Factors motivating proactive health and safety management

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Factors motivating proactive health and safety management

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The Health and Safety Executive (HSE) has been developing new 'business oriented' strategies to promote health and safety, as exemplified by the ongoing Good Health is Good Business campaign. This report summarises research regarding what motivates enterprises to manage health and safety, particularly SMEs, and whether management attitudes towards health, safety and business management are congruent.

The research suggests that there are two main factors which motivate enterprises to initiate improvements, namely the fear of loss of corporate credibility and a belief that it is necessary to comply with regulations. Other factors, such as cost of improvements, can also have an important influence, often have a moderating influence on management's propensity to act.

The extent to which health, safety and business management share the same motivators varies greatly and is determined by the perceived commercial significance of health and safety performance and costs of ill-health and injury and whether customers or standards bodies demand health and safety standards.

These findings will be relevant to the focus of the Good Health is Good Business initiative, field inspector guidance and the development of regulatory and financial tools to promote health and safety.

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EXECUTIVE SUMMARY

The Health and Safety Executive (HSE) has sought to promote a “business case” for health and safety management, including highlighting the “downside” costs of poor management such as lost time, as well as the “upside” benefits, such as increased profits. Less emphasis has been placed in promotional campaigns on the legal requirement to comply with regulations. This strategy has been pursued, in part, on the grounds that duty holders will pursue better health and safety management if they believe it will benefit their business to do so.

This report reviews empirical research regarding what motivates managers, particularly SME management, to manage health and safety proactively, and whether management attitudes towards health, safety and business management are congruent. The international review has been largely confined to empirical studies, with minimal attention awarded theoretical or hypothesised views of management motivation.

Adequacy of research base
Previous research has covered all sizes of firms, low and high risk operations and has queried all identifiable reasons for managing health and safety. As most of this research relied on self-reported motivations this does raise the possibility of subjectivity and bias. Also, the operation of certain sector specific factors is not clear, there is little research about motivation in the public sector and the importance of different reasons for wishing to comply with regulations has not been quantified. However, the findings of independently completed research are very consistent, suggesting that confidence can be placed in the overall conclusions. Therefore, current research does provide a foundation on which to draw general conclusions about management motivation.

A more important proviso, in the context of health risks, is that most of the research was completed before the HSEs ongoing “Good Health is Good Business” campaign which intends to promote health risk management in SMEs. It is possible that management attitudes have changed as a result of this campaign.

Main findings
The research suggests that there are two main factors in the UK which motivate both SMEs and large organisations to initiate health and safety improvements, namely the fear of loss of corporate credibility and a belief that it is necessary and morally correct to comply with health and safety regulations. Whilst other factors also have an important influence on management motivation, these are the only factors commonly identified by UK research to prompt the improvements. Other factors often moderate management’s propensity to act.

These findings are repeated in the context of environmental management where compliance with regulation is the most commonly cited stimuli amongst both SMEs and large organisations, followed by personal concern, potential to increase profits and good neighbourliness, each of which were awarded equal importance as second placed stimuli.

This should not be interpreted to imply that the level of motivation in SMEs is, in general, the same as in larger organisations. Whilst the same factors influence SMEs, many SMEs display the characteristics of organisations in which these factors produce low levels of motivation.

Fear of loss of credibility
The strongest motivator identified by research is the fear that the adverse publicity, loss of confidence and regulatory attention subsequent to a serious incident will cause serious curtailment of operations, imposition of additional costs and loss of business/interruption of
operations. This fear is greatest amongst firms operating in high risk sectors, such as chemicals production and public transport, where they fear a catastrophic incident. This fear is experienced by large and small enterprises alike as it is the nature of the hazards rather than the size of the organisation which is important. Also, these fears can be “passed down” from larger organisations to smaller suppliers, as in the chemical industry, where the customer fears that their reputation will be tarnished by the behaviour or performance of its supplier.

A number of other factors can be subsumed within the fear of adverse publicity, especially where high risk or high profile organisations are concerned. Prosecution, enforcement notices, experience of a major incident (with or without serious health and safety consequences), are all often viewed as sources of adverse publicity which may ultimately harm commercial prospects.

Perceived duty to comply with health and safety regulations.
UK research indicates that the need to comply with the law is the most commonly cited reason for health and safety initiatives amongst all sizes of organisations. However, there is little evidence that UK firms are generally motivated to comply with regulations for instrumental purposes, due to the perception that the likelihood of detection and prosecution is low. Indeed, the research shows that the positive impact of inspections etc is due to the focusing of management attention rather than an economic decision to avert future financial penalties. The event draws attention to unsatisfactory standards and the need for a general change in behaviours. This “focusing” effect also explains the “narrow” effect of inspections, ie individual organisations react only when they realise their performance is inadequate rather than from fear of penalties.

More generally, regulations are taken to be a measure of societal expectations, and are interpreted as a guide to an organisation’s moral and social duties - wherever such regulations are accepted as valid and applicable to an organisation. The evaluation of validity appears to be influenced by the perceived balance of costs and benefits, such that regulations whose costs appear to be proportionate to the risks are more likely to be accepted. The benefits do not have to be commercial, given that the motive is to be seen to be meeting social obligations.

This raises the issue of risk perception, particularly in the context of health risks. Generally, health hazards are not perceived to be serious due to their diffuse, delayed and intangible effects - with the signs of ill-health often much delayed and not always exclusively connected to the workplace hazard. This dampens the perceived validity and importance of health regulations.

Cost avoidance
USA research indicates that the need to reduce the costs of ill-health and injury are strong motivating factors in certain conditions. However, this finding is not repeated in the UK and a number of other countries where the wish to reduce direct costs of ill-health and injury is rarely mentioned. These contrasting findings can be related to differences in health care insurance and compensation arrangements. USA organisations directly incur a high proportion of the cost of injury and ill-health in the form of health and worker compensation insurance premiums, whilst the state bears the main cost of injury and ill-health in the UK.

The cost of compliance
Care should be taken in assuming that the belief that health and safety improvements save money is unimportant. Indeed, a number of major UK studies have found that the perception that health and safety improvements are a “cost” rather than an investment is a significant de-motivating factor amongst management. This highlights the need to, at a minimum, “neutralise” cost concerns by demonstrating the commercial benefits of health and safety improvements.
Mandatory schemes
It is also important to note that a number of studies report a high level of compliance with health and safety requirements, including compliance by SMEs, where these are imposed as part of either regulatory or customer dictated schemes. In these situations organisations appear to accept requirements as an unavoidable and necessary condition of doing business, and will proactively comply. Where these requirements are dictated by a client (and applied with rigour) they are accorded equal status and importance as other client expectations.

The way in which these factors can be construed as operating is modelled in the main report. The model illustrates the general relationship between the size of firms, the perceived risk (or costs) associated with their activities and the resulting levels of intrinsic and extrinsic motivation. The model indicates the level of motivation that firms of a certain type can be expected to display and how moderating factors may increase or reduce a specific firms level of motivation.

According to this model, it is suggested that SMEs (especially low risk operators) are more likely than larger firms to exhibit those characteristics that are associated with a low motivation, such as low frequency per organisation of inspections and few resources to develop improvements.

Congruence of attitudes
The extent to which health, safety and business management share the same motivators varies greatly between organisations and is determined by a number of factors, including:

1. Is health and safety performance perceived to be a critical commercial success factor?

2. Are the costs of ill-health and injury perceived to be significant?

3. Do customers or standards bodies exert pressure or make demands to achieve certain health and safety standards?

If the answer to one or more of these questions is yes, it is probable that the management of health and safety will be regarded to be an important commercial consideration and treated as a core management responsibility. This is true for SMEs as well as larger organisations.

In cases where health and safety is not regarded to be a critical success factor it can be seen to be a distinct, typically non-core, area of management activity. In these cases management attitudes can be very incongruent, with a proactive outward looking approach applied to (say) quality management and a reactive minimalist compliance approach applied to health and safety.

Promotion of health and safety
One of the main implications of this research is that no single regulatory strategy is ideally suited to all sectors or sizes of organisations. However, the motivation of firms varies in a reasonably predictable way. Therefore, the identification of promotional strategies can and should be based on an understanding of these variations. A generic model of the match of regulatory strategies to the motivation of management is presented in the main report, highlighting two styles of regulation, namely;

- persuasion: this entails education and coaxing of organisations into compliance with the law, explanation of demands and the reasons for regulations, discussion of how improvements can be made. Such a process entails dialogue, trust and negotiation achieved through a continued relationship and a readiness to interpret rules flexibly.
• compulsion: this is characterised as imposition of clearly defined rules which offer little room for discretion or negotiation, with a greater readiness to mandate, enforce or compel requirements when the limits of tolerance are exceeded.

The types of organisations whose motivation, in general, match these styles of regulation are indicated. For example, the attitudes of high risk organisations in competitive markets are expected to match the persuasive style of partially mandated self-compliance, with an element of voluntary self-compliance also operating. In contrast the low motivation of small low risk organisations is expected to match the mandatory form of regulation.

The exact match of organisation and regulatory style depends on the interaction of all sector and organisation specific factors. For example, a high risk organisation may fail to be highly motivated due to a traditional acceptance of risks (it’s part of the job), failure to appreciate risk levels or due to structural obstacles, such as price based competition. In contrast, a small low risk organisation may have a high motivation due to customer expectations or personal attitudes.

The model also suggests that these relationships are subject to manipulation. For example, an increased awareness (due to education) of risks may increase the intrinsic motivation of a previously lowly motivated organisation and lead to a change in the recommended style of regulation. Similarly, the motivation of a low/medium risk organisation may increase in response to a realisation that social expectations about health and safety standards have changed and that the organisation needs to change its behaviour to meet these new expectations.

Conclusions

1. The attitudes towards business, safety and health management can be highly incongruent, with issue specific attitudes depending on their perceived impact on business fortunes.

2. There is little evidence, to date, that UK management are motivated to improve health performance for financial reasons. However, the common perception that health improvements are a “cost” rather than an “investment” does support the case for demonstrating the commercial benefits of health and safety management.

3. The main reasons for proactively managing health and safety in the UK include the maintenance of stakeholder confidence in the organisation’s ability to be a “safe” and responsible operator, and the belief that regulations should be complied with as a matter of principle. Factors such as fear of prosecution and experience of a serious incident moderate the risk of unacceptable performance being detected and “broadcasted”.

4. The propensity to act is mediated by a number of secondary factors, including knowledge of risks, perception of risks, and the availability and cost of measures. There are also sector specific factors which mediate these motivators.

5. Where health and safety requirements are imposed either in the form of customer demands or certification schemes, these are viewed as unavoidable obligations which must be fulfilled. In this situation management predispositions appear to be overridden.

6. There are no unique SME factors. However, SMEs are less likely to display those characteristics of organisations who regard health and safety performance as an important and controllable issue. Health risks are, generally, “downrated” due to their diffuse and (often) non-fatal consequences, further reducing SME motivation to manage them.
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1. INTRODUCTION

1.1 BACKGROUND

The Health and Safety Executive (HSE) has been developing new “business oriented” strategies to promote proactive health and safety management for a number of years now, as exemplified by the “Cost of Accidents” survey and ongoing “Good health is good business” campaign. In addition, focused and practical health and safety guidance has been developed specifically for small and medium sized enterprises (SMEs), such as Five Steps to Risk Assessment. In recent years the focus on health hazards has been increasing.

This strategy is driven by a number of considerations, including:

- the majority of the UK workforce is employed by SMEs and subsequently they account for a large proportion of cases of ill-health and injury, especially as the rate of injury per employee is higher in smaller firms,

- SMEs tend to have fewer resources at their disposal in-house to manage health and safety due to their size, and often lack access to professional health and safety advice,

- the large number of SMEs reduces the practicality of relying on inspections alone to promote good practice,

- it is commonly believed that higher standards of health and safety will be achieved if companies are self-motivated to identify and manage hazards rather than relying on third parties to specify improvements.

The particular focus on health is driven, in part, by the observation that ill-health effects a larger number of employees than workplace accidents.

The strategy has sought to promote a “business case” for health and safety management, including highlighting the “downside” costs of poor management such as accidents, lost time and poor image as well as the “upside” benefits, such as increased profits and satisfaction of customer requirements. Less emphasis has been placed on the legal requirement to comply with regulations. This strategy has been pursued, in part, on the grounds that duty holders will pursue better health and safety management if they believe it will benefit their business to do so.

1.2 AIMS AND OBJECTIVES

Against this background, this project is concerned with identifying empirical research regarding:

1. what motivates duty holders to manage their business, and;

2. what motivates or influences those enterprises who manage health and safety proactively, particularly SMEs.

3. whether management attitudes towards health management and safety management are congruent, and;
4. whether management attitudes towards business management and health and safety management are congruent.

Clearly, if ill-health and injury costs (or any business costs) are not regarded to be significant by duty holders, the effectiveness of any promotional campaign which focuses on cost avoidance is likely to be limited. Accordingly, it is essential to determine what factors motivate proactive health and safety management for HSE campaigns and inspections to have their desired effect.

Information on the general factors which influence management attitudes is used to inform decisions on national level initiatives, whilst “models” of the relationship between motivational factors and features of individual companies are used to guide inspectors’ actions at individual organisations.

In addition, the study aims to produce examples and lessons regarding how better management was brought about, focusing specially on SMEs and health risks.

The review has been largely confined to empirical studies of management motivation, with minimal attention awarded theoretical or hypothesised views of what motivates management. The aim here is to ensure that our conclusions are based on “evidence” rather than conjecture, as far as the data permits.

The conclusions of this survey will be relevant to:

- the HSEs “Good health is good business” initiative;
- advice provided to field inspectors regarding how to promote proactive health and safety management, particularly amongst SMEs in the area of health, and;
- consideration of what regulatory, promotional and financial tools would have most effect for different types of organisations.

1.3 DISTINCTION BETWEEN HEALTH AND SAFETY MANAGEMENT

The management of health risks includes the identification, control and prevention of reportable diseases and health risks in the workplace, including:

- skin contact with irritant substances,
- inhalation of respiratory sensitisers,
- noise,
- exposure to ionising and non-ionising radiation,
- mental and physical stress,
- musculoskeletal conditions arising from manual handling, poor workstation design, vibration etc.
The management of safety includes the identification, control and prevention of hazards associated with an organisation's activities which can cause injury to employees and non-employees, such as:

- moving machinery,
- release of acutely toxic, flammable or explosive substances,
- slips, trips and falls,
- contact with electrical hazards, corrosive or acidic substances,
- contact with moving, stationary or dropped objects, such as train collisions, hit by forklift trucks or warehouse collapsed racking.

1.4 WHAT IS PROACTIVE HEALTH AND SAFETY MANAGEMENT?

Degree of direct enforcement
In the context of this study, the most important parameter concerning the definition of "proactive management" is the degree of direct enforcement or coercion required (or not required) on the part of a regulatory body to prompt action on the part of management. Following this definition, an organisation can be proactive by:

- responding positively to the mandatory requirements of a client,
- doing the minimum demanded by regulations in the absence of a visit, inspection or communication direct to the organisation from the regulator,
- taking actions in areas of health and safety which are not covered by regulations,
- eliminating a hazard which regulations would normally permit, for reasons of their own.

However, it could also include taking action due to a general fear of prosecution (real or imagined) or enforcement by the regulatory body in the event of an inspection. Thus, proactive implies taking action prior to or in the absence of direct enforcement action, such as inspections, prohibition or improvements notices, by the regulator.

Clearly there is a continuum of proactivity versus reactivity, with extreme reactivity comprising awaiting court enforced actions. This continuum is shown in Figure 1. The cut-off used in this study is noted.
Figure 1
A continuum of proactive to reactive management

Intrinsic versus extrinsic motivators
A distinction can also be made between “intrinsic” and “extrinsic” motivators. That is, a “truly” proactive organisation may be argued to be one which acts because it judges that the chosen actions will be of benefit to themselves, and not necessarily of benefit to anyone else - except as a coincidence. Thus, the desire to reduce production costs for the sole purpose of maximising profit could be classed as an “intrinsic” motivator whilst responding to customer demands may be classed as an “extrinsic” motivator. The distinction here is that the demand or reason for the action emanated from outside of the organisation in the case of customer demand and would not have been identified but for the existence of this external pressure - even though both of these motivations influence the commercial success of the organisation. Similarly, whilst an organisation which acts (on its own accord) in fear of prosecution can be said to be proactive, this is an extrinsic motivator. Following this approach factors can be separated into intrinsic and extrinsic motivators, as illustrated in Table 1.
Table 1
Examples of intrinsic and extrinsic motivators

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<th>Extrinsic</th>
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<tr>
<td>Reduce costs (of injury and illness) for purpose of improved profits</td>
<td>Seek to comply with regulations as a matter of principle</td>
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<tr>
<td>Improve employee productivity (by better health and fitness)</td>
<td>Seek to comply with or exceed regulations out of fear of prosecution or other enforcement action</td>
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<tr>
<td>Improve employee morale (by promotion of employee welfare etc.)</td>
<td>Seek to comply with or exceed regulations out of fear of adverse publicity - or to maximise positive publicity</td>
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<tr>
<td>Seek to optimise health and safety due to ethical or humanitarian considerations</td>
<td>Comply with demands made by customers, standards bodies, pressure groups etc.</td>
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<tr>
<td>Adopt proactive health and safety management as a matter of principle - such as a belief in Total Quality Management</td>
<td>Civil claims for health damage from employees and/or others.</td>
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1.5 APPROACH TO THE WORK

An overview of the work carried out by Entec for this research project is given in Figure 2.
Task 1: Search of literature

The international search for studies included:

- documented case studies of organisations which have adopted a more proactive approach to health and safety. We identified case study material from the health care and construction sectors in particular, as well as case studies from other sectors.

- previous surveys of organisations, including large scale surveys in the UK and USA, of management motivations.

Entec have limited the search to literature which examined what motivates an organisation, particularly the managers of an organisation, such as whether organisations are profit driven or image driven. There is a large body of research regarding the reasons for adoption of workplace health promotion schemes, some of which cover personal fitness and lifestyles as well as occupational health and stress management. This work has been retained within the search as (1) it provides insight into what motivates management to improve the well-being of staff and (2) it may inform consideration of how the HSE and other government departments may better promote health in and outside of the workplace. It should be noted though that we concerned ourselves only with the reasons given for implementing health and safety improvements and did not review the actual effectiveness of these initiatives.

Details of the literature search are given in Appendix A.

The majority of research has been completed in the US, Europe (UK and Scandinavia), Australia and New Zealand. Little or no work has been found from South Africa, Far East or South America.

Task 2: Analytic review of previous studies

The review comprises a number of stages, as follows.

1. In general, what factors influence business managers decision-making?

2. In general, what factors prompt proactive health and safety management?

3. Are these factors the same as those which motivate general business management?

4. Does the importance of these factors differ between health management and safety management?

5. Can the way in which the role of these factors varies between health and safety be related to certain discernible characteristics of organisations, such as size?

In addition, the weight and reliability of evidence available to verify the importance of various factors has been considered in terms of:

- the frequency with which a certain factor is cited in previous work,

- the reliability of the research method, and;
the degree of evidence available to support the purported role of this factor

Finally, any international differences in the factors considered to motivate health and safety management have been highlighted, and, as far as possible, related to national regulatory or other factors. In particular, we have highlighted whether the factors considered to motivate proactive management in the UK are the same as those noted in other countries, or not.

The findings are summarised in part 2 of this report. A detailed summary of the research review is given in Appendix A.

Task 3: Produce model of links between company characteristics and prime motivators

A model has been developed of the relationship between company size and type, predominant risks, injury and ill-health history and the importance of various motivational factors in prompting proactive health and safety management. This model is used to formulate and review the strategies used at a national and local inspection level to promote proactive management.

The model is summarised in section 2.4 of this report.

Task 4: Discussion of implications for promotion of health and safety in the UK

In addition to producing a general review of the factors motivating management and discussing the general implications for the promotion of health and safety in the UK, we have compiled a review of the factors motivating health risk management in SMEs and examined the specific implications of the review for health risk management in SMEs.

