance varied from department to department, although the environmental officer believed that the views were the same due to having to apply ISO 14001.

Interpretation of environmental performance matters because different views lead to conflict.

It was also felt that the system was heavily relevant on individuals.

4.2.3 Motivations

The majority felt that an individual did affect the decision to adopt an EMS (4 answered "yes", 2 "No"). Social responsibility on the part of the council as an organisation was considered the main driver by those who disagreed. However, there was some disagreement about who the champion was (officer (6) or councillor (1)).

Public image was also mentioned as a motivator because County Councils often wish to be seen as a role model, in addition negative information is readily reported so proving that good performance is vital.

The County Council goes beyond the standard mainly due to the influence of a strong champion and because there is competition between the authorities to be the best. However, it is felt that by some in the authority that it is simply a badge.

The county council generally feels that it is worth going beyond the standard. Most of them saw this as a reason to improve policies and have stricter targets and achieve performance that surpassed targets, but felt that more red tape would be a bad thing.

Generally they did not feel that there was government pressure - those that did think so felt that it was in the form of policy.

Although they felt that stakeholders currently applied little pressure it was felt that this would grow as the council invites the community to judge them, and as awareness grows. Although as they don't report publicly this could be difficult.

As there is no pressure from the public the main influencers who motivate the application of ISO 14001 are the council and the government. To the question "are motivations the same for everyone" there are mixed views from "very different" to the "same".

The value of ISO 14001 was seen as providing a framework which gave leverage to improve performance. It also creates a system that is comparable to those using the standard, and it is good for public image.

It was felt by a majority of 1 that the standard was more appropriate for business than for LAs.

Scepticism was interpreted as viewing the standard just as a badge or achievement of corporate objectives, and was seen as reflecting a lack of knowledge. It was felt that there was some justification for to scepticism in that the standard was not designed for LAs, and it was therefore hard to relate it to LAs. Scepticism was seen as coming from a range of sources such as, inaccurate press releases, those trying

to implement the standard, those new to the standard, and those with experience with the standard.

The effect of these sceptics is a negative public outlook and low motivation within the organisation.

4.2.4 Strengths and weaknesses

The standard's main strengths were seen as it being systematic and relevant. It helps to define environmental impacts and impacts, and it coordinates efforts, and monitors impacts. It also encourages the setting of targets for improvements, increases understanding of operations and increases training on environmental affects and raises awareness.

But there is considered to be little evidence that it opens up new markets or improves competitiveness or filters down the supply chain. This will be discussed in the discussions.

The main weaknesses are that the process of applying the standard is costly, has a lot of red tape, and tends to be reliant on a few key people not treated as a corporate goal. Auditors are also an issue as they tend to be either overly stringent or not stringent enough. In some cases auditors only look at the paper trail.

4.2.5 Inhibitors

The main inhibitors are al lack of time and understanding, as there is a lot of ambiguity in the standard which itself is very dry.

4.2.6 Consistency

The standard is inconsistent between councils due to different targets and different directorates within the scope. This could be prevented if the government issued guidelines and benchmarks. There are also differences due to different interpretations of the standard and different accreditation bodies.

5.0 Discussion

This section discusses the results from my original preliminary interviews and the case study. It has been broken down into the key topics in the interviews and the case study interviews, and illustrates where the results of these match and contrast.

5.1 Strengths and weaknesses

Table 2 summarises the importance, influence and effect of the strengths and weaknesses given by the respondents. Firstly a chart was drawn up listing strengths and weaknesses, perceived results and degree of influence these strengths are perceived by the respondents to have on the EMS. These are subdivided into estimates of the effect (either positive or negative) on the performance of ISO 14001 and confidence. Then the strengths and weaknesses were listed and in column 1 and an estimate of the perceived result was given based on the research data. In column 3 the confidence I had in that estimate is indicated based on the recurrence in the results. The respondent's perceived attitude was measured in either + for perceived positive outcomes and – for perceived negative outcomes. In the same way levels of confidence were indicated by "√"to indicate a high level of confidence and "?" where there is doubt. In column 4 the perceived influence of each strength or weakness on performance of the EMS is given. The relative influence is measured in terms of H (high), M (medium) and L (low) Column five indicates the relative degree of confidence in this measure.

Table 2. The relative impacts of strengths and weaknesses

1	2	3	4	5
Strengths and Weaknesses	Respondents' Attitude	Confidence	Influence	Confidence
Flexibility	++--	√	H	√
Good Framework	++	√	H	√
Legislative compliance	+-	√	M	?
continual improvement	+	?	H	?
Scepticism	--	√	H	?
Badge	--	?		
Resource constraints	--	√	H	?
Cost cutting	++	√	L	√

Table 2 shows that the greatest perceived strengths were flexibility, good framework and continual improvement, where as the weaknesses were sceptism and resource constraints.