The discussion is given in part 3 of this report.

Section 4 provides a summary of our conclusions.
2. FINDINGS

2.1 ADEQUACY OF RESEARCH BASE

The review identified a large number of studies in the UK and overseas which specifically or incidentally examined the reasons underlying management attitudes towards health and safety. As the majority of this research relied on self-reported motivations this does raise the possibility of subjectivity and bias in the findings. However, there is a high level of consistency in the findings of independently completed research, suggesting that confidence can be placed in the overall conclusions. The scope of previous research has covered all sizes of firms, low and high risk operations and has queried all identifiable reasons for managing health and safety. Therefore, current research does provide a foundation on which to draw general conclusions about how the attitudes and motivations of management are influenced by these factors.

However, there are three types of limitations in the research base. Firstly, current information is not sufficient to completely explain the operation of all identified factors. Secondly, it is possible that management attitudes will have changed in recent years due to ongoing developments. Thirdly, there remain a number of sector or industry specific issues which have not been fully explored. But whilst these limitations are important and place doubt over some of the more specific conclusions of this review, there remains a sufficient base on which to draw the more general conclusions.

These limitations are elaborated below:

1. There is little research (excepting a few case studies) regarding the motivations of managers in non-profit sectors, including public services, charitable and uniformed organisations. Specifically there is little research to examine how issues such as “public accountability” and political agendas, interact with issues such as assuring value for money and minimising public expenditure to shape manager’s health and safety motivations, or research to verify whether these motivations differ to those operating in commercial enterprises.

2. The majority of UK research either predates the “Good health is good business” campaign or coincides with the start of this campaign. Therefore, it is not possible to say whether, as a result of this campaign, management views have changed in recent years.

3. Whilst UK research consistently reports that management is “legislation driven”, the research does not provide a clear indication of whether those management who seek to comply with regulations do so as a matter of moral duty or for instrumental reasons (i.e. not wishing to be penalised).

4. Some UK research has identified sector specific factors which moderate management motivation. However, the findings of the research to date are not conclusive and many sectors have not been subject to particular scrutiny.
2.2 Congruence of attitudes

2.2.1 Business management versus health and safety management

Is health and safety management motivated by the same factors as general business management?

The extent to which health and safety and business management share the same motivators varies greatly between organisations and is determined by a number of factors, including:

1. Is health and safety performance perceived to be a critical commercial success factor?

2. Are the costs of ill-health and injury perceived to be significant?

3. Do customers or standards bodies exert pressure or make demands to achieve certain health and safety standards?

If the answer to one or more of these questions is yes, it is probable that the management of health and safety will be regarded to be an important commercial or operational consideration and managed according to the same values and principles applied elsewhere. Typically, steps will be taken to ascertain what standards are required and actions taken to attain these standards without awaiting an accident or direct regulator action.

However, even where health and safety performance is considered critical, this should not be interpreted to imply that health and safety decisions will always be driven by financial assessment with the aim of identifying cost-effective investments in health and safety. Firstly, as will be discussed at greater length later on, the cost of accidents and ill-health is rarely cited as a reason for initiating health and safety improvements. Rather, the most immediate concern of firms is to maintain an image of responsibility and reliability, so as to maintain the confidence of key stakeholders and avoid subsequent disruption or loss of business. This concern applies to health and safety management (in high risk firms) in the same way as it applies to financial management, product safety etc. Similarly, where health and safety requirements are laid down by (say) customers, these requirements will be accorded equal priority as other customer demands and managed accordingly.

It is only in the situation where a firm perceives its accident and ill-health costs to be commercially significant that health and safety improvements may be initiated for the purpose of achieving short to medium term direct financial gain. Also, whilst improvements may be initiated on commercial grounds, it appears that such decisions are rarely subject to a proper financial evaluation of the costs and benefits. Rather, programmes aimed at reducing costs of injury and ill-health are often implemented as a matter of faith, based on anecdotal reports of success elsewhere and an acceptance of common opinion that it will produce gains.

However, even the recognition of ill-health and injury as a major cost item does not necessarily prompt action. Whilst large firms tend to be profit oriented, this does not necessarily lead to a concern for cost reduction, as other strategies such as increased sales, new products and reduction in capacity may be pursued. Moreover, where a desire to reduce cost is apparent this is often achieved by reduction in staff levels, automation and mergers rather than changes in working practices or management systems. Changes in management practices are likely to be pursued though when competitiveness can no longer be achieved on the basis of cost reduction alone, leading to a focus on productivity of staff and changes in management practices. Many of
these changes may be enacted without financial assessment and are driven by subsidiary motives such as increased staff motivation which are assumed to offer commercial benefits. Thus, as before, firms often pursue initiatives in the belief that they will, in some intangible way, have significant commercial benefits, such as initiatives to maintain an image of corporate responsibility.

Indeed, when health and safety is considered in the wider context of business improvement techniques, it is also important to consider how the general process of management decision making may influence the recognition of alternative means of business improvement. Firstly, there is evidence that when management recognise a need to improve business performance, they will often accept the first solution they come across which appears to meet their needs without seeking out or evaluating all other alternatives. Secondly, they are more likely to select options with which they are most familiar and/or which receive peer support. Finally, there is evidence to suggest that many managers seek to achieve “satisfactory” business performance (or profits) rather than seek to maximise profits. This has a number of important implications for the promotion of health and safety as a way of improving business. In particular, it implies that management will adopt business improvement techniques with which they are most familiar, such as automation and pay restraint, to the exclusion of other less familiar options, and will only consider further techniques if their performance target is not met. Consequently, it is probable that, if it is accepted that improved health and safety management is not viewed to be a widely established business improvement technique, other strategies are likely to be recognised first and awarded preferential consideration by management even if health and safety improvements offer commercial benefits.

In cases where health and safety is not regarded to be a critical success factor it can be seen to be a distinct, typically non-core, area of management activity which can be managed according to a different set of values and principles. In these cases management attitudes can be very incongruent, with a proactive outward looking approach applied to (say) quality Management and a reactive minimalist compliance driven approach applied to health and safety Management.

Whilst there is no research specifically on the congruence of attitudes in SMEs, there is no reason to expect that the situation will be any different in the congruencies of attitudes in small firms. It is possible to suggest though, that in the case of small firms it is perhaps even less likely for health and safety improvements to be initiated for the purpose of securing financial returns, as small entrepreneurs tend to focus on self-fulfilment, often only seeking to maintain the continuation of the business rather than maximise profits or income levels.

2.2.2 Health versus safety management

*Do organisations have a consistent attitude towards the importance of occupational health and safety risks?*

The attitudes towards health and safety can be highly incongruent, with a commitment to safety not matched by a commitment to health management. In general, the motivation to manage health hazards is lessened due to the perception that they are neither acute nor fatal and attract little public angst, especially in the case of occupational health. This can even be the case where safety is regarded to be a critical commercial success factor and in cases where the organisation is generally committed to complying with regulations. Thus, a genuine concern for safety does not always lead to a concern for health management. At least three scenarios are found, namely:
1. A general concern to comply with health and safety regulations in (say) a factory is not consistently reflected in the priority awarded specific hazards. For example, an organisation may place great importance on the prevention of workplace accidents without taking any significant steps towards the control of a serious noise hazard due to the perception of noise as a low risk.

2. Where concern is focused on a single aspect of health and safety performance, such as airline safety in the commercial aviation sector, a high level of attention to (say) passenger safety is not necessarily matched by a similar level of concern for the safety or health of ground staff. In this situation management attitudes towards occupational and public/customer health and safety can be incongruent.

3. Where an organisation believes that its credibility and reliability will be judged on the basis of all aspects of health and safety performance, this can lead to a general concern to manage all hazards effectively, regardless of who is impacted by each hazard. In this scenario the organisation fears that poor performance in any aspect of health and safety, whether occupational risk or public safety, will reduce the confidence placed in its ability to avoid a serious incident. Examples of this can be found in the UK chemicals sector.

Thus, a second important factor here is the judgement of how the attitudes of key stakeholders would be influenced by poor performance in each area of health and safety. The organisation will typically aim to ensure that performance is maintained in those areas upon which its reputation as a responsible and “safe” operator depends. This can equally lead to a situation where health risks are prioritised over occupational safety risks, such as where there is local concern amongst residents regarding emissions from a factory or where health hazards are regarded to be the predominant occupational hazard.

More generally, the “downrating” of chronic occupational health risks is mediated by the level of professional training of managers, knowledge of risks in an industry and the existence of regulations - all of which can override managers’ predisposition towards safety and prompt greater concern for health risks. Thus, organisations with professionally trained health and safety personnel are more likely to recognise and accept health hazards to be of equal importance to the more visible safety risks. Also, organisations are likely to use the scope of regulations as a guide to the weight awarded specific health risks by society, such that they are more likely to recognise and act on those health hazards which are explicitly noted in regulations on the grounds that these regulations reflect society’s moral expectations. This may mean that incongruent attitudes towards specific hazards will arise from the scope of hazards covered by regulations and the weight (implicit or explicit) attached to each of these.

2.3 RELATIVE IMPORTANCE OF FACTORS

2.3.1 Overall ranking

The research review suggests that there are two main factors in the UK which motivate organisations to initiate health and safety improvements, namely the fear of loss of corporate credibility and a belief that it is necessary and morally correct to comply with health and safety regulations. Whilst other factors also have an important influence on management motivation, these are the only factors commonly identified by UK research to prompt the initiation of improvements. As discussed later, other factors often have a moderating influence on management’s propensity to act, countering the positive influence of these factors. The
approximate ranking of these factors is shown in Table 2. In addition, the factors are divided into primary and secondary motivating factors, where:

- Primary factors create a positive pressure to act, and;
- Secondary factors, reduce motivation arising from primary factors.

### Table 2
**Approximate ranking of primary and secondary motivating factors.**

<table>
<thead>
<tr>
<th>Primary motivators</th>
<th>Secondary (mediating) factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain image of responsibility &amp; avoid adverse regulatory, customer or public reactions &amp; subsequent curtailment of operations &amp; imposition of costs.</td>
<td>Knowledge and/or perception of risk</td>
</tr>
<tr>
<td>Compliance with regulations.</td>
<td>Cost of health and safety improvements</td>
</tr>
<tr>
<td>Compliance with customer or regulator certification schemes</td>
<td>Background of managers and employees, especially experience of incidents, professional training and attitudes.</td>
</tr>
<tr>
<td>Conformity with principles of total quality management, empowerment etc.</td>
<td>Ease of implementation</td>
</tr>
<tr>
<td><em>Minimisation of costs of ill-health and injury (in the UK)</em></td>
<td>Existence of corporate entity and personal accountability of decision makers.</td>
</tr>
<tr>
<td>Improve staff morale and productivity.</td>
<td>Sector specific obstacles, such as short term contracting &amp; NHS “patient first” culture.</td>
</tr>
</tbody>
</table>

**Note**: The wish to avert costs of ill-health and injury is reportedly much more important in the USA than the UK due to national differences in the application of punitive fines and damages.

2.3.2 **Fear of loss of corporate confidence.**

The strongest motivator identified by research is the fear that the adverse publicity, loss of confidence and regulatory attention consequent to a serious incident will cause serious curtailment of operations, imposition of additional costs, loss of corporate credibility and loss of business/interruption of operations. This fear is greatest amongst those firms operating in high risk sectors, such as chemicals production and public transport, where the fear is that a catastrophic incident will result in serious business or operational consequences.

A number of other factors can be subsumed within the fear of adverse publicity, especially where high risk or high profile organisations are concerned. The way in which these factors appear to be construed and interact is illustrated in Figure 3. In these cases, prosecution, application of enforcement notices, experience of a major incident (with or without serious health and safety consequences), are all often viewed as sources of adverse publicity which may ultimately harm commercial prospects. For example, the imposition of fines is interpreted to be a measure of social “sanction” of a firm, with the level of fine reflecting the degree of negligence or extent of aforethought. Accordingly, the perceived likelihood of detection of unsatisfactory conditions (real or imagined), and perceived likelihood of adverse reactions amongst key stakeholders such as
public, shareholders, customers or regulators are critical. Thus, the level of regulation, frequency of contact with regulators and perceived effectiveness of regulator activities are all elements of this factor. This is especially so amongst public sector and monopoly operators where the consequential effects of incidents are contingent upon regulator intervention. Similarly, the nature of the hazards and the “target” are important, as organisations which pose a serious risk to members of the public or customers are likely to regard safety performance to be a critical factor in maintaining the confidence of customers and public alike.

**Symbols of failure**
- Prosecution
- Enforcement notices
- Major incident
- Major “scare”

**Immediate effects**
- Adverse publicity, loss of credibility & confidence in the firm

**Subsequent fall-out**
- New regulations, new health and safety requirements, curtailment of expansion, personal loss, business disruption/interruption.

**Figure 3**
**The fear of loss of corporate confidence**

The operation of this phenomenon is demonstrated by the findings of US research into the commercial “brand name” consequences of commercial aircraft disasters. In particular, Mitchell and Maloney (1989) examined the impact of 56 crashes between 1964 and 1987 on stock market performance of airlines. They separated crashes into two groups, those caused by pilot error and those where the carrier was judged by the press or FAA not to be at fault. They found that, for crashes caused by pilot error, the carrier experienced significantly negative stock market returns (of about 2.3% for a period of at least 150 trading days covered by the study) but that in the case of other crashes there was no stock market reaction. They concluded that the stock market reaction, averaged at about $20m capital value per crash in 1987 prices, in at-fault crashes was mainly due to loss of consumer goodwill in a brand name carrier (which accounted for about 60 to 70% of stock market loss) but also due to increased cost of insurance which accounted for the remaining 30 to 40% of stock market price losses. The lack of consumer or insurer reaction in no-fault crashes was attributed to the belief that events that do not change the expectations of future crashes do not affect consumer behaviour or insurance ratings.

The precise workings of this phenomenon were examined by Chalk (1986) who traced the consequences of the 1979 Chicago DC-10 crash in which 273 person died. He found that the crash resulted in a $200million loss to McDonnel Douglas stockholders and that this amount exceeds any reasonable estimate of regulatory or liability costs. The crash was initially thought to be due to manufacturer design faults although was ultimately attributed mainly to airline maintenance practices. The stock market valuation of McDonnel Douglas fluctuated over a period of at least 60 days in response to events, including discovery of safety defects in a large number of DC-10’s, ensuing grounding of DC-10’s, rumours of customers cancelling orders for DC-10s, release of a critical FAA report and congressional hearings before the ultimate finding that the crash was due mainly to improper maintenance by the airlines rather than a
manufacturers design fault. Whilst the stock value recovered some of its initial loss, the stock price did not recover after the planes returned to service, indicating that there was at least a medium term impact of the crash on stock values. More recently it is reported that passengers “deserted” the US ValuJet after an aircrash and passengers levels have yet to return to average industry levels (Economist, 1997).

2.3.3 Perceived duty to comply with health and safety regulations.

UK research indicates that the need to comply with the law is the most commonly cited reason for health and safety initiatives. Whilst little research has been completed to explore or quantify the different reasons for wishing to comply, Hawkins and Hutter (1993) have articulated two compliance motivations, symbolic and instrumental compliance, as follows:

Symbolic compliance

“...many businesses comply because they think it is symbolically important to comply. This is either because they feel they should comply as a matter of moral principle (thus it is morally right that you do not, say, hazard your employees health or safety, a form of compliance occurring independently of the law); or they comply in recognition of the legitimacy of the law (it is not right to violate a law...whether or not you agree with that law)”.

Instrumental compliance

“...some businesses comply instrumentally, according to an economic model of behaviour, either out of necessity..., or out of compulsion and calculation (you comply because there is a law which will penalise you if you do not and you are caught)”.

The implication here is that many organisations will and do act in accordance with their understanding of the moral limits society places on an organisations’ operations, as communicated in the form of regulations, and will try harder to comply with those regulations whose merits and benefits (to society or the firm) are most obvious. This conceptualisation of compliance is lent some support by the findings of reviewed research which indicates that the propensity to improve health and safety on grounds of compliance is influenced by:

1. the scope of hazards covered by regulations,

2. the perceived validity of such regulation, and;

3. the extent to which it is perceived that there is a significant risk posed by the hazard covered by the regulations in the organisation in question.

These three factors relate to organisations’ perception of what it is legitimate and morally valid for an organisation to do. In particular, regulations are taken to be a measure of societal expectations, and thus interpreted as a guide to an organisation’s moral and social duties - wherever such regulations are accepted as valid and applicable to an organisation. The evaluation of validity appears to be influenced by the perceived balance of costs and benefits, such that regulations whose costs appear to be proportionate to the risks are more likely to be accepted and complied with. The benefits do not have to be commercial, given that the compliance motive is actually a wish to be seen to be meeting social obligations. Therefore, the benefits may be accrued by society rather than the firm.
The proposition of symbolic compliance comprising an organisation's interpretation of social expectations is further supported by international comparisons of management attitudes towards occupational health and safety. In particular, some research reports that managers in certain Scandinavian and continental countries are more likely to implement workplace health promotion schemes and seek to eliminate hazards due to the national culture of "social welfare" and belief in employee's right to a "risk-free" environment. In contrast, some research indicates that UK and USA managers are less likely to seek to modify the work environment to reduce employee stress and health problems, due to the individualistic cultures of these countries. In both cases, the organisation's actions are shaped by their interpretation of what society views as morally and socially important.

The research indicates that there are a number of factors moderating the perceived legitimacy and balance of "cost" and "benefits" of regulations, as illustrated in Figure 4. The legitimacy of a regulation is suggested to be assessed in terms of whether there is a significant risk that deserves regulations (i.e. is it necessary), whether this risk exists in your own firm (does it apply to us?), whether the degree of health and safety benefit justifies the cost and whether the firm can afford to comply. The evaluation of these points is shaped by a number of factors, including:

- the existence of a corporate entity with defined responsibilities,
- the cost of compliance - and whether significant capital costs are involved,
- perception of rate of return (to organisation or society) of investment,
- the availability of controls,
- comprehension of risks and associated regulations,
- personal background of managers and employees,
- general perceptual processes.

<table>
<thead>
<tr>
<th>Shaping factors</th>
<th>Acceptance of regulation</th>
<th>Is it morally right that we should seek to comply with this regulation?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understanding of risk levels.</td>
<td>Is it necessary?</td>
<td>Is it necessary?</td>
</tr>
<tr>
<td>2. Knowledge of low cost solutions.</td>
<td>To what extent does it apply to us?</td>
<td>To what extent does it apply to us?</td>
</tr>
<tr>
<td>3. Attitudes to &amp; perception of hazards.</td>
<td>Are the costs justified?</td>
<td>Are the costs justified?</td>
</tr>
<tr>
<td>5. Are there commercial benefits?</td>
<td>Are we empowered to act?</td>
<td>Are we empowered to act?</td>
</tr>
</tbody>
</table>

**Figure 4**

Factors influencing perceived legitimacy of regulations

Generally, managers are less likely to be motivated to pursue initiatives which they do not fully understand, do not accept they are responsible for, regard as problematic or expensive, or are perceived as offering little tangible or immediate benefit in terms of improved health and safety.
performance. This raises the issue of risk perception, particularly in the context of health risks. Generally, health hazards are not perceived to be serious due to their diffuse, delayed and intangible effects - with the signs of ill-health often much delayed and not always exclusively connected to the workplace hazard. Subsequently, investment in the control of health hazards is regarded to offer little immediate or tangible benefit, with little need to control what is perceived as a low risk in the first place. The personal experience (witnessing) of injury or ill-health may counter this perception, as does the receipt of professional health and safety training in the case of both health and safety hazards. However, personal experience and attitudes can also operate in the opposite direction where workplace health and safety hazards are accepted as a normal “part of the job” which it is unnecessary and hence not legitimate to eliminate or reduce.