What can be defined as scepticism has been investigated, as has the origin of this scepticism e.g. amongst EMS users or other parties. However it was not clear where scepticism came from in the results. In addition it was necessary to find out at what stage of using the standard this occurs, and its impact on environmental performance. In the Bedfordshire interviews it came apparent that scepticism occurs at any time in accreditation and level of the organisation, and it has a significant impact on the performance of the standard. This was investigated in the case study mainly linked to the idea of viewing the standard as just a badge. It was felt that some scepticism may have arisen due to problems from applying the standard in LAs and that this was justified. Sceptics were to be found throughout the Bedfordshire council. It was felt that this led to negative publicity, but how this could be combated is a topic for future research.

There was a feeling that resource constraints limited the performance of ISO 14001 in the initial interviews. Of these the most important ones were manpower, cost and time (in that order). This was further investigated in the case study where it was felt that these had little impact but this could be because they were well resourced. Another issue would be to investigate where LAs repeatedly underestimate the commitment they are making which came up in both sets of interviews. In the case study interviews it was felt that the main inhibitors were time and understanding indicating that other resource issues were not a problem.

There appears to be a lack of guidance on the scale of influence of ISO 14001. In other words is it a priority and to be considered in great depth or is it merely another badge?

An issue that was raised in the first set of interviews was that some LAs had thought that ISO 14001 would drive environmental performance rather than record it. There is therefore no guarantee of environmental performance. This is a major failing in the eyes of some councils. It was investigated it terms of how this could be addressed and whether or not there is a need to guarantee environmental performance in the case study. However within the case study the standard was seen as driving performance. In addition alternative means of guaranteeing performance are complicated and ineffective, as seen in the case study results. The difference between

the standard being a driving force or not would seem to be in the hearts and minds of those involved.

Others view ISO 14001 simply as a means to prove regulatory compliance, which the standard is supposed to ensure. However, there is some question over this as no external environmental reporting, is necessary, and the system does not have to be externally audited. In addition, failures to meet legislation only required an action plan to reach legislation so that legislation was not always met according to central individual.

Another weakness is too much red tape, which came out in both the interviews and the case study, although research into what is meant by this is needed and the possibility of reducing it without compromising the standard needs to be investigated.

The strengths of the standards given in the interviews include legal compliance, cost cutting, gaining competitive advantage and so forth. Other advantages are that by demanding a lot of commitment the standard creates a strong EMS, enabling good PR, operational efficiency and control of environmental performance. Investigations into whether these can be measured could be another topic for research. In the case study interviews some felt these were measured in the targets set but the majority didn't feel that they could be measured.

In the case study the major strengths given are its systematic approach and relevance, it was also useful in that it measures impacts.

However other advantages given in the literature did not seem to apply such as improved performance or filtering down the supply chain.

The flexibility of the standard is also a strength and a weakness. It is a strength in that some believe that it is flexible enough to apply to all industries. This has come into question and has been researched in terms of LAs and is true according to the results of both sets of interviews although further research might shed more light on this. But some are afraid that through translation to LAs it loses some of its bite and is merely a badge. In the case study it was discovered that the standard was dry and difficult to understand leading to discrepancies.

Another weakness discovered in the case study was the red tape involved which was largely thought of as an inhibitor, as was the dryness of the standard.

5.2 Motivations

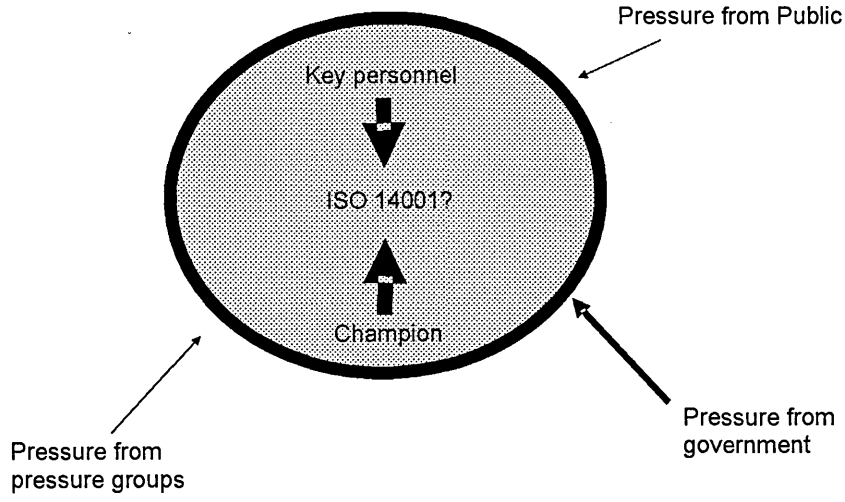

Figure 1: The strengths of pressures motivating the adoption of ISO 14001. (Author's model)

In Figure 1 the strength of pressure is indicated by the weight of the arrow attached to it. Those arrows inside the circle are internal pressures motivating the introduction of ISO 14001 and those outside are pressure external to the council. As can be seen in the diagram internal pressures outweigh the external and are the main reason for adopting the standard.