As regards instrumental compliance, there is little evidence that UK firms are generally motivated to proactively comply with health and safety regulations for instrumental purposes, due to the perception that the likelihood of detection and/or prosecution is low. Research into occupational health and safety in the USA and Australia reports a similar situation, i.e that penalties have no significant deterrent effect on industry as a whole because of their low likelihood. This research does show that the behaviour of an individual organisation often changes when a serious event occurs such as enforcement activity and/or prosecution, occurrence of a serious incident, a critical inspection or actual prosecution/enforcement action. Indeed, subsequent to an incident or enforcement action the firm may seek to achieve a general improvement in health and safety. However, it is apparent that the positive impact of these events is due to the focusing of management attention rather than an economic decision to avert future financial penalties. In particular, the event draws management attention to the point that health and safety standards are unsatisfactory and that a general change in pertinent behaviours is required.

This “focusing” effect of events is also proffered as an explanation of the “narrow” effect observed of inspections and penalties. The individual organisation responds due to a realisation that its performance is inadequate and not because of any general deterrence effect of the penalties. Other organisations, yet to be inspected, are not motivated to act in fear of penalties applied elsewhere and instead need to be alerted to sub-standard performance in their own organisation.

As noted by Hawkins and Hutter (1993) these two forms of compliance may co-exist in an organisation. It is difficult on the basis of current research to precisely weight the importance of each attitude amongst UK firms, as previous research failed to explicitly query the reasons given for wishing to comply with health and safety regulations. Notwithstanding this, given that a number of research projects reported that the likelihood and costs of fines and prosecution are insufficient to be a significant commercial concern, it can be argued that instrumental compliance is not a strong motivator in the UK. This is perhaps unsurprising given that the HSE reported in 1994 that the average probability of a British firm being prosecuted was 1 in 800 (Mayhew and Quinlan, 1997). This is not to say that there are few firms in the UK who act out of instrumental motives. Rather, the implication is that there may be a large number of “instrumental” firms who do not regard the current likelihood or scale of financial penalties to be significant.

Conversely, there is evidence that many firms place a high degree of importance on demonstrating that they are maintaining high standards of health and safety. For example, many firms entering competitions or using proprietary audits give “symbolic” reasons for their actions, especially as the infrequency (or lack of) and negative nature of fines and prosecution do not provide an adequate demonstration of performance. These findings suggest that many firms are concerned for their health and safety “image” and thus lend support to the notion that the main form of compliance amongst UK firms is symbolic.
2.3.4 Avoidance of direct costs of injury and ill-health

Research in the USA indicates that the need to avoid or reduce the immediate costs associated with illness and injury can be very strong motivating factors under certain conditions. However, this finding is not repeated in the UK and a number of other countries where the wish to reduce direct costs of illness and injury is rarely mentioned as a motivating factor. These contrasting findings can be related to international differences in health care insurance and compensation arrangements. USA organisations tend to directly incur a relatively high proportion of the cost of injury and illness in the form of health care and worker compensation insurance premiums, whilst the state bears the main cost of injury and illness in the UK and other countries reported in research. This suggests that, in principle, the cost of accidents and illness are important motivation factors. However, this factor is only likely to operate within an organisation when a number of the following conditions are met:

- the costs are regarded to be high (such as 8% of labour costs),
- the costs are directly borne by the organisation (rather than the state),
- the costs are tangible and measurable within company accounts,
- the costs are considered to be under the influence of the organisation,
- benefits of interventions will be realised within a few years,
- there are no institutional or operational barriers to change, such as cyclical work loads or lack of a corporate entity,
- the company is large enough to have resources and skills to implement interventions, and;
- the company does not have any beliefs which go against the principle of changing individuals’ behaviour.

Given the rarity of cost avoidance or reduction being mentioned in UK research, it is reasonable to suggest that these conditions are rarely apparent in the UK. This is supported by research in Norway, Israel and Australia, each of which report that the costs of illness and injuries are borne mainly by the state and the individual. For example, the HSEs study (Davies and Teasdale, 1994) of the costs to the British economy of work accidents and work-related ill-health reported that:

- individual workers lose about £350m in reduced incomes and additional expenditures net of civil compensation per year (ignoring the loss of well-being such as pain and suffering valued at about a further £4.3 billion by the HSE),

- the cost to firms is about £1.5 billion and;

- the cost to society and state is over £3 billion (including £3 billion loss of output from reduced workforce, £100m to £450m medical treatment, £600m to £1.2 billion administration costs).

Thus, excluding damage only accidents and losses, firms incur no more than 30% to 40% of the cost of workplace injuries and illness in the UK even if you exclude the loss of well-being in the form of pain, grief and suffering. If the £4.3 billion cost of well-being is included then the proportion of costs incurred by firms falls to about 15%.

These findings could be interpreted in the context of the “economic model” of decision-making, as described by Fenn (1993). The economic model suggests that profit maximising firms will improve health and safety “to the extent that failure to do so would reduce productivity or
revenue, increase the wage bill, damage their reputation, and/or increase their liability in tort” (p244). In theory, wages, demand for products and price levels will reflect risk levels, and firms will improve health and safety until the cost of improvements outweigh averted savings. However, our findings suggest that the conditions necessary to prompt a correct balancing of costs and benefits of health and safety improvements are not present, including:

- firms do not bear the full cost of harm, including loss of output from a reduced workforce,
- the mechanism for allocating cost to responsible organisations may not reflect organisation specific performance, such as insurance premiums ignoring organisation specific performance and/or ignoring current performance standards,
- the actual financial costs do not necessarily reflect the loss of well-being incurred by people, such as pain and suffering,
- accounting methods fail to identify all costs, such as early retirement and absenteeism,
- many costs are difficult to quantify, such as loss of reputation,
- many firms may not be fully aware of the risks arising from their operations, especially in the case of delayed health risks and low frequency major incidents,
- demand for services or the supply of services may be inelastic, such that a firms’ commercial fortunes may not be sensitive to its performance,
- the organisation may lack a decision-making body,
- the organisation may either lack accountability for its costs, and/or not pursue the profit motive, such as a public sector organisation.

Thus, on the one hand, firms neither bear nor quantify the full costs of injury and ill-health, and on the other hand, demand or supply of services may be insensitive to health and safety performance. In this situation, the degree of cost which a profit maximising firm can justify incurring on the grounds of averting consequential loss is unlikely to reflect the true level of harm incurred by society. As noted by Fenn, there is a need for regulation in these conditions to gain a socially optimal balance of costs and benefits, a model which UK firms appear to follow.

However, care should be taken in assuming that the belief that health and safety improvements save money is unimportant. Indeed, a number of major UK studies have found that the perception that health and safety improvements are a “cost” rather than an investment is a significant demotivating factor amongst management. This view of cost of compliance was articulated by Hoberg (1993) who suggested that the business view of the cost of health and safety regulation can be summed up as:

“Can we do that and still make a profit?” (p242)

Accordingly, demonstration that health and safety improvements are either cost neutral or may even offer positive financial returns may well be necessary - not to create a positive pressure to seek out health and safety improvements but to ensure that improvements required by regulations are not opposed on the grounds of cost.
2.3.5 Other factors

UK, and some overseas research, has identified a number of other motivators. However, the extent to which these factors are cited is variable, suggesting that they are less important than aforementioned factors. These include:

- the wish to improve staff morale and productivity,
- the extension of modern management concepts such as total quality management into all areas of responsibility, including health and safety,
- inclusion of health and safety within general quality systems.

The fear of prosecution or other enforcement actions is not commonly cited as a motivating factor in its own right, only being a concern amongst high profile or high risk organisations. In the UK, the perceived likelihood of detection and prosecution and the level of fines imposed are insufficient to be a significant concern. Similarly, neither trade union activity nor employee pressure are cited as a consideration.

Mandatory schemes

It is also important to note that a number of studies report a high level of compliance with health and safety requirements where these are imposed as part of either state or customer dictated schemes. In these situations organisations appear to accept requirements as an unavoidable and necessary condition of doing business, and will proactively comply. Where these requirements are dictated by a client (and applied with rigour) they are accorded equal status and importance as other client expectations.

It is also apparent that advice from inspectors is very influential in that managers tend to treat it as mandatory even where it is given as advice rather than as a requirement. However, it is not clear whether the management are motivated to seek out hazards overlooked by inspectors, or whether they simply comply with the specific advice given.

2.4 INTERACTION OF FACTORS: A MODEL

2.4.1 A generic model

The way in which these factors can be construed as operating is illustrated in figures 5 and 6. Figure 5 illustrates the general relationship between the size of firms, the perceived risk (or costs) associated with their activities and the resulting levels of intrinsic and extrinsic motivation. A diagonal scale of motivation is plotted, with lowest motivation occurring at the base of the plot and highest to the top right of the figure. The figure illustrates the general position of firms on the scale but also indicates how moderating factors may shift specific firms up and down the scale. These moderating factors and the direction in which they operate are shown in italics.

In general large, high risk firms are shown on Figure 5 to have the highest intrinsic motivation due to the combination of high risks and high profile, and the resources to pursue developments. As the level of perceived risk declines, larger firms may still possess a medium to high level of extrinsic motivation (with motivation being legislation driven) but will "lose" the intrinsic fear of a major incident.
As the size of firm falls but risk remains high firms are shown on Figure 2.3 to retain an intrinsic fear of a major incident but will be less concerned about profile related risks. In general, small low risk firms possess little intrinsic or extrinsic motivation.

These general relationships may be moderated by a number of factors. For example, experience of serious incidents or direct contact with a regulator may increase motivation levels. Indeed, there is evidence that a “scare” can prompt an otherwise unmotivated firm to enact a comprehensive review and development of health and safety management systems, especially where the scare is accompanied by professional advice that a broad based management system is required to prevent another and potentially more serious incident occurring. Also, there is evidence that advice from professionally trained health and safety advisors can overcome ingrained management attitudes that certain hazards are “part of the job”. Conversely, a perception that the cost of compliance is high or incurs practical difficulties damps motivation to comply, especially if it is perceived that the risk posed by hazards covered by the regulations is low. This is especially true amongst firms who comply with regulations as a matter of principle, such as large high profile firms, as they would not accept the legitimacy of regulations which incur “excessive” costs or which achieve little in terms of improved health and safety.

If it is accepted that the ultimate fear concerning adverse publicity and loss of public/customer confidence is that business activities may be curtailed, this would suggest that the inherent “elasticity” of supply and demand is important. That is, if demand for a service is “inelastic” or insensitive to health and safety fears, then high risk organisations may have a reduced fear of adverse publicity or loss of public/customer confidence – as demand for their services will not be diminished and/or regulators will be unable to significantly restrict operations. The probable impact of this factor is shown in Figure 5 and elaborated in Figure 6, i.e. inelastic demand dampens motivation levels in higher risk firms.
Figure 5
General model of management motivation (part 1)
The supply of a service may be inelastic due to a number of reasons, which can be categorised as:

- services depending on large costly infrastructures which take long periods to construct, such as railway services,
- services which are difficult to substitute, such as law enforcement services, and;
- services depending on large numbers of specialist personnel, such as military, fire and health services.

Where the service is regarded to be essential, demand is also likely to be inelastic, as in the case of car usage in rural areas lacking public transport. These supply and demand inelasticities can combine to mean that there is inelastic demand for an essential service which cannot be delivered by an alternative means or by an alternative organisation without incurring great expense or delay. In this scenario it is possible to suggest that fear of loss of business and/or curtailment of operations will be reduced even in higher risk high profile organisations.

The construed impact of supply and demand elasticity on motivation is illustrated in Figure 6. Intrinsic motivation is shown to decline as operational risk and supply/demand elasticity declines. Some examples of operations which may be construed as having different levels of elasticity and risk are shown. For example, regarding food safety, consumers are able to switch retailers or stop purchasing most products due to the availability of alternatives - creating a very elastic demand. The example of food safety also highlights the point that it is the “perceived risk” which is important rather than the actual risk, especially where demand and supply is very elastic. Thus, where a service can be readily substituted people may be more prone to switch suppliers/services even when the perceived or actual risk is minimal - as they do not need to tolerate the risk.

Whilst the public do not always have direct control over demand or management of an operation, such as in the manufacture of exported chemicals, the fear is that public or political reactions can nonetheless impact operations via the actions of regulating bodies, where such regulators are thought to be able to have a substantive impact on the organisation. Where there is actual experience of a major incident leading to the curtailment of operations or restrictions on future expansions, as in the chemicals and nuclear sectors, the fear of further restrictions in the event of another incident will be heightened. In these situations the organisation is commercially very sensitive to the way in which its health and safety performance is perceived by key “stakeholders”.

Conversely, in some situations it is difficult to substitute a service, such as where commuters rely on rail (or bus) services. International air travel falls somewhere between these two extremes, as few people are likely to find a substitute for air travel for international journeys but they are reasonably able to switch suppliers (in Europe).

However, this general relationship may be moderated where there is a fear of disruption, imposition of additional costs (through new regulations or safety requirements) or restrictions on operational/commercial freedoms due to the intervention of a regulator, including the fear of personal loss amongst management found to be at fault. The higher the fear that external bodies may disrupt the business, impose costs or restrict operations, the more likely it is that the motivation to avoid major incidents will be “internalised”. As before, where there has been actual experience of serious intervention or a material threat of intervention, this fear may be heightened.

Following this model, “cost” can be either a motivator or demotivator, as follows:
where the organisation accepts that injury and ill-health are a significant commercial issue
the wish to reduce such costs can be a primary factor increasing intrinsic motivation,

where the cost of injury and ill-health to the firm is thought to be low, the cost of health
and safety improvements can be a demotivating factor, moderating the influence exerted by
the motivation to comply with the law,

where there is a fear that a major incident may lead to the imposition of new regulations,
health and/or safety requirements or restrictions on commercial freedoms, this fear of
imposed costs can moderate the dampening effect of inelastic demand/supply on
motivations in high risk organisations.

Also, following this model, the role played by fines, prosecution and other financial penalties
depends on the organisation’s fear of loss of confidence, as follows:

where an organisation is sensitive to public or regulator opinion, penalties and enforcement
actions may act as symbols of how well the organisation is maintaining its image of
corporate responsibility. In this case the actual size of fines is important only in terms of
the degree of sanction they represent rather than in terms of the financial burden they
impose.

where an organisation is not so sensitive to public or regulator opinion, there is little
evidence that financial penalties play a motivating role in the UK or overseas due to the
(current) low likelihood of enforcement and (typically) low level of fines.

The former view presumes that the role of enforcement is one of “communication” and
persuasion, making management aware that their behaviour is unacceptable, rather than a
punitive or compulsive role where management are expected to react in proportion to the financial
penalty.
Figure 6
Generic model of management motivation (Part 2)
2.4.2 Linkage of motivation to characteristics of organisations

As discussed at greater length in section 3 of this report, the approach taken to the regulation of a company should reflect the dominant type of behaviour observed and the factors underlying this behaviour. This section outlines some generalisations about the likely relationship between organisational characteristics and the operation of motivational factors, based on both the detailed findings of previous research and its elaboration into the latter model. It is also possible to suggest that the past behaviour of organisations can be usefully characterised for the purpose of profiling the organisation's pattern of behaviour and motivation. Given that management motivation is a product of the interaction of many national, sector level, organisation specific and individual factors it is reasonable to suggest that there is a need to take account of organisation specific behaviours when formulating organisation specific interventions. Thus, the general relationships described here should be used only as a guide to the focus of sector level initiatives, with the strategy adopted for organisation specific inspections moderated by consideration of observed behaviours.

General relationships

1. **Overall risk level**: Organisations operating in higher-risk sectors, such as chemicals, nuclear, oil & gas or rail, tend to internalise health and safety as a key management objective, especially if it is thought that a single incident could cause a major loss.

2. **Risk profile**: There are at least two important elements to an organisations risk profile, namely:

   - **Target of risk**: Organisations whose operations potentially expose customers or members of the public to serious risks, such as nuclear power generation, are more likely to regard assurance of public safety to be critical, possibly failing to extend such concern to occupational health and safety matters.

   - **Predominance of health or safety hazards**: Organisations may focus on those specific hazards judged to pose a significant risk to those people on whom their performance is evaluated. Thus, concern for public safety may focus on environmental health hazards (i.e. emissions) or off-site safety incidents (i.e. major fires, explosions or toxic gas releases) in the case of a factory depending on which is their predominant risk. Again this concern may not extend to other people, such as employees, unless performance is also judged on their health and safety standards.
3. Size: The size of firms has at least two effects.

- The larger the firm the greater the likelihood that it will possess the resources to enact improvements and understand health and safety duties. This reduces the likelihood that concerns about cost and the availability of resources will moderate motivation to comply with regulations.

- Larger firms are more likely to have a higher public profile and an associated concern to maintain an image of social responsibility to employees and public alike.

4. Demand/supply elasticity: Organisations operating in inelastic sectors, such as sectors dependent on large scale infrastructure, e.g. rail and water supply, are less likely to be sensitive to stakeholder opinion of health and safety performance unless it is accepted that there is a substantive threat of regulator intervention.

5. Sector experience of serious incidents: Organisations operating in sectors which have witnessed serious incidents, or major near misses, which had significant implications for the organisations concerned are more likely to have internalised health and safety. Examples include the chemicals sector after Flixborough explosion and the railways sector after Kings Cross station fire and Clapham Junction train collision.

6. Sectoral barriers to proaction: The structural and contractual arrangements and attitudes within certain sectors pose special obstacles to the acceptance of health and safety responsibilities, such as sub-contracting arrangements in the construction sector and patient first culture in health care sector.

**Organisation specific factors**

7. Age of organisation-ingrained attitudes: Certain established organisations (e.g. old factories and farms) may hold ingrained attitudes about specific hazards, such as noise or dust levels, where such hazards are accepted, especially if these hazards have not previously been so highly regulated.
8. Experience of serious incident: The experience of a serious incident within an organisation, including a major injury/death, adverse inspection or adverse publicity, can alert management to substandard performance and heightened the fear of a more serious incident occurring and/or a fear of escalated regulator intervention if standards are not improved. Such experience can counter attitudes which may exist within the industry as a whole.

9. Level of health and safety expertise: The existence of health and safety expertise (e.g. qualified safety officers) can moderate general antipathy towards hazards which have traditionally been accepted.

10. TQM policies: Organisations (e.g. in the car industry) which strive to apply the principles of TQM, or equivalent system, to all areas of management are more likely to adopt a proactive approach to health and safety.

11. Customer demands: Organisations whose customers specify health and safety requirements as part of the supply agreement are likely to view health and safety as an essential business need, such as chemical industry contractors.

12. Diffusion of accountability: Organisations (e.g. certain public sector bodies) which lack a clear management structure or in which accountability for health and safety has not been defined, may fail to act on issues.

Observed management behaviours

Management behaviour can be evaluated along at least two dimensions. The typical behaviours and their classification can be described as follows.

1. Instrumental versus symbolic compliance

Management whom seek to comply with regulations for symbolic reasons or out of self-interest are likely to display the following behaviours:

- keeping informed of new regulations and assessing their application to the operations,
- engaging in debate about the validity of such regulations,
- seeking advice on how best to comply with regulations,
- discussing with the regulator alternative ways of improving performance,
- using regulations and codes as a starting point for scoping improvements, and;
- seeking external validation of health and safety performance, such as certification or entering competitions.
Management whom seek to comply with regulations for instrumental reasons are likely to display the following behaviours:

- persistent and systematic failures to comply with regulations,
- responding to the letter of the law and/or inspectors advice,
- focusing health and safety work in those areas most commonly inspected or most likely to result in “ambulances at the gate”.

2. Congruent versus incongruent behaviour & attitudes

The congruency of attitudes can be construed to be a continuum where, at one extreme, the attention awarded hazards is in direct proportion to their objective risk, and at the other extreme, attention is biased towards the most obvious hazards that impact those people whose opinions matter most. Incongruent attitudes may arise from public, regulatory or company biases in the perception of specific risks, again highlighting the need to identify the factors underlying attitudes in order to focus interventions onto the causes of management behaviour.