The main motivation for gaining an ISO 14001 system was the commitment of an individual at a higher level of the authority than that represented by most of the respondents to this survey. However in Bedfordshire County Council it was an officer who introduced and promoted the EMS, although one key councillor felt that he was also a champion.

Whether this interest is about public image or leading by example or cost reduction also was investigated. In the case study it became plain that public image is the most important motivator, as the council wishes to be seen as a role model. In addition it is at high risk from negative press releases, although the influence of this risk could be further investigated. In addition how dependent is the EMS on having a

powerful Champion was discussed. In the case study it became apparent that it was very dependent on a champion or several.

5.3 Going Beyond the Standard.

Most people felt that going beyond the standard was a good thing, but it wasn't clear. Whether it was purely to sound proactive and willing, or out of a real determination to deliver could not be determined. It may be that councils are more socially responsible than other organisations, particularly commercial business.

However, how they chose to go beyond the standard varied. The majority in the initial interviews felt that going beyond the standard in terms of public reporting or other features of EMAS was appropriate. Some felt there was a need for more training and recording. However the benefits of doing so were not mentioned so we do not know why an organisation would do this. It became apparent in the case study that respondents were weary of more red tape.

The majority felt that the public did not know enough about the standard to apply pressure to go beyond it. It would be interesting to know the reasons for not educating the public which could be investigated in another piece of work. However there is a 50:50 split amongst respondents on whether the government expects the LA to go beyond the standard. Some feel that the government is trying to correct a negative environmental image, but others say that government is not prepared to give the LAs the necessary resources. However, it is unclear how the government applies this pressure.

5.4 Pressures

The majority of the councils did not apply pressure on their contractors. However, it is apparent that environmental considerations are taken into account by the majority. But legally the council must consider all those suppliers with an EMS equivalent to the standard, along side those with the standard.

There was a need for Bedfordshire County Council to select local businesses and support smaller firms. But it must also lead by example through using green firms and advising firms on its environmental standards, and encourage them to be greener. How LAs balance these concerns needs further investigation.

There appears to be little pressure from the public for accreditation. This was put down to lack of knowledge, and draws into question whether the LAs are investing enough in educating the public. Those who felt that there was pressure also felt that it was part of the pressure to perform well generally, or from pressure groups. But both in the case study and initial interviews respondents felt that government did not apply pressure.

The lack of knowledge about the standard is a double edged sword, as it also means that bad publicity can be damaging. So at Bedfordshire they only communicate to the press their successes and do not write a complete environmental report. This may lead them to mislead the public because there is less pressure to perform as well as they could have.

5.5 Environmental Performance.

The majority of respondents felt that environmental performance was about reaching targets and having an 'effective' EMS or a good environmental review. But even in the council views varied in terms of the officer's description of environmental performance. However in the case study it became apparent that the officers had little idea of what over or under performance was. They felt in the case study that performance could be measured in terms of targets. However these targets had been changed, because they were not researched initially for feasibility and therefore the council had set impossible targets that had to be revised.

On whether there is a guarantee of environmental performance built into the standard there was an even split. However, no mention was made of continual performance- rather the mention of economics such as price mechanisms, action plans and legislation. However, LAs are not for profit organisations, on the other hand funding is limited and they are accountable. In addition although they have action plans they themselves set them and are accountable for them, however if there is a senior champion this may not matter as in the case council studied. But Bedfordshire did point out that there are ways around legislation. In addition if they are not publicly reporting no one can hold them accountable. However, should they be caught the consequences would be drastic. But in the case of Bedfordshire they do monitor and record environmental impacts and are accountable to the elected counsellors. The effectiveness of this could be investigated in a further study although it is probably dependent on the councillors.

But other proposed measures of environmental performance included achieving waste minimisation and life cycle analysis, cost cutting, donations and relationship with the press. Some referred to the standard's definition but did not appear to be able to quote it, and the measures above are fairly superficial. Whether rewards of environmental performance were effectively measured was investigated in the case study (see section 4.2.2). Those in senior positions in the council felt that environmental performance indicators measured things such as waste production, use of recycled materials etc.

It would also be interesting to find out whether the view of environmental performance affected the approach to the EMS. In the case study the main driver for having an EMS was to be a good role model.

Many people feel that their stakeholders' view of environmental performance is not linked to an effective EMS, but to the targets set by the organisation and issues highlighted by the press, such as local pollution, recycling, land use. This was confirmed in the case study. However the stakeholders do seem to be influenced by the issue of legal compliance.

Generally Bedfordshire Council thought environmental performance meant the same to other certified bodies, for example, cost savings, legal compliance, met targets and so forth.

The majority in the initial interviews felt other organizations view environmental performance with optimism, but 20% thought that the outlook wasn't consistent with theirs and 40% replied "Don't Know". So further investigation is required to confirm either view. There was also an indication that some felt that the view of environmental performance depended on the individual implementing it. It would be interesting to find out how others in the organisation felt.

Seven of the initial respondents felt that the standard delivers and three others didn't (results from telephone interviews). Some feel it is inappropriate because LAs have few direct impacts, and indirect impacts are very difficult to measure. Others view the EMS as simply a structure or system and state that performance depends on who's implementing it. Another view is that success depends on the resources available, and other issues, being a complicated process. This needs further investigation.

The majority in the initial interviews felt that organisations with different levels of environmental performance should be all certified to the standard. They felt

that because organizations must improve that is enough. This leaves us with the question of whether will LAs improve at a reasonable pace? And will they prioritise correctly or merely pick the low hanging fruit? This would be an interesting set of questions for a new project.

It was felt that by setting targets the more polluting industry sectors would be put off because the challenge would be too great, thus the standard would miss its target market. On the other hand the dirty industries were the first to get certified, so provided that the targets were set at a reasonable level the opposite might occur. This could be the subject of a later research project.

Most of the LAs felt that ISO 14001 was appropriate to LAs. However, how this was determined was unclear and the respondents varied in their opinions. Others thought other standards were more appropriate, or that the standard should only be used in some directorates. This was not reflected in the case study, where it was deemed effective for all directorates.

The standard did make departments responsible for environmental performance, thus spreading environmental awareness and knowledge of the standard, which may improve environmental performance.

5.6 Continual Improvements.

It was unanimously felt in the initial interviews that continual improvement was vital to the standard. It was felt that without continual improvement progress would stop after the first year and the standard would become a badge. This was reflected in the case study. But, it was felt that this clause could be satisfied with the minimum of effort. However, in Bedfordshire Council it was pointed out that it requires no substantial change, and thus does not guarantee substantial improvement, which undermines the whole principle.

5.7 Inhibitors to organisations applying for accreditation.

Most in the initial interviews named the expected issues such as cost, time, need for expertise and experience. Some felt that the standard needed a lot of adjustment if it was to work for LAs and that there was a lot of red tape. Leaving us with the question, does this red tape inhibit take up? The answer from the case study appears to be "yes".

5.8 ISO 14001 and LAS

Is ISO 14001 used as originally intended? This question was not properly answered, as people had varying ideas of how the standard was originally intended. So this will need to be further investigated.

Some felt that it was solely meant to improve environmental performance and that it didn't do that. Others felt it was to prove legal compliance and that this was achieved. Still others felt it was to manage environmental impacts and the consensus was that it does that.

This led to the question, how do you think ISO 14001 is being used in LAs? This perplexed many of the respondents and led to a similarly broad range of answers. These responses included "delivery of social well-being," to "little use" and "a badge".

5.9 Consistency.

A slim majority felt that the standard wasn't consistent, but there were enough who said it was to warrant further investigation. The case study backs this up. However, a survey would be unhelpful given the small numbers of LAS with ISO 14001.

Of those who said they felt that the standard was consistently used, most of them said that consistency was implicit in the standard. Those who felt it varied said it depended on the type of directorates included in the LAs remit.

It was discovered in the case study that the performance and the fact that there was a standard was often reliant on a single individual.

5.10 Management Performance.

It was felt that an effective EMS improved management performance in an LA, by improving management skills and giving experience in management systems and understanding of the LA.

5.11 Stakeholder Analysis

Stakeholder analysis involves identifying key stakeholders, in this case those that are influenced by ISO 14001. It is a type of social analysis of these peoples interest in ISO 14001 drawn up on the information received through the data gathered. Stakeholders can be defined as "stakeholders are those people, groups, or institutions with interests in a project of programme" (Overseas Development Administration,

1995). Stakeholders can be split into primary and secondary, primary being those directly affected and secondary those who are intermediaries. The stakeholders drawn out of the interviews were employees, counsellors, the public, pressure groups and the government. Employees and counsellors are primary, the others are secondary

The reason for doing this stakeholder analysis is to draw out the interests of stakeholders in terms of their attitudes to ISO 14001. This should indicate the degree of interest and therefore input and highlight which stakeholders are sceptical. This may be of interest to LA as it will allow them to address disinterest and persuade those against the standard.