![Figure 7](image)

**Figure 7**

A continuum of congruency of health and safety attitudes

2.4.3 Characteristics of proactive enterprises

Based on the latter model it is possible to assert that proactive enterprises typically display one or more of the following characteristics:

1. A high risk operation and/or a high profile organisation, especially where the health and safety of customers or members of the public is regarded to be at significant risk and/or where commercial fortunes (such as loss of custom, opposition to expansion or demands for more regulations) are sensitive to adverse regulator, public or customer opinion (for substantive or imagined fears). The determining considerations here are whether the organisations believes that key stakeholders will perceive risks to be significant and will be cognisant of these risks when they appraise the organisation.

2. An organisation operating in a sector where demand and supply is elastic, or where there is a potential for substantive regulatory intervention

3. Operating in a highly or moderately regulated environment where sub-standard performance is likely to be detected and acted upon by enforcing bodies, pressure groups and/or the media, with the subsequent “broadcasting” of unacceptable performance to
society. This is necessary regardless of whether demand/supply is elastic or inelastic as sub-standard performance must be detected for it to impact business or operational fortunes in either case.

4. Organisations directly incurring substantial tangible injury and ill-health costs.

5. Organisations with the resources available, or at least access to resources, to understand hazards and regulations, evaluate their application and importance to the organisation, and devise or advise on appropriate actions.

6. Capital and revenue resources to afford improvements.

2.5 MOTIVATION OF SMES

The research has not identified any factors unique to SMEs. Rather, it appears that SMEs (especially low risk operators) are simply more likely than larger firms to exhibit those characteristics that are associated with a low motivation, such as:

- low frequency per organisation of inspection and/or prosecution,

- few, if any, resources to examine, develop or implement health and safety improvements, or indeed to track and understand health and safety regulations,

- low profile, (and so little fear of adverse publicity impacting business)

- low likelihood of having personal experience of a serious incident,

- few financial resources to fund engineering changes or major one-off purchases.

Also, small entrepreneurs typically seek to enter easily accessible markets which do not require significant capital investments or specialist skills. Consequently, most SMEs involve lower risk operations where health and safety is unlikely to be considered to be a critical success factor. Also, as most entrepreneurs are motivated by self-fulfilment rather than profit or income maximisation, they are less likely to be concerned with minimising costs of injury or ill-health for commercial reasons.

With regard to health risks, the general perception of health hazards as being “diffuse”, chronic and non-fatal is likely to further reduce the motivation to manage health hazards in SMEs.
3. IMPLICATIONS FOR PROMOTION OF HEALTH AND SAFETY IN THE UK

3.1 OVERVIEW

The findings of this study are used as follows;

1. To review the validity of general theory about the effectiveness of alternative regulatory strategies.

2. To identify, from first principle, strategies and tactics for promoting compliance.

3.2 THE THEORY OF REGULATION

Our aim here is to consider the extent to which the assumptions, implicit and explicit, regarding management attitudes underlying the arguments for alternative forms of regulation are supported by our research on the motivation of management. We do not aim to assess the effectiveness of each form of regulation per se, such as the practicality of direct government enforcement or technical limits on government capacity to maintain standards through prescriptive regulations. This is important because each form of regulation suggests an alternative approach to the promotion of health and safety based on the varying assumptions about managerial motivation.

3.2.1 Definition of forms of regulation

A number of different forms of regulation have been defined and researched by UK and US researchers (Gray and Scholz, 1993. Hawkins and Hutter, 1993. Hoberg, 1993. Fenn 1993. Rees, 1988). In the UK the terms self-compliance, goal-setting regulation and prescriptive regulation have been used to describe forms of regulation. In the US an overlapping but subtly different set of terms have been used, namely voluntary self-compliance, fully and partially mandated self-compliance and direct government regulation (Rees, 1985). These terms are reconciled and defined below.

**Voluntary self-compliance**: In extreme form this entails the organisation setting its own health and safety goals and standards in the absence of any external regulation. In theory, an optimal standard of safety is achieved by the action of market forces, where the company will seek to achieve a standard which strikes an optimal balance between the costs of prevention and the commercial penalties of sub-standard performance. Penalties may take the form of insurance premiums, loss of corporate image, uninsured accident costs, reduced productivity etc.

**Partially mandated self-compliance - goal setting regulation**: Here the regulator defines the performance standard to be achieved but allows the organisation to decide how best to meet this standard. This may entail the organisation or industry associations developing their own rules and perhaps even prescriptive standards. Within this the organisation may take account of commercial costs of sub-standard performance and/or develop alternative or novel means of meeting goals that incur a lower cost. The regulator then monitors performance and intervenes if it falls below acceptable levels. Codes of guidance may be produced to explain how standards may be achieved but alternative methods may be adopted by the organisation if they achieve the same end.
Fully mandated compliance: This situation is best typified by the USA's Co-operative Compliance Program, where the regulator produces detailed rules but allows the organisation to self-enforce them. The regulator monitors performance in terms of level of compliance through occasional checks.

Direct government regulation: Here the regulator defines in detail the scope and precise terms of rules and regulations to be followed and directly enforces them through inspections, product approval processes and penalties. The regulator decides the standard to be achieved, how it is to be achieved and plays a direct role in assuring implementation of these methods.

Prescriptive regulation falls into both fully mandated compliance and direct government regulation categories. A distinction exists though in the mechanism of enforcement, namely direct government action in the form of inspections versus mandated compliance monitored by government.

3.2.2 Overview of research implications

Each form of regulation makes some assumptions about the motivation and behaviour of organisations. These are discussed below and related to the findings of our research. Clearly our research represents a “snap-shot” in time of the dispositions of UK management, reflecting the operation of current legal, financial and social factors. Thus, the weight of evidence for or against one or another style of regulation is subject to change due to intended or coincidental changes in these factors. In particular, as discussed below, there is little evidence in the UK that management are generally driven by economic concerns or fears of prosecution to improve health and safety. However, the economic argument could change if, for example, the direct costs borne by UK organisations were to increase significantly.

It is possible to interpret this finding as simply reflecting the approach adopted to health and safety by UK regulations and employment/welfare arrangements, namely that:

- unlike the USA, the UK system of health care and workers compensation has not been designed to ensure responsible organisations directly bear the full costs of injuries and ill-health or are motivated by these costs to prevent incidents.

- the frequency of inspections and cost of imposed penalties are not set at levels required to create a perception that sub-standard performance will be detected and penalised severely.

- UK health and safety regulation is mostly based on partially mandated self-compliance model.

Thus, it is perhaps not surprising that, in general, the attitudes of UK management more closely match those presumed by the partial/fully mandated model of regulation than the voluntary self-compliance or direct government regulation models. This is an important observation for a number of reasons. Firstly, it implies, at a theoretical level, that there is no single model of management motivation that can be universally applied independently of the legal, financial and social systems operating in a country or industry. The attitudes of management are a product of legal, financial and social systems. Therefore, if UK legal, financial and social systems were to change so might the attitudes of UK management. Thus, given a change in legal and financial circumstances, the voluntary or direct regulatory models (and their associated promotional strategies) could be of equal validity in the UK as the partial or fully mandated models.
This can also be interpreted to imply that, given a fixed combination of legal financial and social systems, the strategies adopted to promote motivation amongst management should be matched to the types of attitudes which these systems and factors engender. Thus, the economic self-compliance model for health and safety may have more relevance for (say) high risk operators such as aviation firms, but a "social" model of compliance achieved by mandatory methods may be more relevant to medium risk enterprises especially if they do not bear the full costs of injuries and ill-health. Put another way, the economic model of voluntary self-compliance is unlikely to be of general relevance in the UK without a substantial change in the level and/or allocation of financial liabilities. Similarly, for direct government regulation to achieve higher levels of instrumental compliance by creating a fear of penalties across all sectors of employment, a significant and realistic fear of detection and prosecution would first need to be created.

3.2.3 Detailed discussion of findings

This section aims to summarise the research evidence regarding whether the motivations presumed by each regulatory approach are operating in the UK, and provide comment on the extent to which each regulatory approach appears to match the aspirations of management.

Voluntary self-regulation.

Pure finance driven self-regulation assumes that organisations (1) will seek to achieve an optimal balance between investments in safety and the costs of failure, (2) that they have knowledge of their risks and (3) that they will bear the costs of failure, i.e. it assumes:

- economic rationality on the part of decision-makers,
- a perfect mechanism for the transfer of costs to the organisation responsible for injuries and ill-health,
- a perfect mechanism for the transfer of customer/public reaction to the firm, and;
- perfect knowledge of risks and methods of risk management.

At least in the case of the UK, our research suggests that with a few (partial) exceptions these conditions do not exist and that health and safety improvements are rarely initiated for the sake of commercial gain. Costs are not borne in full by the responsible organisation, including individual loss of welfare and loss of productive members of the workforce. Even those costs which are borne by organisations are rarely quantified or recognised within accounting systems. Also, companies often fail to consider all means of profit optimisation and frequently make decisions without completing full financial assessments.

Rather, UK research indicates that health and safety decisions in many firms are driven by non-economic factors, particularly the wish to uphold social responsibilities. Indeed, there is a large body of research that suggests that the management reaction to fines and penalties is best explained by notions of bounded rationality and focusing of management attention rather than economic models of behaviour. Management view fines etc. as a sign that they are failing to fulfil social expectations and accordingly make broad adjustments to practices rather than respond in proportion to the size of financial penalties. Self-compliance as such in the UK comprises a voluntary decision to comply on moral or social responsibility grounds, with consideration of cost restricted to an evaluation of the "economic equity" of regulations, i.e. are the costs of compliance in proportion to the health and safety benefits.
At a theoretical level it can be argued that this is entirely an appropriate response because the direct economic costs of accidents and illness borne by organisations do not reflect the full cost to society. Therefore, any narrow profit based decision making will not strike an appropriate balance between prevention costs and averted costs of accidents and illness.

This is not to say that there is not a certain degree of self-compliance due to financial and commercial concerns, especially amongst higher risk operations. Also, many firms act on “belief” rather than requiring “hard” financial proof of a proposal. “Belief” can be based on anecdotal evidence and argument about intangible commercial benefits. Therefore, the absence of a “hard” financial case for health and safety may not prevent a firm from believing that an investment in health and safety will produce commercial benefits. But in a situation of imperfect information, bounded rationality and imperfect allocation of liabilities, financially driven compliance is unlikely to be in proportion to the risk.

High risk high profile firms are something of an exception to this rule, in that they are reportedly driven by commercial concerns and fears of catastrophic loss to achieve socially acceptable health and safety standards. The standards set by these firms do not necessarily reflect the direct economic costs of failure, but again reflect their interpretations of societal expectations. Clearly, the ultimate fear is that failure to meet social expectations will lead to even greater commercial consequences, however, these consequences are not necessarily quantified in financial terms. Rather, decisions are based on an interpretation of social criteria, as represented by regulations.

However, even here, the fear of commercial ramifications is due in part to the actions of regulators in detecting failures, allocating fault and imposing new requirements. The regulator is seen to play the role of translating society’s expectations into technical control and restrictions and penalties, especially where the organisation does not directly incur the full costs of unsatisfactory performance. This is especially true in the case of public sector and monopoly operators who are unlikely to directly (through loss of business) suffer the commercial consequences of adverse reactions to their performance.

The UK situation can be contrasted, to some extent, with the situation in the USA where organisations more commonly report a commercial incentive to improve health and safety due to the much higher level of cost (of injuries and ill-health) directly borne by USA organisations. This suggests that, in principle, a higher level of self-compliance can be engineered by increasing the private costs of morbidity through insurance and legal penalty systems.

**Fully and partially mandated self-compliance**

A number of studies indicate that many organisations treat regulations as an indication of society’s social expectations concerning organisational behaviour. Compliance decisions appear to be driven by a wish to be seen to be fulfilling social expectations rather than a simple economic assessment of the immediate costs and benefits of compliance. Regulations are used as a guide to expectations but only where such regulations are perceived as legitimate. In general, these findings indicate that the operation of mandated regulations is consistent with management’s attitudes towards health and safety. This “communication” role of regulations has been described by Gray and Scholz (1993):

“Regulations presumably evolve when existing motivations lead to socially undesirable behaviour. To change such behaviour, regulations must not only overcome the set of existing motivations but must also call the attention of citizens to the particular behaviour in need of changing.” (p194).
Past research has not explicitly considered whether full or partially mandated regulations are a better match to the motivational needs of management, other than noting the practical difficulty of developing a “legitimate” and workable set of prescriptive rules for a range of complex operations. However, it is possible to compare the working of full and partially mandated regulations to the secondary factors found by research to influence management motivation.

The case for full mandation

Two secondary factors favour full mandation:

- **limited access to health and safety expertise or other resources:** In the case of firms, usually smaller firms, who lack the resources to assess risks or develop solutions, it could be argued that prescriptive regulations offer the advantage of minimising the need for specialist knowledge. They do not have to examine or justify their own practices or judge the acceptability of their performance.

- **a desire to demonstrate health and safety credentials:** “Prescriptive” rules offer the advantage of providing a clear and simple public demonstration that regulations are being complied with - something to which firms who are driven by symbolic compliance motives may be particularly attracted.

These features of prescriptive regulations may overcome the demotivating effects of believing that compliance is beyond the organisation’s capability and that a clear acknowledgement of compliance will not be forthcoming.

The suggestion that many organisations are attracted by “simple” public demonstrations of their performance is reinforced by the finding that many UK organisations enter health and safety competitions and seek “accreditation” of their health and safety systems for symbolic purposes.

The case for partial mandation

However, as previously noted, many firms use regulations only as a guide to their social obligations and do not appear to accept regulations at “face value”. They “test” the legitimacy of regulations in a number of respects:

- **is the cost of compliance is in proportion to the benefit.**

- **are the risks significant,**

- **immediacy of benefits.**

The cost of compliance is important in two respects, namely, symbolic compliance is conditional on affordability and the equitable allocation of costs. In general, organisations are less inclined to seek to comply with regulations that they do not understand, lack the resources to research, regard to impose excessive costs or apply to risks they regard to be low. The blanket imposition of a prescriptive (fully mandated) regulation would appear to conflict with these motivational needs.

These observations suggest that, when attempting to gain management commitment, a balance must be struck between:
• placing excessive demands on the ability of organisations to identify and assess their own health and safety needs,

• clearly communicating legal duties, and;

• "invalidating" regulations through the imposition of blanket or prescriptive regulations on all organisations with the risk of over regulating some organisations and unnecessarily restricting business practices.

The balance to be struck may vary between organisations and hazards. In particular, it suggests:

• a fully mandated approach matches the motivational needs of certain "less" capable firms who need a simple explanation of requirements and those firms who want to easily demonstrate that they are fulfilling health and safety obligations.

• the partially mandated approach is appropriate for firms with greater health and safety capabilities and firms concerned about the cost-effectiveness and validity of regulations.

Direct government regulation

There is little evidence in any of the countries covered by research to suggest that organisations seek to generally improve health and safety for fear of the immediate consequences of government inspection and enforcement action. The likelihood of detection (inspection) and levying of penalties is perceived to be too low to be of commercial significance, particularly amongst small and medium sized firms. Direct government action is only a motivator where high risk firms are concerned. The concern here rests primarily with the consequential impact of government actions, such as poor corporate image or imposition of additional regulations.

Moreover, even where organisations have responded positively to inspections and penalties, research suggests that this is due to a "management attention" effect rather than the immediate effect of inspections. That is, management view the adverse inspection, fine etc. as a sign that they have overlooked unacceptable performance and need to make a general adjustment to organisational behaviour and norms to bring performance back into line with societal norms.

3.2.4 Generic model of motivation and promotion

One of the main implications of this research is that no single regulatory strategy is ideally suited to all sectors or sizes of organisations. Rather, the motivation of firms varies from country to country and sector to sector in a reasonably predictable way. This is important when reviewing the general theory of regulation and promotion for two reasons. Firstly, many previous studies have sought (mistakenly) to establish the case for one or another promotional strategy rather than adopting a more eclectic approach. Secondly, it suggests that research needs to take account of sectoral variations, as should the identification of promotional strategies.

A generic model of the match of regulatory strategies to the motivation of management is presented in Figure 8. Following on from the motivation models of section 2, a scale of motivation is shown with lowest motivation amongst small low risk organisations plotted in the bottom left hand corner, and the highest motivation amongst large high risk organisations plotted in the top right hand corner. The vertical axis represents the extent of government regulation required whilst the horizontal axis indicates the appropriate style of regulatory "enforcement" and promotion, namely;
• **persuasion**: this entails education and coaxing of organisations into compliance with the law, explanation of demands and the reasons for regulations, discussion of how improvements can be made. Such a process entails dialogue, trust and negotiation achieved through a continued relationship and a readiness to interpret rules flexibly.

• **compulsion**: this is characterised as imposition of clearly defined rules which offer little room for discretion or negotiation, with a greater readiness to enforce or compel requirements when the limits of tolerance are exceeded.

The types of organisations whose motivation, in general, match these style of regulation are shown in each corner of the figure. For example, the attitudes of high risk organisations operating in elastic sectors are shown to match the persuasive style of partially mandated self-compliance, with an element of voluntary self-compliance operating as well. In contrast the low motivation of small low risk organisations is shown to match the fully mandated or even direct government form of regulation.

The figure presents the general relationship between organisational type and promotional strategy. The exact location of an organisation on the figure depends on the precise interaction of all of those sector and organisation specific factors previously noted. For example, a high risk organisation may fail to be highly motivated due to a traditional acceptance of risks (it’s part of the job), failure to appreciate risk levels or due to structural obstacles, such as price based competition. In contrast, a small low risk organisation may have a high motivation due to customer health and safety expectations or the personal attitudes of the manager.

The model also suggests these that relationships are subject to manipulation. For example, an increased awareness (due to education) of risks or increased social/customer expectation about safety standards may increase the intrinsic motivation of a previously lowly motivated organisation and lead to a change in the corresponding style of regulation. Or, the motivation of high risk organisations operating in inelastic sectors may be increased by a heightened fear of substantive regulatory intervention in the event of a major incident. Similarly, the motivation of a low/medium risk organisation may increase in response to a realisation that social expectations about health and safety standards have changed and that the organisation needs to change its behaviour to meet these new expectations.

Finally, it should be noted that there are other considerations which need to be taken into account when selecting regulatory tactics. For example, it has been noted that:

• it is difficult for regulators to directly regulate (through prescriptive rules) high risk organisations, particularly larger organisations, due to the technical complexity of operations and the problems faced by a third party in trying to understand the intricacies of a large organisation.

• it is equally difficult to directly enforce prescriptive regulations or partially mandated regulations (through inspections) on small organisations due to the logistical problems posed by the large numbers of organisations to be inspected.

However, and notwithstanding these points, whilst the tactics used to promote compliance may depend on a number of other considerations, the style of promotion indicated by the model may well remain valid. For example, the case for mandated self-compliance is still valid for small low risk organisations regardless of whether compliance is promoted by inspection or “mass” education of managers through (say) public education campaigns.
Figure 8
Suggested match of regulatory strategy to organisational type.
3.3 MOTIVATIONAL TRIGGERS

3.3.1 Overview of triggers

As suggested in section 3.2, the general relationships between organisational characteristics and regulatory style are subject to manipulation. Table 3.1 presents a summary of the “triggers” identified from previous research which may be used to modify the motivation of management. The table also presents a summary of the implications of our research for the efficacy of these triggers and how these triggers may be operated in the UK.

3.3.2 National level triggers

A number of the triggers shown in Table 4 entail national level actions. These triggers can be characterised in a number of ways. Firstly, some of these triggers lie outside of the immediate powers of the HSE, including:

1. Increasing the share of costs of injury and ill-health borne by the responsible organisation.

2. Linking insurance premiums to the experience of organisations.

Other triggers are clearly within the HSEs immediate powers, such as researching “off the shelf solutions” for health risks and providing sector specific guidance.

It is also possible to relate these “triggers” to the previous discussion of alternative styles of regulation. Certain “triggers” aim to change the balance of legal, financial or social influences which underlie management attitudes. As stated by Hoberg:

“Social regulations can change behaviour by changing market prices or by forcing business to internalise the costs of the external social damage...”

Examples include:

- increasing the costs borne by organisations aims to increase the intrinsic motivation of organisations by creating an economic incentive to prevent incidents.

- increasing public health and safety expectations aims to increase the pressure on organisations to improve performance for the sake of maintaining their image of corporate responsibility.

- ensuring the regulation of prices and franchises of monopoly operations takes account of health and safety performance.

Other triggers have a more restricted goal of maximising the effect of existing motivations within the constraints of existing legal, financial and social framework. Given that the UK currently follows a “social model” where organisations are mandated to self-comply with regulations designed to achieve proportionate and cost-effective control of health and safety, this approach could focus on maximising symbolic compliance. As stated by Hoberg:
"They (business people) will try harder to comply with regulations if they see the merits of the regulation being imposed".

This could entail:

- following-up accidents, highlighting PR risks, increasing publicity awarded prosecutions, promoting health and safety in management training in order to focus management attention onto health and safety and provide clear indication of any mismatch between social expectations and organisational performance.

- “proving” the legitimacy of regulations by highlighting the costs of injury and illhealth to society, and thereby establishing the “social case” required by organisations to justify their compliance,

- increasing the perceived cost of accidents and illness to the organisation via “soft” accounting methods,

- reducing cost of compliance by developing off the shelf solutions.

A third approach is based on the view that certain organisations will not seek to fulfil social obligations in the area of health and safety and that they will act solely out of instrumental motives of avoiding penalties. Triggers which might be used here include:

- imposing health and safety standards via either customer demands or certification schemes so as to “override” indifferent management attitudes, and;

- raising penalties to punitive levels for firms displaying cavalier attitudes or consciously flouting regulations.

If it is accepted that the dispositions of organisations varies according to factors such as their size, risk and market sector, the value of each of these “triggers” may well vary from one sector to another. For example, increasing the costs of accidents borne by organisations may be effective in the case of higher risk organisations (whose costs may be significant) but may be of less value in context of lower risk organisations, especially SMEs, who are less likely to individually experience significant tangible costs. Also, the operation of counter-balancing factors, such as attitudinal and organisational barriers or lack of financial accountability to health and safety, needs to be considered. Where an organisation is unable or unwilling to respond to new cost issues an alternative strategy may be required, such as direct regulation via certification schemes or customer demands.

3.3.3 Local inspection tactics

A number of the “triggers” noted in Table 5 relate to local inspection tactics, including:

- focusing “enforcement” inspections on organisations with little intrinsic motivation, especially those displaying instrumental attitudes,

- carrying out follow-up inspections in event of a serious incident at an organisation, to either refocus attention of management displaying symbolic motives onto poor performance
and/or prompt instrumental compliance amongst other managers through threat of escalated enforcement action.

- maximising publicity awarded prosecutions, improvements notices etc.

As previously noted, our research indicates that it is dangerous to generalise overly about management attitudes, even when attention is confined to a single sector, as attitudes can vary from organisation to organisation depending on individual and organisation specific factors, such as the personal experience of accidents. Therefore, it is necessary to deduce both the attitudes of management and the factors giving rise to this attitude before selecting a particular tactic. Lack of compliance may be due to one of a number of attitudes, as discussed below.

**Failure of well-intentioned management to detect sub-standard performance** - in which case the refocusing of management attention by highlighting unsatisfactory practices may be enough. Examples of “refocusing” include issue of audit reports, improvement notices and prosecution. The method of “attention grabbing” needs to be sufficiently strong to compete with other demands on management thought. However, given that these actions may focus management attention, care is required to avoid focusing attention onto specific issues if these are merely symptoms of systemic problems, with the result of drawing disproportionate attention to subsidiary issues. Thus, “attention grabbing” actions need to explicitly focus attention onto the attitudinal and system level issues underlying problems to ensure that the message that general organisational behaviour is out of line with expectations is clearly conveyed.

**Failure to appreciate that the organisation’s values and norms are out of line with societal and regulatory expectations** - in which case management opinion needs to be reshaped by means of education of principle management and/or issue of notices to improve management systems.

**Rejection of (or indifference to) health and safety standards** - in which either direct enforcement is required to prompt instrumental compliance or management need to be persuaded of the business and moral virtues of latter-day standards.

In addition, due to the possibility of incongruent attitudes, it is necessary to examine the attitudes towards specific hazards as well as general behaviour of the organisation, as a general policy of high standards may not be applied to all hazards. As with general attitudes, the specific reasons for “overlooking” a specific hazard needs to be established as this may be due to lack of knowledge, perceptual biases or conscious (instrumental) disregard.
<table>
<thead>
<tr>
<th>Motivational factor</th>
<th>Triggers</th>
<th>Research observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidance of costs of ill-health and injury</td>
<td>1. Increase share of costs borne by responsible organisation (as opposed to the state). 2. Link insurance premiums to experience of organisation. 3. Promote “social accounting” of costs. 4. Promote better recording of costs</td>
<td>Few organisations in UK regard direct (to the employer) costs of injury and ill-health to be a significant concern, especially as rarely recorded in accounts. However, management often proceed on “trust” that improvements will lead to benefits despite lack of firm evidence. Research suggests that success of options 2 to 4 has been variable. Research does suggest that actual costs of injury &amp; ill-health would be significant for many firms &amp; so could be a strong motivator.</td>
</tr>
<tr>
<td>Fear of adverse publicity &amp; loss of confidence in the firm.</td>
<td>5. Highlight PR risks in HSE promotional campaigns. 6. Increase publicity awarded prosecutions. 7. Ensure risk of detection is perceived as high, e.g. by more inspections. 8. Promote role of external accreditation.</td>
<td>High risk and high profile firms who fear curtailment of operations or adverse customer reactions are particular sensitive. External accreditation of standards provides a positive PR motivation. Of limited value in context of low risk SMEs.</td>
</tr>
<tr>
<td>Moral duty to comply</td>
<td>9. Maximise publicity awarded to the extent of injury and ill-health before issue/enforce regulation. 10. Raise public &amp; customer health and safety expectations. 11. Focus management attention on sub-standard performance by benchmarking, audits or inspections and improvement notices.</td>
<td>These options offer value, particularly amongst high profile firms although firms need to believe regulation is valid &amp; risk is significant, as well as understand the regulation itself. Also, availability, cost and resource demands of solutions are important. However, there is no evidence as to whether these options would make an impact beyond those who already seek to uphold the law.</td>
</tr>
<tr>
<td>Motivational factor</td>
<td>Triggers</td>
<td>Research observations</td>
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<tr>
<td></td>
<td>12. Develop &amp; promote low cost “off the shelf” solutions.</td>
<td></td>
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<td></td>
<td>13. Provide sector specific guidance to help firms identify significant risks.</td>
<td>Clear evidence exists that imposition of customer demands in high risk sectors, e.g. chemical manufacturing, has been effective. There is little evidence regarding the degree to which customer demands are effective or enforced by customers in low risk sectors</td>
</tr>
<tr>
<td></td>
<td>14. Promote health &amp; safety in professional training.</td>
<td></td>
</tr>
<tr>
<td>Customer demand</td>
<td>15. Broaden the chemical industry practice of passing demands down to contractors &amp; suppliers to other sectors.</td>
<td>Research indicates that compliance with certification requirements are regarded to be “just another cost of doing business” which must be met.</td>
</tr>
<tr>
<td>Certification of higher risk operations</td>
<td>16. Increase the range of operations for which organisations must be certified or present safety cases prior to starting business.</td>
<td>Research indicates that personal experience of serious accidents, adverse audits or inspections can prompt broad health and safety initiatives for fear of repetition and escalated consequences, especially amongst medium to high risk organisations.</td>
</tr>
<tr>
<td>Personal experience of serious accidents &amp;/or adverse inspections.</td>
<td>17. Make contact with the organisation after a serious accident, highlighting the systemic roots of the accident &amp; legal consequences of another incident.</td>
<td></td>
</tr>
<tr>
<td>Improvement of staff productivity</td>
<td>18. Develop and promote “off the shelf” solutions for widespread occupational health and safety problems.</td>
<td>There is little evidence that organisations generally view health and safety improvements as an important productivity strategy. Exceptions exist where a hazard is known to cause a high level of absence etc. and a cost-effective solution is readily available.</td>
</tr>
</tbody>
</table>
334 Implications for health risk management in SMEs

It could be argued that if, as this research indicates, the factors underlying the attitudes of SME are broadly the same as for management of larger organisations, the goals and strategy of any “SME motivational strategy” should also be the same. However, there are at least two possible interpretations of the ramifications of this work for lower risk SMEs which suggest a different weighting of strategies for SMEs.

The case for persuasion and education

As with many larger organisations, it is possible to argue that (excepting the higher risk SMEs) SMEs do not view health and safety improvements to be an “investment”, instead viewing health and safety to be a cost. However, research does indicate that the moral reasoning of SME management, in general, is more likely to reflect wider social values (as opposed to reflecting or being superseded by corporate values and loyalties) than management of larger firms. This combines with the evidence that management are more likely to seek to comply with regulations which they accept as legitimate and believe apply to significant risks in their organisation. That is, the “trigger” for prompting SME management may be to seek to establish the validity of regulation. Moreover, if the reference point for SME moral reasoning is wider social values, this implies that the strategy should entail raising general societal awareness and concern for the effects of workplace accidents and illness, especially as few Managers in SMEs will have personal experience of a serious incident.

Also, research on SME business motivation suggests that SME management are often driven more by a desire for self-fulfilment than by a profit motive. It can be inferred from this that tactics which link health and safety performance with the continuation of business may be a greater incentive than the potential for greater profit from health and safety investments. These tactics could include threat of closure or collapse of the business, due to unacceptable health and safety standards or the need to fulfil health and safety requirements imposed by customers as a condition of doing business.

The research also indicates that the acceptance of a regulation is mediated by the perceived affordability of compliance, awareness of the regulation, knowledge of its application to the organisation and level of health and safety expertise. Whilst these factors apply to all organisations, the typically low level of resources and health and safety expertise amongst SMEs suggests that they take on greater importance. Therefore, there is a heightened need amongst SMEs to:

- ensure that the costs and effort required to comply are not viewed as an obstacle, by (say) highlighting the availability of low cost (affordable) solutions and the costs that would be incurred if a serious incident were to occur.

- to help SMEs understand which of its activities give rise to significant risks, such as trade specific codes of practice, regulations and/or guidance and inclusion of health and safety in professional/trade training programmes.

This implies a general need to ensure SME management are aware of risks specific to their type of operation, as a prerequisite to acceptance of the application of a regulation to their organisation.
One argument against this approach though, is that health hazards will not be viewed as significant risks due to their diffuse and delayed effects regardless of whatever education is undertaken. This could reduce the likelihood of successfully increasing the level of concern for particular health related regulations and subsequently the acceptance of such regulations. In addition, the research does indicate that the opportunity to directly communicate with organisations is particularly limited in the context of SMEs. This communication is a critical part of partially mandated regulation because organisations have to operate in a situation where compliance requirements are not always spelt out and then develop their own methods of compliance. It is possible that less well resourced organisations, i.e. SMEs, will find the prospect of improving their understanding of health and safety, assessing risks and perhaps entering into a dialogue with regulators demotivating due to the perception that this will exceed their capabilities. Whilst one option here is to communicate with and educate SME managers by use of “mass media”, another option is to reduce the need for education by adopting more prescriptive regulations which demand less interpretation by SME management.

The case for prescription

An alternative view is that there are few, if any, effective “triggers” available to increase the motivation of SMEs managers operating in low risk areas. Accordingly, it may be necessary to rely on widely applicable “prescriptive” forms of promotion whose success is less dependent on the knowledge or disposition of management. Such “prescription” could take many forms. Some examples noted in the research include:

- cascading of health and safety requirements down the supply chain from major clients to suppliers of materials and/or services, i.e. voluntary trade based customer led initiatives,
- imposing standards via certification schemes.

Higher risk SMEs

The situation with higher risk SMEs is less problematical as a number of “triggers” may exist. In particular, the assurance of health and safety is likely to be perceived to be a critical success factor. However, as before, there is little evidence that SME management are concerned to improve health and safety for the sake of profit maximisation. Rather, it appears that (as with larger firms) the concern focuses on the possibility of their operations being curtailed by a regulator and/or loss of business subsequent to a high profile incident, especially where there are obvious operating hazards or experience of a serious incident. This suggests that, in the case of higher risk SMEs, management can be motivated by acting on their fears of enforcement actions and adverse publicity, as well as their wish for good performance to be recognised. For this fear to be realised though it is necessary for management to perceive there to be a real possibility of detection and subsequent enforcement in the event that standards are not maintained, implying that the actual or perceived level of direct contact with the regulator should be high. They also need to believe that there are readily available affordable means of risk reduction available. On the other hand, an accepted means of having good health performance recognised would meet the need for a positive and demonstrable measure of performance amongst image conscious SMEs.

In summary this suggests a number of parallel strategies for SMEs, namely:

- establish a social case for health risk management amongst SMEs by highlighting social costs of illhealth,
• develop and publicise low cost solutions to health and safety problems,

• minimise the demotivating effect of placing “excessive” demands on expertise by simplifying requirements and maximising health and safety education of managers,

• maximise the perceived risk of detection of sub-standard performance amongst image conscious and high risk SMEs, i.e. focus inspections on these SMEs,

• provide a positive means of demonstrating good performance, such as a widely accepted health risk management standard/accreditation scheme for SMEs, and;

• make health risk management a business requirement via either customer schemes or certification schemes.
4. CONCLUSIONS

It is concluded that:

1. There is a significant body of research regarding the motivation of private sector management in SMEs and large organisations to proactively manage health and safety. Notwithstanding some concerns about the robustness of individual items of work, the findings of different research studies in the UK and overseas are consistent, allowing confidence to be placed in their overall findings.

2. The vast majority of work has been completed in the private sector, with little research regarding the motivation of management in public sector services, uniformed services or charitable organisations. Consequently, there is little research upon which to conclude how best to promote a higher level of proactive action in these latter sectors.

3. The attitudes towards business management, safety management and health management can be highly incongruent, with issue-specific attitudes depending on the perception of the relative importance of these areas of responsibility for the success of the business.

4. There is little evidence that UK management are motivated to improve health and safety performance for financial reasons. However, the common perception that health and safety improvements are a "cost" rather than an "investment" does support the case for demonstrating the commercial benefits of health and safety management.

5. The main reasons for proactively managing health and safety in the UK include the maintenance of stakeholder confidence in the organisation's ability to be a "safe" and responsible operator, and the belief that regulations should be complied with as a matter of principle. Factors such as fear of prosecution and other enforcement actions and experience of a serious incident are important in so much as they moderate the perceived risk of unacceptable performance being detected and "broadcasted".

6. A number of other factors are apparent, such as improvement of staff morale, but are less commonly cited.

7. The propensity to act in response to these concerns is mediated by a number of secondary factors, including knowledge of risks, perception of the significance of risks, and the availability and cost of measures. There are also a number of sector-specific factors which mediate, usually negatively, the health and safety motivation, such as the "patient first" culture in the health service.

8. Where mandatory health and safety requirements are imposed on organisations either in the form of customer demands or certification schemes, these are viewed as unavoidable obligations which must be fulfilled for the organisation to enter into its chosen area of business, and accorded equal priority to other mandatory business requirements. In this situation management's predisposition's appear to be overridden.

9. There are no unique SME factors. However, they are less likely to display those characteristics of organisations who regard health and safety performance as an important and controllable issue.
5. REFERENCES


Gray, W.B. and Scholz, J.T Does regulatory enforcement work? A panel analysis of OSHA Enforcement. Law and Society Review, Volume 27, Number 1, p 177-213, 1993


APPENDIX A
DETAILED RESEARCH REVIEW
AND SUMMARY
A1. INTRODUCTION

A1.1 KEY ISSUES

As discussed in section 1.1 of the Main Report, the HSE has sought to develop a “business case” for health and safety. This survey has been designed to address a number of issues, including:

1. Do the same factors underlie proactive management of health as safety, given that ill-health may incur fewer immediate or direct costs than compared with accidents?

2. Does the importance attached to the avoidance of ill-health and injury costs vary according to industry sector, with less importance attached to ill-health in (say) engineering sectors and more importance attached to health matters in (say) service industries?

3. Does the importance attached to the avoidance of ill-health and injury costs vary according to size of organisations, such as due to lower likelihood of personally experiencing ill-health and injury in smaller organisations because of their small size?

4. Does the weight attached to avoiding costs of ill-health versus costs of accidents vary according to the experience of ill-health and accidents in different organisations?

5. Are the factors underlying the management attitude to health and safety the same as those which underlie general business management?

6. What factors motivate duty holders to manage their business, specifically to what extent is cost reduction important as opposed to other factors?

7. If cost avoidance does not motivate better health and safety management, what does?

A1.2 OVERVIEW OF TASK 1: SEARCH OF LITERATURE

Entec have completed an extensive search of databases, namely:

- HSE LINE ,

- OPAC97 (on-line catalogue of the British Library Collections)

- IAC Management Contents - produced by the Information Access Company Europe which selects material from over 150 management journals specialising in business practices and management techniques.

- CISDOC - produced by the International Occupational Safety and Health Information Centre of the International Labour Organisation, containing references to work in over 35 countries in areas of health and safety at work.

- NIOSHTIC - produced by the National Institute for Occupational Safety and Health, containing references to workplace health and safety literature,
Appendix A
Detailed research review and summary

- PsycLIT - compiled by the American Psychological Association, citing abstracts to over 1,300 journals in psychology and behavioural sciences.

A number of these searches were completed via the British Science library. Key words used included Manag*, Motiv*, Attitud*, Risk*, Safety*, SME*, Employer*, Profit*, Achievement*.

In addition, a review has been completed of:

1. ROSPA conferences,

2. Fire Prevention journal,

3. the conference and journals of the Institute of Risk Management,

4. proceedings of the British Psychological Society conferences over the period 1993 to 1997,

5. all articles in Work and Stress, the Journal of Occupational and Organisational Psychology and the Occupational Psychologist since 1993.

We identified case study material from the health and construction sectors in particular, as well as case studies from other sectors.

The remainder of this Appendix sets out the findings from Task 1.
A2. WHAT MOTIVATES MANAGEMENT?

A2.1 OVERVIEW

Whilst large firms tend to be profit oriented, this does not necessarily lead to a concern for cost reduction, as other strategies such as increased sales and reduction in capacity may be pursued. Moreover, where a desire to reduce cost is apparent this is often achieved by reduction in staff levels, automation and mergers rather than changes in working practices or management systems. Changes in management practices are likely to be pursued though when competitiveness can no longer be achieved on the basis of cost alone, leading to a focus on productivity of staff and changes in management practices. Many of these changes may be enacted without financial assessment and are driven by subsidiary motives such as increased staff motivation which are assumed to offer commercial benefits.

Also, large firms often pursue initiatives without undertaking financial evaluations in the belief that they will, in some intangible way, have significant commercial benefits, such as initiatives to maintain an image of corporate responsibility.

Small firms do not tend to be motivated by money, focusing instead on self-fulfilment.

A2.2 MOTIVATIONS OF LARGE ORGANISATIONS

A2.2.1 Cost Reduction, Competitiveness And Productivity

Whilst there is little formal research which explicitly examines the profit motive in UK firms, the need to reduce costs and increase productivity is cited as the main factor motivating UK private sector management in the 1980’s and 1990’s. Indeed, it is probable that researchers have judged there is little need to confirm the role of profit motive in large public limited UK firms which are “obliged” to return a profit to survive. However, review of management literature indicates that the “profit motive” does not always lead to a focus on revision of management practices as a means of cost reduction. Rather, as summarised by Wright (1996), a large proportion of restructuring in the manufacturing sector in the early 1980’s comprised reduction in staff levels through automation, new technology and/or reduction in production capacity - a trend which is apparent in the 1990’s financial service sectors. Companies may also merge whole companies, sub-divisions or departments to achieve scales of economy (by streamlining duplicated departments and jobs). All of these methods of cost reduction can be achieved without a significant change in the structure or management of organisations.