In some cases this would also mean analysing conflicts of interest but this does not occur here, although it does identify which relationships can be built on to improve ownership and co-operation through anticipating the type of influence (positive or negative) these groups have on the project.

This time the method found on the Resource papers by Dick (1997) was used. Firstly a table was drawn up (Table 3) listing stakeholders' attitude and influence which are classified in terms of estimates and confidence. Column 1 of Table 3 lists the stakeholder groups. In column 2 an estimate of the stakeholders' attitude is given based on my research data, then in column 3 the confidence I had in that estimate. When determining the attitude I asked myself questions like:

- What are the stakeholder's expectations of the project?
- What benefits or costs are they likely to incur?
- What resources are they willing to commit?
- Any conflicts of interest?

I drew up a table of these separately. In column 4 the influence of that stakeholder is indicated (or the ability and wiliness to change the status quo) and in column five the relative confidence in column 4 the accuracy of that estimate of influence is given. To measure "influence" I used the Overseas Development Administration (1995) table affecting stakeholder's relative power and influence. This included looking at Legal Hierarchy (LAs and government), Authority of leadership (counsellors and employees), Control of resources, Possession of specialist knowledge (employees), Negotiating position, for the formal organisations.

For the informal organisations elements such as status, degree of organisation and leadership, control over strategic resources for the project, influence of other stakeholders (such as the public over the counsellors).

Normally strategies for winning over groups to a project would be given in column 6, but as I am not actually implementing an ISO 14001 standard that has been omitted. The respondents' perceived attitude was measured using an asterisk (*) indicates a favourable attitude and a minus sign (–) to indicate a negative one. A zero (0) indicates indifference. In the same way confidence was measured using a √ sign for a high degree of confidence and a question mark (?) where there is doubt. In column 4 the influence of each stakeholder group was given and in column five the level of confidence in that estimate of influence is indicated. The level of stakeholder influence has been measured in terms of H (high), M (medium) and L (Low).

Table 3: Stakeholder analysis

Stakeholders	Attitude	Confidence	Influence	Confidence
Employee	**	√	M	√
Counsellors	**	?	H	?
Public	0	√	L	√
Pressure Groups	*	?	L	?
Government	*	√	H	?

Government and employees have the most influence whereas the public and pressure groups have the least. These two groups also have a positive attitude towards ISO 14001. In fact there is no evidence of a negative attitude towards the standard

6.0 Conclusions and Recommendations

In this last chapter the results of the research are summarized and reviewed in light of the original objectives. It reviews each objective in turn, and considers the extent to which they have been achieved.

6.1 Objective 1

"To explore the reasons for the development of ISO 14001 and the motivations on the part of the relevant organisations for seeking accreditation, in order to evaluate whether environmental performance is the most important driver or whether other implicit drivers such as public image are more important."

When studying the standard it became clear that the purpose behind the original development of the standard was to create a level playing field for those applying for EMS. But it also became apparent that it might be abused. It could be used to gain competitive advantage, to prevent foreign or small businesses from competing. Sometimes it might not even present the best environmental option.

Most of the individuals applying the standard claimed that they were doing it for environmental reasons but they felt that others were doing it for alternative motives. This type of scepticism appeared to be unfounded from the case study and the interviews where it was found that the effort involved in acquiring the standard prevented it from it being used any other way, such as a cosmetic badge or a way of out manoeuvring competition. In addition there was little other benefit to the LAs. In the case study a number of individuals claimed that main motive was public image but it later transpired that the public had no knowledge of the standard. Motivations for adopting the standard were not linked to organisational goals but to the efforts of an individual in the case study. This individual had strong "green" motives. It was clear from the interviews that such an individual was responsible for accreditation in most of the respondents' LAs. But in the initial interviews public image was named as the main motivator, which is unlikely given the lack of public knowledge about ISO 14001. There may however be an indirect effect in that by managing their environmental impacts better the LA may avoid negative publicity.

In addition as the public becomes more aware of the environment the LAs wish to be seen as role models, and thus must display appropriate environmental

performance early on. However, LAs generally do not publicly report their efforts due to a fear of bad publicity so the public tend to remain unaware of the standard and their efforts.

The objective was achieved and although there was a lot of cynicism with in the council, there appeared to be genuine environmental motivation tempered by the realisation of other benefits

However, because motivations are difficult to measure, it was decided that a qualitative should approach be taken not a quantitative one. This enabled us to get to the root of the motivations rather than subjectively setting questions that can be passed over quickly with set answers.