However, again as summarised in Wright (1996, a), as competitive pressures continue, new ways of reducing costs and improving competitiveness have to be identified. It is at this point that new management methods are sought to maximise staff performance and further reduce costs, including:

- further reducing staff costs by empowering and upskilling staff - thereby facilitating the delayering of management,

- increasing productivity, customer service levels, quality and innovation by upskilling and motivating staff,
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Detailed research review and summary

- partnering between companies, particularly large clients with contractors - to avoid start-up costs on contracts and achieve economies of scale (Green, 1994, 1995),

- outsourcing - to avoid having fixed costs for variable demands and to encourage price competition between suppliers.

As part of this, concepts such as ‘Total Quality Management’ and ‘Investment in People’ have been advocated as means of increasing the contribution of staff to the business. Moreover, in situations where competitiveness cannot be based on further cost reductions, a broader set of performance indicators are used to judge competitiveness, such as customer satisfaction, innovation and efficiency.

Thus, whilst the ultimate goal is profit or growth in sales, individual management decisions and policies may be driven by subsidiary considerations such as enhancement of staff contribution and morale. Indeed, firms may not necessarily undertake financial evaluations of initiatives. Rather, many decisions are based on assumption and faith, derived from anecdotal case studies and trends in management thinking, instead of cost-benefit analysis. When it is felt that there is sufficient “soft” evidence or a consensus of opinion that an initiative should by rights have the desired effect and will, in intangible ways, ultimately lead to commercial benefits, the initiative may well be enacted. This is illustrated by the findings of Wright (1996) that many firms undertake business re-engineering without firm evidence as to its impact or indeed without any prospective assessment of its financial implications. Similarly, Moffat Associates, in a 1997 survey of 40 leading US and European corporate managers found that fewer than 29% had cost-benefit analysis procedures for risk management investments, although a further 29% did claim to have plans to put such procedures into place.

A2.2.2 Motivation Needs Of Chief Executives

Some researchers have examined the links between the motivation needs of chief executive officers (CEOs) and corporate strategies. Specifically, researchers have identified three motivations which appear to be related to corporate decision making:

1. the need for achievement- defined as competition with a standard of excellence,

2. the need for affiliation - defined as a concern for maintaining positive relationship with others,

3. the need for power - defined as a desire to coach, influence or encourage others.

Research, as summarised by Chusmir and Azevedo (1992) suggests the following broad generalisations about the links between CEO motivations and corporate strategy:

1. Managers motivated by the need for achievement have a preference for moderate risks, accept feedback and advice but lack interpersonal sensitivity (adopting cost cutting measures without regard to their impact on others) - seeking to increase profit by growth of sales, meeting internal or external standards of excellence. Whilst the need for achievement can be manifested in forms of profit margins, the wish to achieve “a unique accomplishment” (where profit is not a unique accomplishment) directs such CEOs to seek to achieve other goals, such as growth and excellence, and will consider alternative means of achieving these goals.
2. Power motivated CEO’s are less inclined to seek growth but are more concerned with maintenance of the system and striving for influence - relying on available means to maintain or restore influence. To ensure power is retained, such CEO’s concentrate on profit margins to avoid adverse stockholder attention.

3. CEO’s with affiliation needs avoid making divisive decisions, avoiding conflict and are sensitive to opinions of others

A study by Chusmir and Azevedo (1992) of the links between CEO’s motivations, as deduced from letters to stockholders, and organisational outcomes (such as growth versus profit margins) leant partial support to these generalisations - with CEO’s rated as motivated by achievement displaying relatively greater sales growth, and CEO’s rated as motivated by power displaying relatively greater growth in profits, and none of the 50 surveyed Fortune 500 CEO’s demonstrated a need for affiliation (a need which is said to “get in the way of needed hard decision-making”).

Thus, this work again indicates that whilst the profit motive is always present in corporations, the strategy and pattern of decision making is organisation specific and may vary significantly depending on whether there is a desire for growth, control or for profit alone.

A2.2.3 Maintenance Of Corporate Image

In more recent years there has been heightened concern about the organisation’s image of corporate responsibility, and the impact that this image has on commercial fortunes. As stated by Hughes (1994), Fisons plc Group Environmental Health and safety Manager;

“Today, business managers clearly see a broad spectrum of stakeholders other than financial. These involve customers, employees and the public. Organisations have to learn how to balance the needs of all stakeholders and, more than ever before, realise that ignoring one of these groups can be a serious error. Stakeholders do not exist in isolation and may today show a keen interest in the ethical and moral views of an organisation. Functions will not flourish if they remain aloof…..” (p2).

This concern for recognising and managing all stakeholder expectations is exemplified by Stradwick (1993), Group Human Resources Director of Cadbury Schweppes Plc, who cites a case where an environmental group claimed that furons and dioxins from a chemical firm outflow were entering the food chain. Despite a public enquiry establishing that there was no known hazard to health, the company ceased production for a period, re-importing products it had exported to supply the market - and almost “wiped out the company concerned”. This case is cited as an example of why at least some organisations seek to monitor and meet expectations of stakeholders other than customers.

Indeed, Schlegelmilch and Houston (1989) found that 42% of 98 of the 200 largest companies listed in the Times Top 1000 business directory in 1988 had introduced a code of ethics. A breakdown by industrial sector revealed that of those companies with a code of ethics:

- 58% were in the industrial sector, and;
- 32% were in the consumer sector.

Service sector organisations rarely had codes of ethics.
Appendix A
Detailed research review and summary

A 1984 study (Centre for Business Ethics, 1986) of 233 US Fortune 500 companies found that:

- 80% indicated that they were “taking steps to incorporate ethics”
- 93% have written codes in place, representing a 49% rise over the early 1960’s.

Indeed, the Fortune 500 ranking includes a measure of community and environmental responsibility. The motives behind codes of ethics, and other comparable codes and polices, are mixed, but include:

- demonstration of social responsibility,

- part of a ‘total quality management’ philosophy

Whilst Schlegelmilch and Houston (1989) found a relatively low level of codes of ethics in the UK, this was in part due to a different approach to the demonstration of social responsibility, rather than a rejection of the principle, i.e., a belief that corporate philosophy can be developed and demonstrated without a code of ethics.

A2.2.4 Moral Reasoning In Large Firms

The expressed desire to maintain an image of corporate responsibility stands in contrast to the findings of research on the moral reasoning of managers and their need to maintain affiliation with others in the firm. As noted by Chusmir and Azevedo, the need for social affiliation outside the firm is not viewed as a positive motivator, for fear that concern for others will impact business decision making. As regards moral reasoning, Weber (1990) examined the responses of a sample of 37 corporate managers in different companies to “difficult and uncertain situations at work” which posed moral dilemmas, based on actual experiences. He found that:

- managers employed by large to medium sized organisation tended to reason at a lower moral level (placing a premium on conformity to organisational procedures) than managers of smaller organisations or who were self-employed.

- moral reasoning exhibited when the dilemmas were placed in a business context was significantly lower than for a non-business context.

He suggested that the moral reasoning of managers of large organisations reinforces mutually trusting relationships within their organisation and helps secure peer approval, i.e., “getting along” with others. Also, they tend to be inclined to favour maintenance of the existing social system, typically being concerned with policies and standard procedures, i.e., “good corporate citizens”, placing emphasis on the well-being of the firm. He also suggested that the high level of bureaucracy and role definition in larger organisations removed the feeling of involvement in decision-making and increased the need for peer approval. In contrast, managers of smaller firms have fewer rules to govern their behaviour and are more concerned with social laws due to their direct vulnerability to outcomes of decisions.

This is supported by the work of Chusmir (1985) who found that managers are more concerned with values related to the organisation they work for, and Edmonds and Hand (1976) who reported that managers do not value social contribution as highly as some other values, ranking fourth out of 5 categories of responsibility.
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Whilst Weber acknowledges that further research is required to substantiate his findings, his suggestions are consistent with the types of “rationalisations” put forward to explain conscious “misbehaviour” and criminal behaviour by corporations. For example, Gellerman (1986) described 3 cases of US corporate misbehaviour, as well as citing a statistic developed by Etzioni that two thirds of America’s top 500 corporations have been involved in illegal behaviour in the period 1976-1986. These cases were:

1. The Manville Corporation is reported to have suppressed research showing links between one of its products, asbestos, and lung disease, and concealed the information from affected employees. The court decided that the company had made a conscious decision to take no protective or remedial action, despite knowing the fatal consequences.

2. The Continental Illinois Bank, in pursuit of a new goal of expansion, shifted away from conservative corporate financing and towards a policy of pursuing new borrowers. This was to be achieved by buying oil and gas producer loans originally made by smaller banks. Management overlooked gross irregularities in pursuit of this goal, including mildly rebuking an officer who had purchased $800m in oil and gas loans from a bank which gave him a $565,000 loan, and overlooking absence of documentation needed to verify the financial soundness of loans - most of which turned into bad debts.

3. E.F. Hutton (a financial broker) pleaded guilty to 2,000 counts of mail and wire fraud after drawing against uncollected funds and non-existent sums, which it then covered after enjoying interest free use of the money.

In each case, it is suggested that actions are taken on the grounds that they are in the interests of the corporation and will not be discovered.

A2.3 MOTIVATIONS OF SMALL ORGANISATIONS

A number of research studies have looked specifically at the motivation of small enterprises. These studies have consistently found that:

1. Most small enterprises are motivated by a desire for self-fulfilment - emphasising independence, life style, self-development and work satisfaction.

2. Few small entrepreneurs are motivated by a desire to make money.

3. Few new entrepreneurs possess adequate commercial skills or give adequate consideration to financial planning.

Three studies are summarised in detail below. However, Cromie (1987) listed at least 16 other empirical studies which he reported found autonomy and achievement to be leading motivations, followed by making money, amongst both men and women.

Aspirations of would-be UK entrepreneurs
Ritchie et al (1982) researched the aspirations of would be entrepreneurs who had entered a small business start-up competition. They found that the aspiration towards entrepreneurship was more personal than business or commercially oriented. The majority of contestants were motivated by desires for self-fulfilment, with only a minority (6%) attracted primarily by the desire to make money. The focus on personal development was reflected by a frequent failure to properly plan for financial issues such as cash flow and capital requirements.
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The most prominent reasons stated for start-up of a small business were:

- independence,
- self-development,
- work satisfaction,

with a belief that these were not fulfilled in their existing employment. Indeed, the majority of contestants were men aged 31-40, in the unsettled mid career stage. They suggested that whilst would-be entrepreneurs might not be motivated by financial inducements to enter business, their wish to succeed and lack of financial competence indicates a need for financial support.

Aspiring Northern Ireland entrepreneurs
Similarly, Cromie (1987) in a study of 35 male and 34 female aspiring entrepreneurs in Northern Ireland found:

1. autonomy, achievement and job satisfaction were the three most important reasons for wishing to establish enterprises.

2. money was the fourth most important reason amongst men and fifth amongst women with career satisfaction being the fourth reason cited by women (often due to gender related constraints on career progress amongst women).

Women also saw entrepreneurship as a means of meeting simultaneously their own career needs and the needs of their children.

Cromie concludes that non-economic motives are very important and that monetary incentives are not the most important ones for aspiring entrepreneurs.

Small Irish entrepreneurs
O’Connor (1983) identified three types of entrepreneurs in a survey of small Irish entrepreneurs:

1. Master ventures, who have an intrinsic interest in the product or service - motivated to realise this service as well as achieve independence, control and autonomy.

2. Careerist venturers, who see entrepreneurship as a logical progression from an existing career position.

3. Exploitative venturers, who are strongly motivated by financial gain.

He also concluded that whilst some entrepreneurs seek growth, others intentionally limit the size of the firm to ensure that they maintain control. O’Connor concluded that these findings challenged a number of conventional assumptions, as follows:

“Whilst money is a very important factor, it is used as a tool to achieve aims and a means of keeping score. Additionally, the finding that among the entrepreneurs interviewed in this study many feel a personal obligation to their customers and employees, as well as a social responsibility to national development...” (p37).
A3. WHEN COST IS A DRIVER

A3.1 OVERVIEW

A large number of research studies and case studies indicate that the perceived financial cost to the organisation, or lack of cost, is a very significant motivational factor. The research indicates that cost of accident and ill-health can be a motivator if the “accountable” costs borne directly by the organisation are demonstrably high and under the influence of the organisation. If the costs are low, borne by someone else (such as the state) or are not accounted, cost avoidance is not a motivator even if the true costs are high. In this context, the results of research on cost as a motivator in different countries, sectors and decades give different results depending on the level of costs and responsibility for these costs in each sector or country.

A3.2 COST AVOIDANCE AS A MOTIVATOR

A series of studies in the United States concluded that the desire to reduce the costs of compensation claims and ill-health has become an ever more significant motivational factor as the costs borne by organisations have risen in the past few decades in the U.S., where most health insurance is arranged through the employer.

A3.2.1 Worksite Health Promotion In The US

The promotion of employee fitness, health and wellness in the workplace grew enormously in the U.S. in the 70’s onwards. This is illustrated by the following research:

- the number of Employee Assistance Programmes (EAPs) in the USA is reported to have grown from about 300 company sponsored programmes by 1972 to 5000 in 1979, 9000-12000 in 1984-87, 10,000 in 1989 and about 20,000 in 1991 - with three quarters of America’s 500 largest firms estimated to have EAPs in 1989 along with 12,000 smaller companies (Luthans and Waldmansee, 1989. Barridge and Cooper, 1993).

- the number of US employees covered by EAPs rose from 12% in 1980 to about 36% in the early 1990’s, (Barridge and Cooper, 1993).

- the number of Colorado companies offering worksite health promotion programmes increased by 400% between 1978 and 1982. (Davis et al 1984.). 31% of the sample of companies (all with 50 or more employees) had some form of health promotion programme.

- the number of companies nation-wide reported to be providing health and fitness programmes for employees rose from 75 in 1973 to about 50,000 in 1986, - including 200 of the FORTUNE 500 firms. (Hoffman and Hobson, 1984. Home 1983. Rosen, 1985.)

The content of these programs varied, but often included education about health behaviours, both mental and physical health, protection of health from disease and injury in the home and whilst at work. Thus, the programs covered life style habits, provision of fitness facilities and advice, occupational health and safety training, medical and health screening, employee assistance programmes, etc.
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The growth in these programs is attributed, largely, but not totally, to rising health care costs. Terborg (1986) reported an annual compounded growth rate of 11.6% in nation-wide health care costs in the U.S. between 1970 and 1984, with organisations covering 27% of this via insurance premiums in the 1970's, rising to 40% to 63% in the late 1980's (Pelletier, 1989).

A number of studies showed that the costs to organisations was significant, such as:

- Spring (1984) showed the annual claim per employee was $1,285.
- Johnson and Rix (1985) estimated annual health-related costs per employee at $2,485 once costs such as life insurance and sick pay are included. This accounted for 12% of average wages.

The concern for health care cost containment was shown by a number of surveys, including Hatz (1983) who found that 50% of FORTUNE 1000 managers surveyed in 1982 reported medical cost containment to be their biggest problem compared to 4% in 1978, and the findings of Witte (1993) shown in Table A1.

<table>
<thead>
<tr>
<th>Reason</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contain health costs</td>
<td>40</td>
</tr>
<tr>
<td>Improve health</td>
<td>25</td>
</tr>
<tr>
<td>Improve productivity</td>
<td>20</td>
</tr>
<tr>
<td>Reduce absenteeism</td>
<td>5</td>
</tr>
<tr>
<td>Boost morale</td>
<td>5</td>
</tr>
</tbody>
</table>

The publication of research suggesting that worksite health promotion programs at least partially facilitate containment of health care costs and reduce absenteeism reinforced the motivation to introduce such schemes - notwithstanding concerns about the methodological limitations of program evaluations held by some researchers, as summarised by Warner et al (1988).

A3.2.2 Worker Compensation In The US

Worker’s compensation systems in the United States require employers to guarantee compensation to injured workers. Compensation includes cash benefits, medical care and rehabilitation services to workers who are disabled from work related accidents or occupational disease, and death benefits to kin. Some large employers may self-insure but most employers meet this obligation by purchasing insurance.

Until the passage of the 1970 OSH Act, the system functioned primarily as a mechanism to compensate workers for the consequences of accidents. However, questions were raised about the fairness and adequacy of the system during the passage of the OSH Act, which led to the establishment of the National Commission on State Workmen’s Compensation Laws. Subsequently the Commission recommended numerous changes in order to increase system benefits in order to properly compensate workers but also with the explicit goal of creating a
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stimulus for employers to improve safety standards. Thus, the goal of the system changed from compensation of workers to the encouragement of accident prevention.

The Commission’s report triggered major benefit increases, accounting for a large proportion of the rise in monies paid out. As reported by Rees (1988):

- there was a 300% increase in benefits distributed in California between 1972 and 1982.
- a 1982 Business Roundtable study reported that during 1975-1980 workers compensation increased by 300% in 2 states, 200% in 8 states and 100% in 22 states.

In response to these trends, the cost of insurance premiums rose at more than 40% per year on average in California in the 1970’s.

Premiums for small sized firms (less than 10 employees) are based on occupational class risk, calculated annually based on the state’s injury experience with a particular work classification. Thus, for small sized firms premiums are constant for all firms doing similar work. However, the premiums for larger firms (over 10 employees) are adjusted by the experience of the individual firm using an Experience Modification Rating also calculated annually based on past 3 years performance. For example, if a firm’s actual claims are 80% of expected claims, the EMR is 80% and premiums are adjusted accordingly. In this way the costs of injuries are internalised by the enterprise whose activities give rise to the injuries. Rees (1988) quotes examples of Californian construction firm EMRs ranging from 35% to 260%. Rees (1988) proceeds to provide a real example of the financial cost of workers compensation for a $500m construction project, as noted in Table A2.

<table>
<thead>
<tr>
<th>Table A2</th>
<th>Example of workers compensation costs (Rees 1988)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>EMR</td>
</tr>
<tr>
<td>Company A</td>
<td>42%</td>
</tr>
<tr>
<td>Company B</td>
<td>100%</td>
</tr>
<tr>
<td>Company C</td>
<td>120%</td>
</tr>
</tbody>
</table>

The application of the EMR also changes the nature of compensation “insurance” system from one where risk is spread between employers to a system which effectively acts as a bill payment agency.

Rees (1988) reports anecdotal evidence that the costs associated with workers compensation became the motivating influence on the behaviour of a number of large construction firms he studied due to the high costs of compensation in the construction and the highly competitive nature of repetitive construction projects where bidding is very close. For example, Construction Ltd officials are quoted as saying that:

"the big National Constructors Association companies could not be in business and be competitive if they did not have a good safety record”.

"Workers compensation is the real force in our safety program".
However, Chelius (1991) reports that studies into the relationship between the EMR and prevention measures taken by employers show mixed results, with some studies detecting no clear effect, others indicating some employer responsiveness, and still others concluding that there is a dramatic safety effect. A confounding factor is that benefit levels vary across states with higher levels apparently encouraging employees to report accidents. The author states that it is very difficult to remove this employee effect from any effect higher benefits (and therefore higher premiums) have on the employer. In addition, the author notes that the:

“current formula [for calculating the experience rating] is a complex array of actuarially important factors that are beyond the comprehension of most safety and health professionals”.

Also, the practice of using claims experience from the past 3 to 4 years reduces the link between safety improvements and costs.