6.2 Objective 2

"To explore the meaning of environmental performance, from the perspective of stakeholders and accredited organisations, as well as those of the international standards organisation and establish whether stakeholders have an opinion on this issue. In addition to explore the role of stakeholders as a driving force."

Most respondents have only a vague idea of what is meant by environmental performance, other than the fact that it would be indicated in the targets, and that these targets would indicate whether the council was over or under performing. However these targets were set and altered by the councils themselves and thus cynicism about the effectiveness of the standard was expressed. But it was evident in the case study that the changes in the targets were mainly due to lack of guidance initially, so a network of LAs with a "buddy system" might help new starters.

Few stakeholders had any power or influence over the adoption of ISO 14001: the general public was unaware, few interest groups were interested, and government did not apply pressure on LAs to adopt it.

This study did not identify a simple definition of environmental performance as the majority of people interviewed did not have a clear understanding of this. However it did become apparent that stakeholders outside the LA had little input and tended to have little opinion. The main driving force seems to come from within the LA. Thus the objective was partly achieved.

6.3 Objective 3

"To identify the strengths and weaknesses of ISO 14001 as a tool for improvement of environment performance as perceived by local authorities."

Firstly the strengths and weaknesses of the standard were investigated as these will have the greatest effect on take up and on the performance of the standard.

The main strengths of the standard are that it is flexible enough to be applied across all sectors of industry and levels of performance, and thus is relevant to LAs. Thus the standard can be applied as a useful framework in all circumstances. This also means that it is not tailored specifically to LAs and so can be open to interpretation. On the other hand, cost and time commitment and red tape may limit take up, but also limit its application as a cosmetic badge. However, as seen in the case study if there is a real commitment to the standard these problems are not so difficult that they cannot be overcome.

There is a lot of cynicism about the standard both in the initial interviews and the case study which appears to be unfounded. This cynicism does not appear to have any pattern and the employees of the case study authority and interviewees had varying opinions on where it came from. This could be the subject of further research and its impact measured. It was felt in both the case study and interviews that it had a substantial negative impact.

Resource constraints may limit application of the standard, but this is less of a problem in LAs than in commercial business as they do not have to show a profit (although they still have tight budgets to meet). However, due to unrealistic expectations of what kind of commitment they are making LAs might be put off, as they may assume initially that it will take very little resource, only to discover later that they have committed themselves to the impossible. In fact there is a need for a system of guidance for LAs starting out on the ISO 14001 road. For example either an advice centre could be set up or consultants used.

It has become clear that the standard is predominately for recording environmental progress, and that environmental performance is driven by the hearts and minds of those implementing the standard. Although in the case study respondents tended to disagree with this it was evident that key personnel inspired the rest of the LA and without these key players the standard, although it may have been adopted, would be a lot poorer and would have started a lot later. In short, Bedfordshire would not have been the good example it is.

The EMS does not work as a tool to improve public image as very few people are aware of it, however Bedfordshire is determined to be a good role model and does inform companies of environmental practice and ask for their policy and practices. It

also reports on its successes for the same reason, but is fearful of negative publicity so does not release the findings of its EMS audits. Neither does it work as a means of proving legal compliance as this can be avoided. Thus if an illegal practice or non conformity is found to gain the standard the company simply has to show how it intends to improve the situation. However as a means of co-ordinating environmental efforts it is very good. In the same way it helps promote the environment within the LA, which is why the use of ISO 14001 was suggested in the first place.

Many of the local authorities believe in going beyond the standard but are unclear how they would do this. They tended to think stricter targets would achieve this. In fact the relative strictness of targets does not influence going beyond the standard, whereas public reporting would. In the interviews it was felt that some of the characteristics of EMAS could be adopted, such as public reporting. The respondents in most of the LAs consulted were very weary of red tape.

The value of ISO 14001 could be seen as providing a framework which gives leverage to improve environmental performance; it also creates a system that is comparable to others using the standard.

Other performance guarantees were suggested by the standard and in the interviews such as legislation which can be avoided, the price mechanism which does not strictly apply to LAs, and continual improvement which can be minimal. Again this may be overcome if an association of LAs which was committed to achieving set targets or percentage improvements was formed, although obviously not all LAs could apply straight away.

However the EMS did make each department accountable for its own environmental performance and forced them to communicate results to a higher authority (the council) on environmental issues. This will lead to a greater understanding of the environment.

It is important to note that as these LAs are not reporting publicly only the councillors can hold them accountable and that they will be swayed by political considerations.