He suggests that making the link between performance and compensation more explicit in all cases would “make the reward for improved safety and health more apparent to decision makers”. In particular, the author is in favour of linking the premium solely to the experience of the firm itself rather than applying a modification factor to a class rate, which diffuses the individual company’s reward for reducing claims across all companies in that sector. He also suggests raising the deductibles for workers compensation would increase the immediacy of reward for reduced injuries and illness.

A3.3 FACTORS MEDIATING INFLUENCE OF COST AVOIDANCE

A3.3.1 Overview

Despite the belief that health care costs in the U.S. are a problem and that worksite health promotion offers a cost-effective way of containing these costs, about 70% of surveyed Colorado firms with more than 50 employees did not have any health promotion activity in 1982. This finding prompted research into how other factors mediate the introduction of health promotion programmes.

A3.3.2 Managerial Style

Witte (1993) correlated managerial style and prevalence of health promotion programmes in 52 “Californian 500” firms and found organisations with democratic management styles are more likely to adopt worksite health promotion programs, compared to organisations with authoritarian management styles. Indeed, 28% of “authoritarian” companies had one or more health promotion programme compared with 52.2% of “democratic” companies.

Yearly revenues and number of employees did not predict prevalence of health programmes.

Witte suggested that democratic organisations are innovators and so can be expected to adopt programmes early in the “innovation curve” whilst authoritarian organisations are “laggards”, adopting programmes at a later date. In addition, Witte suggested that authoritarian organisations may adopt a more traditional view of work, where the role of the organisation is to “control” the labour force through procedures and rules for the purpose of production, and claim no jurisdiction over life style related behaviours. Democratic organisations may promote a new form of control, where health promotion is seen as a means of controlling employee productivity, with acceptance of a blurring of work/private life distinctions.
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A3.3.3 Management Philosophy

Trice and Berger (1986) found that the changing management philosophy in the 1980’s had led to
greater humanitarian concern for employee welfare, as well as a greater focus on employee
performance and hence the need to improve individual productivity via health promotion. The
range of reasons given by Colorado companies with 50 or more staff for starting health
promotion and disease promotion programmes was examined by Davis et al (1984), as
summarised on Table A3 below. Luthans and Waldersse (1989) argued that the concern for
employee well-being grew in the late 1980’s due to labour shortages, with a need to retain and
develop people, as well as because of the continued increase in health insurance costs.

<table>
<thead>
<tr>
<th>Reason</th>
<th>Company with existing programme (%)</th>
<th>Companies interested in starting programmes (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve health and reduce health problems</td>
<td>82</td>
<td>68</td>
</tr>
<tr>
<td>Improve employee morale</td>
<td>59</td>
<td>52</td>
</tr>
<tr>
<td>Reduce health care costs</td>
<td>57</td>
<td>67</td>
</tr>
<tr>
<td>Reduce turnover and absenteeism</td>
<td>51</td>
<td>57</td>
</tr>
<tr>
<td>Improve productivity</td>
<td>50</td>
<td>64</td>
</tr>
<tr>
<td>Employee demand</td>
<td>33</td>
<td>20</td>
</tr>
<tr>
<td>Part-of innovative trend</td>
<td>32</td>
<td>11</td>
</tr>
<tr>
<td>Improve public Image</td>
<td>20</td>
<td>18</td>
</tr>
</tbody>
</table>

It is pertinent to note that the decision to offer health promotion emanated most often from
personnel/human resource departments (30%), Chief executives or administrators (20%), and
only 16% from medical/health/or safety services.

EAPs focused on drug and alcohol abuse appear to have been further encouraged by the legal
view of alcoholism as a disability in the U.S., hence prohibiting discrimination against “qualified
handicapped individuals” on grounds of alcoholism. If U.S. employers know an employee is
disabled (i.e. alcoholic) they are required to make “reasonable accommodation” for the
individuals problems, including assisting the troubled employee.

A3.3.4 Company Size

Although Witte did not find an affect of company size, other research has revealed size is a
factor. In particular, Schauffer (1993) found that company size was associated with smoking
control policies as follows:

- The proportion of corporations that paid for subsidised smoking cessation programmes
  was nearly twice as high for corporations with more than 10,000 employees, as for smaller
corporations (63% vs. 33%).
The prevalence of formal work-site smoking policies increased from 85% in companies with 500 to 1900 employees to 94% in the largest companies with more than 10,000 employees.

A3.3.5 Liability For And Ability To Influence Costs

Whilst U.S. research suggests that cost avoidance is a major factor in the U.S., European research offers a less clear picture about the influence of cost concerns. This appears to be due to differences in who is liable for the costs of ill-health. Whereas U.S companies incur a very large proportion of the costs of ill-health and injury, this is not always true in Europe. For example, Rognstad (1994) in a study of costs of occupational accidents and disease in Norway found that firms carried only 10% of the costs of occupational accidents and disease, with 80% carried by the public sector and 10% by individuals. Indeed, based on this study the Norwegian government proposed a reform of the financing of sick payments, which would result in a higher cost to firms and lower cost to the public sector.

Cost of occupational accidents and diseases in Norway

The Norwegian study into costs was prompted by the review of the Norwegian Working Environment Act of 1977. One of the ambitions of the authorities was to make it more profitable for firms to prevent occupational accidents and disease. Their findings indicated the need for a political discussion about how to motivate management to increase the safety level in firms on a voluntary basis.

They examined the actual costs incurred by individuals, firms and the public sector, namely:

Firm

- Lost time from work,
- Material damages,
- Replacement of injured worker.

Individual

- Loss of income,
- Expenses for medicine and medical treatment.

Public sector

- Sickness pay,
- Rehabilitation,
- Health insurance,
- Medical treatment,
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- Administration, police, court system,

- Loss of tax revenue.

It is pertinent to note that all insurance and most medical costs are borne by the public sector in Norway. No value was placed on suffering. They estimated that the public sector bore 80% of the cost of occupational accidents and disease, equivalent to 5% of Norwegian Gross Domestic Product. Although the authors state that their reliance on secondary data makes their results highly uncertain, they report their findings are consistent with other Norwegian studies, such as Hjort (1978) and Sklet (1993).

Rognstad concluded that the costs for firms, as calculated in the study, may not provide sufficient motivation for improvements, as only a small share of the savings from preventing accidents and diseases are received by the firms. Indeed, it was noted that if a firm can continue producing at its normal level despite somebody being absent from work, due to spare capacity, accidents may lead to a cost reduction because firms do not have to pay wages after the second week of sickness in Norway. This hypothesis was confirmed by Soderquist et al. (1990) who found that accidents sometimes led to cost reduction in the Nordic furniture industry.

*Israeli construction accident costs*

Lauffer (1987) investigated whether top management of Israeli construction firms can be motivated by economic interests to become actively involved in accident prevention in their firms. A preliminary, 1986 study in Israel indicated that most construction firms have no safety programme. This study was prompted by the finding of U.S research which found that construction accidents costs (insured and uninsured) were as high as 3% of total project costs and 10% of labour costs. The Israeli study determined the value of uninsured accidents costs of medium sized (100 to 500 workers) construction firms.

Lauffer looked at 19 firms, considering 210 accidents in total. Data was collected on both visible and “hidden” costs, such as accident investigation, with costs split between insured and uninsured costs.

They found that the Total Uninsured Cost of accidents is equivalent to 0.76% of Labour costs, or 1.59% of profit before tax, or 0.14% of total project costs, or 100 man-hours of work. It was concluded that:

“the assumption that uninsured accident costs are high was totally disproved” (p 304),

and that

“uninsured costs alone are insufficient as incentive for increased involvement of top management in safety” (p 305).

In addition, the premium for labour accidents in the Israeli construction sector is at a constant 2.7% of labour costs (in 1987), with safety records having only a negligible influence.

Lauffer goes on to discuss how economic interests can be used to motivate Israeli managers by reference to the U.S construction industry experience. In the U.S. workers compensation insurance averages about 7% of labour costs but is related to safety performance by use of an “experience modification rate” (EMR). The EMR is used as a multiplier with the appropriate occupation rate to determine the premium paid. The EMR is based on the 3 years preceding the
last year. Laufer contradicts anecdotal reports of US construction companies seeking to reduce insurance premiums. He reports that U.S. research indicated that the EMR failed to motivate managers to improve performance because it did not create a belief among top management that better safety would lead to cost savings. The EMR failed because management action is affected by the objective situation in hand in the construction sector. The uncertainty about future work conditions encouraged construction managers to emphasise the present at the expense of future consequences. As the EMR is based on 3 years performance any immediate improvement in safety would not affect premiums for 3 years. Such delay in “reward” fails to stimulate managers who operate on short time spans. Accordingly, Laufer argued that there has to be a more direct and tangible link between performance and cost for cost avoidance to be a motivator.

Liability for costs and ability to control them

The work of Laufer and Rognstad indicates that “accountable” costs borne by the company have to be significant and under their control/influence for cost control to motivate management. Indeed, there is some evidence to suggest that individual departments or parts of an organisation have to be accountable for ill-health and injury cost for cost reduction to be an issue even in organisations bearing high costs. This is illustrated by the case of the Milwaukee’s Veteran’s Administration Medical Centre (Bialk, 1987). Despite incurring what was regarded to be high direct and indirect injury and illness costs, the facility did not bear the full cost of worker’s compensation - the headquarters office was responsible for a major portion and limited local autonomy in cost containment. Consequently, the efforts that could be taken were limited and no impetus for facility management to act. Subsequently the headquarters indicated it would transfer full responsibility for payment to the facility. The threat was never implemented but gave the impetus for facility management to develop a health and safety programme.

A3.3.6 The NHS Experience

Over recent years there have been significant changes in the organisation of the health services. This has been accompanied by a growth in risk management within the UK health sector to the point where the Institute of Risk Management has introduced a specialised subject for those concerned with the health sector. Whilst we have been unable to identify any formal research into why interest in risk management has recently grown in the NHS, consideration of “case studies” does provide some evidence as to the motives underlying this trend - including the role of cost as a motivator.

Review of case studies indicate that a number of factors are at work.

1. Increased liability for costs

As discussed by Marsden (1994), prior to 1988 the NHS enjoyed crown immunity from prosecution and the need to comply with health and safety law. The past lack of interest in the NHS, arising from possession of crown immunity is also reported to have been reinforced by the ethos that the needs of patients are paramount whilst staff safety and health are very much secondary concerns. On 1 April 1991 the National Health Service and Community Care Act 1990 removed practically all the remaining Crown immunity from health authorities and other specified health and service bodies. At the same time the establishment of NHS Trusts as corporate bodies placed upon them the responsibility for compensating staff and patients for workplace injuries, illness and clinical negligence. The corporate status of NHS Trusts was reinforced by devolution of accountability for the costs associated with claims to trusts - whereas Health authorities were previously responsible for meeting the costs associated with claims. Whilst Trusts can secure loans to cover clinical negligence costs which exceed 0.5% of revenue income, loan repayments must be covered through prices by the trust. Also, the Department of Health does not permit
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Trusts to take out insurance for clinical negligence or set aside funds for future claims but requires monies to be allowed within the financial year. Thus, individual Trusts are now responsible for meeting the cost of claims whereas before 1991 they were not.

2. Increasing cost of claims and insurance

The costs associated with clinical negligence claims have risen from £53m in 1990/91 to £125m in 1993/94 for the UK as a whole. With the addition of legal costs and opportunity costs of clinicians and health administrators time, the true costs are currently estimated at £450-£500m p.a. (Marsden, 1994). It is predicted that clinical negligence costs will increase by 25% p.a. for the foreseeable future. Similarly, employee liability insurance premiums are predicted to rise, with £30m p.a. currently paid out nation-wide in compensation to injured staff and patients. Again, hospitals were unable to insure employee risks before establishment of trusts.

3. Growing awareness of costs of accidents and ill-health

Studies, such as the HSE 1993 Costs of Accidents at Work, indicate that the costs of non-clinical accidents to staff, patients and visitors is equivalent to more than 5% of the NHS budget. In addition, a number of national audits and studies of the NHS reported high levels of injury and ill-health, such as the 1986 report by the Health and Safety Commission which reported widespread violence to health staff. For example, one in 200 staff had suffered a violent incident or major injury due to an assault, per annum.

The combination of increased liability and accountability with growing costs and enforcement activity by HSE and Fire Service is reported to have led to growth in risk and safety management. Senior management have had to become familiar with their enhanced responsibilities and duties, and take the necessary steps to ensure policies fully comply with the law. This is illustrated by the reporting of a number of recent initiatives at Trusts, many of whom cite the aforementioned factors, including:

- Introduction of a strategy for “dealing safely with people” at the Royal NHS Trust, preceded by a COSHH initiative. The removal of Crown Immunity (leading to increased insurance) and establishment of trust status are cited as leading management to pay much closer attention to the issue of violence. Whilst a first draft of policy and procedure for dealing with violence was produced in December 1986, the policy was not formalised and adopted until July 1993, (HSIB, 1994).

- North Staffordshire NHS Trust designed a comprehensive safety management and training system, based on HS (G) 65 (Cauchi, 1995).

- Northampton General Hospital Trust developed an award winning manual handling strategy. It is reported that whilst removal of Crown immunity in 1990 made the hospitals liable for accidents, it was not until the trust was created that a single corporate body allowed the appointment of a chief executive and directors, with responsibility for health and safety assigned to one of these directors. Subsequently a health and safety officer was appointed in September 1993 who developed the manual handling policy (HSIB, 1995).

- The Estates Division of the NHS Management Executive in Scotland and its counterpart in Northern Ireland is reported to have responded to the removal of Crown Immunity by developing SAFECODE - a health and safety management tool for the NHS, launched in May 1993 in Scotland and in May 1994 in Wales. (Emslie et al, 1993).
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- NHS Estates, as an executive agency of the Department of Health, updated its FIRECODE guidance and monitors fire safety in the NHS on behalf of the Executive. It is now the responsibility of chief executives of trusts and general managers of health authorities to demonstrate that their health care premises comply with FIRECODE. Again the removal of Crown Immunity is the cited reason for this action (Charters, D, 1995).


Authors caution
Whilst it is apparent that there has been growth in risk management in the NHS, caution should be taken in over-estimating the level of growth. A National Audit Office report, based on a survey of 30 NHS Trusts in England found only 13 had good incident recording systems, whilst 2 had none at all. They also found that arrangements in many hospitals did not comply with health and safety legislation, and that there was a failure by Trust Management to take safety matters seriously. If this extent of compliance is taken as a measure of the influence of cost concerns, and increased accountability, it could be argued that these factors have not had a consistent effect across the NHS, despite the HSE estimate of safety costs accounting for 5% of NHS budget. Indeed, some reasons for this can be found by review of the financial significance of Employee Liability (EL) premiums. For example, Grace (1995) of AGF Insurance notes that “The EL premium is unlikely to be a significant proportion of the total insurance spend and so the underwriter has little or no leverage to, for example, secure a sound relationship with mutually beneficial continuity ...”(p6). Thus, whilst EL costs are rising they may not yet be regarded as very great. Also, insurers are forbidden by law to place restrictive terms on their policies, whilst excesses are only used in certain circumstances. This is in contrast to property underwriting where underwriters are allowed to make mandatory requirements for work to be done or improvements made for cover to be maintained.

Also, it is difficult to determine the relative impact of cost concerns versus a motivation to comply with legislation as a goal in its own right, with the possibility that one or other factor is dominant. In addition, it is possible that other factors are operating in the health service, such as a culture which places concern for patients above concern for the health and safety of staff as reported by Rout and Rout (1994), which may mediate the influence of cost and regulatory considerations.

In conclusion, it appears that regardless of the level of injury and health costs, action will not be taken to reduce risks without a corporate entity with clear lines of responsibility first being created to whom duties can be assigned and acted on. Subsequently, the degree of response will be influenced by the perceived level of risk (of injury and health costs/claims) and regulatory requirements.

A3.4 A BUSINESS PERSPECTIVE OF INJURY AND ILLNESS COSTS

A view of financial incentives was elaborated on by Clement and Gibbs (1983), who gave a “business perspective” of financial incentives to adopt health promotion programmes. They sought to explain why U.S companies were not always motivated (in the early 1980’s) to reduce health-related costs despite evidence that such costs were high and could be controlled by health
promotion programmes. They indicated that three variables moderate employer’s evaluation of costs and available responses, namely:

(1) **Visibility.** Industry tends to recognise costs by use of accounting systems. Accounting systems usually show only easily quantifiable costs. Costs such as sick pay and medical insurance are quantifiable, but costs of early retirement, productivity losses and employee turnover are either not shown or not categorised as health related costs.

(2) **Relevance.** A cost is relevant if it perceived to be significant in terms of the decision to be made. Relevance of health care costs to employers is determined by:

- absolute size of visible costs,
- net cost after tax,
- the cost in relation to other costs.

Thus, whilst 92% of U.S. communications workers were covered by health insurance (in 1983), only 20% of agricultural workers were covered. Also, medical insurance was a fully deductible business expense, reducing the net cost to employers. Finally, health insurance costs, relative to total personnel and operating costs, are low in high wage firms and capital intensive firms - who are unlikely to perceive health costs as relevant.

(3) **Controllability.** Controllable costs are those that are potentially influenced within a given time period by managerial action. Controllability is influenced by the effectiveness of cost reduction programs and the availability of other means to reduce costs and/or raise revenues.

Thus, whilst health promotion schemes may, in general, be “proven” means of cost reduction, the health gains to be expected for a particular population subgroup may be uncertain. Also, financial benefits of investments are evaluated in terms of net present value of benefits or rate of return on investment. Even where a proposed investment offers a positive return, this proposal must be compared with the rate calculated for other investments with the proposal offering greatest return selected.

The financial assessment of health promotion schemes poses a number of difficulties due to (1) the uncertainty regarding health gains, and (2) the difficulty in quantifying health related costs. Also costs and benefits are discounted to derive a net present value of investments. In the case of health schemes, initial start-up costs are high and are not significantly discounted as they are incurred in the short-term, whilst benefits are accrued over a longer period and are therefore more heavily discounted. Thus, benefits will be reduced more than costs in the discounting process.

Finally, corporate financial goals may be equally attainable by other means, such as laying off staff, reducing benefits, raising prices etc. The financial attractiveness of investing in health promotion would be compared with these alternatives.

Whilst subsequent research showed that the financial case for investing in health promotion appears to have been widely accepted in the US, especially as health costs rose further, this presentation of the “business perspective” does indicate why acknowledgement of significant costs of ill-health alone may not, by itself, prompt a response on financial grounds. On the other hand, given the doubts expressed by researchers regarding the certainty of financial and other benefits of workplace health promotion, it does appear that U.S. investment in health promotion is a matter of assumption and belief rather than formal financial evaluation of rates of return on
capital investment. This suggests that health and safety investments may not always be subject to rigorous financial assessments but are instead accepted at “face value”.

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A4. WHEN COST IS NOT A DRIVER

A4.1 OVERVIEW

Whilst we did not aim to make a formal international comparison of motivators, it is noticeable that injury and ill-health cost avoidance and cost reduction are rarely cited as motivating factors in research outside of the USA. In the case of the UK, Israel and Australia research indicates that organisations are motivated mostly by “external” factors, particularly:

- public relations concerns,
- legislation/regulations,
- customer demands.

These factors are significantly moderated by the organisations knowledge and awareness of health and safety hazards, with a greater propensity to act amongst those organisations with a greater awareness of hazards.

In lower risk sectors where an organisation does not hold a serious fear of damaging public relations due to accidents or ill-health, health and safety management is essentially legislation driven with managers motivated (to varying degrees) solely by a belief that it is necessary to comply with the law. However, it could be argued that, given the inconsistent level of compliance revealed by research, this is not always a strong motivational factor, especially as the fear of prosecution and cost of penalties are not regarded to be deterrents in their own right.