It is important that organisations with different levels of environmental performance can obtain the standard. However this does not mean that they should not improve which is allowed for under the continual improvement principle. The rate at which an organisation should improve is not given, and may be impossible to enforce, but could be investigated in future research.

The principal of continual improvement is vital to the standard, if the LA is to maintain a good environmental performance or to reach it.

The strengths and weaknesses of the standard were discussed in depth and although the standard has weaknesses these are such that they are inevitable if it wants to be reliable across all industries and still effective. This objective has been achieved by showing this balance.

6.4 Objective 4

"To investigate the consistency of the use of ISO 14001."

In terms of the consistent application of the standard it was felt that it was not consistent in the case study between organisations of a similar nature and was not seen to be so by the respondents in the telephone interviews. Thus the results of the standard were not seen to be consistent by those implementing them. Moreover, when doing the research it became apparent that it wasn't consistent, mainly due to the fact the scope of the standard varied so much between LAs. Those who would say it was consistent felt it was so because consistency was implicit in the standard. However, the standard is only a framework that has to be applied across all industry sectors and so is limited in how prescriptive it can be.

Whether or not the standard is used as originally intended is drawn into question by the debates on consistency, continual improvement and legal compliance. But these are only parts of the whole. The whole picture being the provision of guidance on how to implement an EMS which will give an organisation control over its environmental impacts, and this is what ISO 14001 does.

Thus this final objective was achieved, and it was discovered that the standard currently does not have consistency, although it may achieve this as people expand the scope of their EMS and interact with each other, (see recommendations section 6.5)

In summary, the study has achieved most of its objectives. Several recommendations for future research, and for Local authorities contemplating adoption of the standard, can be made as a result.

6.5 Recommendations for future research

Further research could be made into levels and causes of scepticism amongst LA staff and the negative effect this has on applying the standard. This would be interesting as the standard is usually championed by one person and this may lead to

political manoeuvring within the LA and although in some cases the champion does not need to be politically strong it may be different in other councils.

There is also the issue of going beyond the standard. It would be useful to research this and come up with set ways of going beyond the standard and the popularity of these approaches. Further research into the meaning of environmental performance, as perceived by LAs would also be useful.

6.6 Recommendations for local authorities...

Some guidance may help to translate the standard to everyday running of a LA. This could be achieved by a group of like minded LAs or consultants. However, if the LA wants to win over the hearts and minds of the public it is vital that they educate them and that they report.

6.7 Limitations of the study.

This was a qualitative investigation therefore none of our findings are deterministic in nature, and there is no statistical assertion of those findings.

In addition the methodology could have perhaps been improved if it had been designed such that all data are coded and categorised in more detail allowing for computerised analysis. However, the data was categorised by hand, so a coding process took place albeit an unsophisticated one.

If redoing the work the questions could be revisited, and perhaps made more explicit in light of the experience from interviewing LA staff.

Also more literature on LAs would be helpful, as there was little available at the time of research.

This was an exploratory piece of research not explanatory. It did not set out to test a firm hypothesis, but to understand perceptions and behaviour in a particular organizational sector. Others may follow with a more deductive approach.

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APPENDICES

APPENDIX 1

Below is the initial questions asked in the telephone interviews plus prompts for encouraging answers.

Interview Questions

Section 1

1. Do you have an environmental policy? Yes/No

2. Is XXX council implementing an EMS, or planning to do so? Yes/No (please delete)

3. If "yes" What system are you using?

4. What size population do you serve?

5. What is the political profile of the council?

6. What size area do you cover?

7. Are you an urban or rural council?

8. Are you aware of the Greening Local Government Scheme?

9. Is your EMS central to the running of your LA?

Section 2

1. What are in your eyes the fundamental motives for organisations in general for developing ISO 14001?

2. In light, of this, what are the strength and weaknesses of ISO 14001?

3. Please rank up to three strengths and three weaknesses, where 1 is the most important.

4. If accredited to ISO 14001, please list and explain your motivations for accreditation?

5. Please rank up to three of these motivations, where 1 is the most important and give reasons.

Section 3

1. Is it reasonable to go beyond the standard? For example should the organisation:

	Yes	No
Set targets for environmental impacts		
Produce an environmental report		
Make environmental performance known outside of the organisation and provide information outside of the organisation.		
Create an EMS that goes beyond the minimum set by the standard		
Set targets for environmental impacts		
Produce an environmental report		

2. Do you think that going beyond the standard is expected by:

	Yes	No
The general public		
The government		

3. Why?

4. Do you apply pressure on your suppliers to gain accreditation?
Yes/No

5. Do you think there is pressure from the public for the LA to gain accreditation?
Yes /No

6. If yes , please explain how this pressure is applied.

Section 4

1. What does environmental performance, mean to you in respect of the following?

- Is it the achievement of targets on environmental impacts? Yes/No
- An effective EMS? Yes/No
- Good environmental review? Yes/No
- Good waste management and lifecycle analysis? Yes/No
- Effective cost cutting in terms of inputs? Yes/No
- Donations to charity? Yes/No
- Good relationship with the press? Yes/No

Other:

2. What indicators are of particular importance in measuring environmental performance?

3. Who are your main stakeholders?

4. What does environmental performance mean to them?

5. What do you think environmental performance means to other certified organisations?

6. Do you think other certified organisations share your view on environmental performance in the main?

Section 5

1. Is ISO 14001 flexible enough to be applied to all sectors of industry? Yes/No

2. Please give reasons for your answer?

3. Do you think it's right that companies with different levels of environmental performance can all be certified to the standard? Yes/No

4. Please explain why?

5. Do you think that ISO 14001 is an appropriate environmental standard for local government?

6. Is the principle of continual improvement important? Yes/No

7. If so, how and why?

Section 6

1. What are the issues that might inhibit organisations from using the standard?

2. Do you think ISO 14001 is used as originally intended? Yes/No

8. Please give reasons for your answer

Section 7

1. To what end is ISO 14001 is being used in the local authorities?

2. Is the way ISO 14001 used by Local Authorities, consistent? Yes/No

3. Please explain, your answer.

4. Will environmental performance reap benefits in terms of management performance? Yes/No

5. Please explain your answer.

Thank you very much for your time

APPENDIX 2

Below is the rough framework for the case study interviews although some deviation did occur.

The Case Study Template

Targets

Is the lack of guidance on the scale of environmental efforts mean that councils are under or over performing?

How do they set their targets?

Are you reaching your targets?

Do the BVPI targets influence the LAs?

Do they aim to satisfy pressure groups?

Have councils tried to measure the rewards of An EMS?

What are the rewards?

Can these be quantified?

Environmental performance

Should there be a guarantee of environmental performance?

Is it guaranteed in the element of continual performance?

Is the fact that the EMS is recording not driving performance important?

How do you address this issue?

Does it make individual departments accountable?

Are resources constraints important, if so which ones and why?

How do they constrain?

What is environmental performance?

Do the indicators used measure it effectively?

What does environmental performance mean? And how do you insure you have reached it?

How do you address the gap between stakeholders view of environmental performance and your own?

Does this matter when the public is unaware of the standard?

Are views on environmental performance the same through out the LA?

How much does interpretation matter?

How could consistency on the view of environmental performance be achieved if not through the standard? Does consistency affect environmental performance?

How relyent is the system on individuals, is it something that a relevant new comer can take on?

Motivations

Did an individual's commitment affect your decision to adopt an EMS?

Would you have done so without that individual?

How powerful was that individual?

Was he a politician or an officer?

At what level are they and with what power?

Why is public image so important?

Can I meet him/her?

Why are councils so keen to go beyond the standard? What motivates you? Do you think your motivations are different from companies?

How would you go beyond the standard, why? Does the LA benefit from going beyond the standard?

How does the government apply pressure to go beyond the standard? Is this reasonable?

Does outside pressure influence motivation for accreditation?

If there is no pressure from the public what motivates accreditation?

Is your view on motivations the same as for everybody?

What value is ISO 14001 to LAs?

What are the motivations for ISO 14001 in other organisations?

Is ISO 14001 more appropriate for business?

Is it not affective for LAs?

Scepticism
What do you think equates to scepticism? What attitudes and beliefs would it include? What is in fact realism?

What are the sources of sceptism, the press, the public, experience with the standard, unrealistic expectations?

Who does it affect?

Which members are most likely to be sceptical, officers, politicians, the public.

Strengths and weaknesses of ISO 14001
What are the most important strengths out of legal compliance, cost cutting, competitive advantages and the opening up of new markets?

What are the most important weaknesses out of, commitment of manpower, costs and time? no guiding scale, no guarantee of environmental performance, red tape, the fact that it records environmental performance rather than driving it, possible abuse of the standard, due to the fact that the standard is too flexible and it could be used as a badge.

What is meant actually by red tape, is this the processes of creating an audit trail, new documents, assigning responsibilities, or is it dealing with the international standards organisation, the auditors, or politicians.

Inhibitors
Does the standard itself inhibit people from using it? How? Does people's attitude inhibit take up? Does red tape inhibit take up?

How do these inhibiting issues affect LAs in practice? What strategies do EMS champions use?

Consistency

How can we make ISO 14001 more consistent? Is it consistent? What in the standard makes it consistent?

Do you think it is right that the LA apply pressure on small business?