Indeed, a number of research studies indicate that it is perceived that health and safety improvements either will not lead to commercial gains, such as improved productivity, or have an indeterminate effect on productivity, or are simply costs to be minimised. Indeed, “cost” is often considered solely in terms of a demotivating factor, namely the cost of complying with health and safety requirements rather than in terms of averted injury and ill-health costs. This is especially true where an organisation holds no records of the costs of ill-health and injury. Thus, the costs of improving health and safety control are measurable, borne by the organisation and are incurred in the short term whilst the financial benefits of improvements are not usually measurable, are often accrued by the state and are realised in the long term. This is particularly true in the case of chronic health hazards.

This “compliance” based approach to health and safety is apparent even in those low risk organisations which apply the principles of Total Quality Management to their core business. Health and safety is treated independently of the core business and assessed against different values, i.e. legislative requirements, than the core business, where satisfying customer needs and financial performance is paramount. In addition, the attitude towards health and safety, and towards individual hazards can be highly incongruent - in that a positive attitude to health and safety in general does not necessarily extend to all hazards. These findings suggest that a single organisational entity can approach each area of management responsibility with very different values, perceptions and motivations.

However, where an organisation perceives the risk and costs of injury and ill-health to be significant, it is more likely that management will be motivated to enact improvements with or
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without external pressure. Risks and costs are perceived to be higher in those organisations which employ professional health and safety officers, track consequential costs and/or have some experience of injury and ill-health, i.e. knowledge of the risks appears to be a motivational factor for both low and high risk organisations. Again though, hazards with a latent or non-fatal affect tend to be perceived as low risk, moderating any motivation to mitigate such risks.

The situation is very different in those sectors where safety is seen to be a critical success factor for the business, typically in major hazard industries such as petrochemicals, nuclear power and aircraft sectors. This may also be the situation in small and medium sized firms operating potentially hazardous processes. In these cases there are “intrinsic” factors within the organisation motivating health and safety management. It is typically felt that a major incident would have a significant impact on the business (and indeed on the whole sector), through major public relations damage, increased regulatory attention and regulatory demands, curtailment of future expansion of plants etc due to a public perception that the organisation has failed to uphold its corporate duty of care. In these cases a proactive approach to risk management is pursued, often in all areas of health and safety, in the belief that failure in any one area of health and safety would reduce the organisation’s credibility and thence its business performance. However, in cases where public/customer risks are significant, the commitment to assuring public/customer health and safety can be at the expense of employee health and safety - again highlighting the incongruent nature of management attitudes and motivations.

Health and safety performance can also be regarded as a critical business concern in large high profile organisations operating in low risk sectors, where the concern to maintain an image of corporate responsibility may extend to the health and safety of staff and members of the public. In this situation the organisation may “internalise” a motivation to proactively manage health and safety.

Whilst the overseas research is limited, the work which has been identified (outside of the USA) tends to confirm the UK picture as described above. The exception being those countries operating highly prescriptive, government driven approaches to health and safety where the information suggests that management motivation is not a consideration in a situation where the state holds responsibility for detailing (or even enacting) mandatory health and safety requirements.

Finally, whilst a number of studies have demonstrated that accidents and ill-health can result in high costs and that such costs tend to be higher in less profitable firms (such as Favaro and Davillerd, 1997), there is little evidence that there is widespread acceptance of this view or acceptance that improved health and safety will lead to reduced costs and higher productivity. Indeed, some research has cast doubt on the cause and effect relationship between health and safety performance and productivity, suggesting that such correlations are either spurious or that higher productivity is associated with investment in health and safety rather than the reverse. Indeed, research indicates that it is the less tangible commercial benefits of good health and safety performance which motivate management, such as maintenance of an image of corporate responsibility and staff morale, rather than measurable cost reduction and profit considerations.
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A4.2 UK RESEARCH

A4.2.1 Attitudes Towards Noise As An Occupational Hazard

The HSE commissioned a study (MTS, 1994) of attitudes to noise induced hearing loss (which is the second greatest industrial disease after back injury) among the workforce and management in 48 organisations. The objectives were to:

- understand the individual and organisational factors operating in the workplace which affect attitudes towards noise-induced hearing loss, and;

- to determine the standards of hearing conservation achieved in the UK.

The detailed objectives included:

- to develop an understanding of why many organisations fail to take steps to minimise the risk of occupational noise-induced hearing loss, and;

- to examine the motivation of and influences on managers and the workforce regarding noise reduction and hearing protection measures.

A total of 2,187 questionnaires were sent to 48 organisations, of which 1,646 were returned. Sectors surveyed included:

- public sector,
- high tech,
- heavy engineering,
- local authorities,
- private sector,
- manufacturing,
- oil and petrochemical.

Of the 48 organisations:

- 3 were small (less than 50 employees),
- 23 were medium sized (51 to 500 employees),
- 22 were large, of which 10 were over 1,000.

Detailed case studies were completed of 10 organisations.
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It is pertinent to note that the study revealed a low level of compliance with the Noise at Work Regulations (1989), introduced in January 1990. The study was completed between December 1990 and July 1991. Key findings, in firms with significant noise hazards, included:

- only 40% of surveyed organisations had carried out adequate noise assessments,
- only 50% gave workforce instructions on how to use and fit hearing protection,
- only 26% had a noise training programme,
- 94% had identified hearing protection zones, and
- 60% had introduced some engineering control of noise before the regulations came into force.

The main findings are summarised below. It is noticeable that financial concerns about costs of hearing loss rarely featured as a primary motivator. Indeed, “cost” featured as a negative factor in that senior management regarded the cost of noise control measures negatively. It is also noticeable that noise is seen as different to other health and safety issues:

- it is not life-threatening,
- there is no immediate evidence of damage,
- there is no lost time,
- no public relations problems of “ambulances at the gate”.

Thus,

“even where there is a strong desire to optimise performance on health and safety issues, this is not necessarily reflected in the efforts made regarding hearing conservation” (p6).

Influences on senior management
The research identified three key factors influencing senior management motivation, which are discussed below in the order of importance apparent from the research findings.

1. Public relations concerns

There was clear evidence that companies with major public relations concerns adopted a professional approach to the management of health, safety and environmental issues. This spread into areas such as noise control, even though this seldom has a direct influence on public relations. In 3 of the 10 case studies concern to improve public relations led to attempts to operate a safe site, including noise control, to minimise public opposition to operation and extension of sites.

2. Professional training

A second positive influence was professional training which had dealt with health and safety and hearing conservation issues in detail.
3. Financial concerns

Financial concerns could affect hearing conservation positively or (as was more frequently the case) negatively, as follows:

a. In many cases, financial considerations meant that noise control measures were not given prominence because they were seen as a cost with no corresponding financial benefit and because factors relating to production efficiency and productivity predominated. In particular:

- few managers thought the effects of noise control on productivity to be significant - with some suggesting measures such as acoustic covers might decrease productivity by slowing maintenance and production,

- some noise control measures cost a large amount of money without any perceived immediate payback.

The attitude towards cost was illustrated by the case of noise related training, where some managers argued that the cost of training is too great. Also, in companies with no coherent hearing conservation programme, many senior managers believed that their initiatives were best focused on improved housekeeping and accident prevention, areas in which they considered there can be rapid, visible and easily quantified improvements in performance. Noise tended to “slip through the net”. Professional training could alter this belief, but only 35% of the organisations in the survey provided any training about noise for senior management.

b. The cost of claims and the subsequent insurance premiums have little influence because the amount of these costs are largely unknown to many managers.

When costs of noise induced hearing loss are more clearly identified, they can have an effect. In one company where the level of claims had increased insurance premiums considerably, this introduced a strong financial motive and senior management were committed to improving their performance regarding hearing conservation. However, insurance companies generally were not reported to have any influence on hearing conservation activity.

4. Factory inspections

Fines or prohibition notices for non-compliance with regulations are an incentive to management provided they perceive that there is a significant risk of prosecution. In two of the case studies, a visit from the Factory Inspector and subsequent written communications on hearing conservation had prompted immediate action on the part of the organisation concerned. However, this may not by itself affect senior management’s’ core attitudes. Moreover, in all but 1 case managers believed that they were doing enough to avoid prosecution and management expressed the view that:

“the HSE inspectors are good but there are too few of them, and the fines are derisory. They should impose much more serious penalties”.

Thus, fear of the Factory Inspector was not a widely-felt motivator.
5. Trade Unions

Trade Unions appear to have little influence on noise control and hearing conservation in individual organisations. Trade Unions were not particularly active with regard to noise and hearing conservation in any of the case studies. In one case study, an industry where strong Trade Unions have traditionally existed, there was a belief that if the Trade Unions took up an issue, it would be dealt with effectively by management. However, the Trade Unions in this company had not taken any particular interest in the subject of noise.

Although Trade Unions were in general seen by management to be helpful in promoting health and safety, in the case of noise the Trade Unions efforts appeared to be focused on helping employees pursue compensation claims.

Influences on middle management
The case studies found considerable complacency about noise amongst management in 7 out of 10 case studies. This was attributed to a number of factors, as discussed below. In brief, middle management motivation regarding noise conservation is a factor of their attitudes, senior management policy and understanding of the issues.

1. Attitudes acquired by managers whilst working their way up from the shop floor

Having spent many years working in noise managers accept it. Noise is seen as an inevitable part of their industry. This leads to insufficient attention being awarded to noise control, with reliance placed on hearing protection.

Indeed, middle managers in some organisations in which senior management were trying to increase commitment to hearing conservation through a change in organisational culture were reported to feel threatened by cultural change and often became an obstacle to change. They were described by senior management in one organisation as ‘the permafrost’.

2. Senior management commitment

Unless senior management is committed to hearing conservation and conveys this commitment to middle management, the latter are unlikely to have any interest in the issue. In those case study companies in which performance on hearing conservation, and on health and safety in general, formed part of middle level production management’s annual review criteria, then there was evidence of greater concern and action.

3. Management skills and resources

Whilst all except one of the managers interviewed in the audit of 48 organisations knew about the existence of the Regulations, the majority had little detailed knowledge of what the Regulations required of them. Even when middle managers were aware of their obligations under the Regulations, some did not possess sufficient technical or operational skills to implement them.

Middle management mentioned a number of specific problems which make action on hearing conservation difficult, as listed below:

- The timing of the Noise at Work Regulations: some managers felt that the demands of other new legislation had diverted effort from the Noise at Work Regulations (or vice versa),
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- The two action levels: many managers found it difficult to implement any practical system which distinguished between these.

- Intermittent noise and use of portable tools: some workplaces had noise levels which not only varied throughout the day but which varied from month to month as the volume of work altered. Managers were not sure how to introduce workable hearing conservation measures in such environments.

In contrast, in 3 cases managers had undergone professional training which covered noise control. In these cases, noise was regarded as just another health issue with which they have to deal, and although it is difficult to control and has a delayed effect this in no way reduces its importance.

Thus, middle management in production and engineering must have the skills and resources to implement programmes, including access to technical advice about noise control, hearing conservation and noise regulations.

Incongruent attitudes towards noise
The operation of these factors in the context of noise is further illustrated by a discussion of what is usually an incongruent approach to noise when compared with other hazards, particularly those causing workplace accidents, as discussed below.

In most companies, management attitudes to health and safety seemed to be remarkably independent of attitudes to and actions about noise. Even in cases where management were very sanguine about their company’s attitude to health and safety, stating views such as “if it’s a health and safety issue, whatever action is necessary, it will be taken”, this positive attitude was rarely justified with respect to hearing conservation.

For example:

- in a number of case studies, several senior managers who were reported as being “very health and safety conscious” neglected or were unaware of the noise problem, concentrating on accident prevention and good housekeeping.

- daily tours of the site by senior management, or steps to improve cleanliness, reduce accidents or win safety competitions, do not necessarily have a positive influence on hearing conservation. One company had won its parent company’s safety award for the past two years but had still failed to take adequate action to control noise.

The primary reasons for this is that noise is a hazard which does not have an immediate impact and is seen as an annoyance to which people can adapt.

In contrast to this, in three of the case study companies, a positive attitude about health and safety extended to noise. In these three companies, safety is one of the central values “from the top down” and performance on safety matters is an important component of people’s work appraisal.

The concern for noise in these companies was attributed primarily to concern about public relations, as follows:
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- Two of these companies were in the chemical industry. Management in both these companies indicated that major problems such as the Flixborough disaster have had a far greater impact on the whole approach to health and safety in the chemical industry than merely the implementation of measures to avoid a recurrence of those particular situations. The desire by their industry to overcome the bad public image of chemical companies prompted proactive efforts to manage all hazards.

- In the third company, a quarry, the quality of its hearing conservation programme was attributed to their management training, which raised awareness of the noise hazard and encouraged a professional approach, and their heightened concern for the environment and for good public relations (in order to get permission to extend the quarry).

The effectiveness of these companies in implementing a hearing conservation programme cannot wholly be attributed to the intrinsic dangers of the industry, since other hazardous industries, such as the foundry, included in the case studies had not taken such effective measures to protect hearing. This suggests that the company must have a high profile, with commercial performance thought to be sensitive to public opinion, as well as significant hazards for management to be concerned about these hazards.

A4.2.2 Health Surveillance In Britain

The Institute for Employment Studies carried out a comprehensive survey of employers’ health surveillance practice in Britain on behalf of the Health and Safety Executive in 1995 (C Honey, 1997). Health surveillance is a statutory requirement under 7 sets of regulations, including COSHH (1994) regulations. Surveillance may include:

- check for readily detectable signs of disease, e.g. Visual checks,

- examinations by a suitably qualified person, such as occupational health nurses, and

- medical surveillance, including clinical examination of physical effects, biological effect monitoring and biological monitoring of absorption of chemicals

and is required where risk assessment shows that there is an identifiable disease or ill-health condition related to work that can be detected.

The study was based on a postal survey of 5,000 employers, with a 35% response rate, and 30 follow-up interviews and 10 in-depth case studies. The study focused on assessing the prevalence of health surveillance, employers understanding of surveillance and methods used. However, it also examined the reasons given for undertaking health surveillance.

The study found:

“that legislation is a driving force behind practice in this area” (p18)

For example, 36% of those respondents who kept records did so solely to satisfy legal requirements. Notwithstanding the latter findings, 70% of respondents “strongly agreed” that protecting employees from risks was important, as well as complying with law. It also found that pursuit of good practice was an important motivation in nearly all cases whilst 70% of respondents felt that health surveillance helped check effectiveness of control measures. Pressure
from insurance companies or employers was not a factor influencing employer practice in this area.

However, whilst surveillance is driven by legislation most employers saw many benefits from it, with 60% believing benefits outweighed costs, including:

- 75% agreed that staff morale was improved,
- about 40% agreed stress was reduced,
- 25% agreed that sickness absence had fallen,
- just under 20% had fewer compensation claims, and
- about 15% had lower insurance premiums.

Generally though employers found it difficult to quantify the benefits, as items such as improved morale are intangible and because it is difficult to disentangle the impact of health surveillance from the rest of health and safety policy.

Interestingly, whilst the proportion of firms undertaking surveillance was related to the size of the establishment, smaller and medium sized firms were more likely to feel that benefits outweigh costs. The effect of size was as follows:

<table>
<thead>
<tr>
<th>Number of employers</th>
<th>% of employers undertaking surveillance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-24</td>
<td>26</td>
</tr>
<tr>
<td>25-99</td>
<td>32</td>
</tr>
<tr>
<td>100-299</td>
<td>45</td>
</tr>
<tr>
<td>Over 300</td>
<td>62</td>
</tr>
</tbody>
</table>

Overall 28% of the employers with health hazards in the workplace who had assessed these risks carried out regular health surveillance.

It is also important to note that a large proportion of respondents had failed to fully or adequately comply with surveillance requirements due to their misunderstanding about the law and their lack of understanding of different forms of health surveillance - again highlighting the mediating effect of knowledge on management decision-making.

A4.2.3 Workplace Health Promotion And Occupational Stress Management In The UK

The situation regarding stress management in the UK may best be illustrated by the title of an article by Daniels (1996):

"Why aren’t managers concerned about occupational stress?"
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Despite the finding in a survey of Northern Ireland managers (McHugh and Bryson, 1992) that 70% believed that employees in their companies experience stress at work and over 84% of managers acknowledge that stress was a problem for the organisation as well as the individual - less than 7% of the sample reported that their company had a procedure for identifying stressed individuals and less than 5% reported that their companies had implemented any stress management programmes. Other work has shown that where stress management programmes are implemented, these tend to focus on the individuals coping ability rather than on lessening workplace stressors (Reynolds and Shapiro, 1991). Also smoking cessation and advice on alcohol consumption are the most popular forms of health promotion in Europe (Malzon and Lindsay, 1992). Thus, whilst the development of workplace health promotion programmes has been rapid in the USA this has not been the case in Europe, with the exception of Scandinavia, with probably under 100 worksite exercise facilities in the UK in the early 1990’s (Sigman, 1992).

Whilst no formal international comparisons have been made of the factors behind these transatlantic differences, it is noticeable that the expressed desire to reduce health care costs in the USA, where most organisations bear a high health care cost via insurance, is not repeated in Europe where the state bears the principal cost of health care provision. It is also noticeable that, unlike other stated motivations for managing other health risks, the need to comply with legislation is not the only important reason given for workplace health promotion or stress management in the UK. As illustrated by the research below, a different set of reasons tend to be given for UK and other European organisations implementing programmes.

Workplace exercise programmes and centres
Cox et al (1988) surveyed a sample of British and Dutch organisations which were offering some form of exercise programme or operating a fitness centre. Occasionally these facilities were developed as part of a wider programme to manage employee stress and health but not always so. Five areas of potential benefit were identified by the organisations as reasons why their organisations invested in employee fitness programmes:

1. Management belief that a healthy workforce was also a satisfied and productive one - with improved productivity and reduced absenteeism.

2. The need to protect key personnel from ill-health, particularly cardiovascular problems.

3. The programme would act as a non-job based vehicle for promoting staff contact.

4. Project a more positive image of the company to employees and thereby increase their commitment to the organisation.

5. Promote the external image of the company.

With few exceptions these were unsubstantiated beliefs, many based on personal experience of a senior member of the organisation. Few organisations had attempted to formally evaluate their programmes. The reasons given by organisations for implementing programmes have “obvious face validity and are self-justifying to the organisation, but may not have been evaluated scientifically. They are, in many instances, simply acts of faith” (Griffiths, 1996, p7).

These findings are supported by work by Shephard (1992) who reports that worksite exercise programmes aim to boost morale and employee health rather than to gain direct cost benefits.
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Health promotion programmes
Sigman (1992) completed a survey in the UK of the reasons for implementing health promotion programmes. It found that the major incentive was legislation, particularly a wish to be seen to take reasonable care for the health and safety of the workforce. Other significant reasons included:

- a stimulus for employer-employee relations, and;
- a desire to develop staff morale.

Financial and health considerations were not significant.

Cultural factors
Malzon and Lindsay (1992) in a Europe wide survey found that:

- health promotion programmes were more likely to be offered by large state owned organisations with a formal health promotion policy, professional workforce and predominantly male workforce - more commonly in affluent countries where governments supported such activities.

- small privately owned companies with a predominantly female workforce in less affluent countries where government does not support such activities were least likely to offer health promotion.

These types of findings led to the suggestion (see Daniels, 1996) that there is a cultural dimension to the uptake of health promotion, with national cultures that are more individualistic, such as the USA and UK, placing emphasis on individual factors and individual focused interventions, whilst other more “egalitarian” cultures such as in Sweden focus on organisation level interventions. Moreover, it is suggested that the benevolent “egalitarian” belief that individuals should be free from risks prompts a higher rate of workplace health promotion and welfare than in other countries.

The suggestion of cross-cultural differences in organisational readiness to promote health and safety in the workplace is supported by a number of studies. For example, Muto et al (1996) found that Japanese companies were much more likely to recognise the importance of AIDS education in the workplace when compared with foreign companies in Japan. For example, as shown in Table A5, Japanese companies have a higher rate of hiring occupational physicians.

<table>
<thead>
<tr>
<th>Table A5</th>
<th>AIDS measures in Japanese and foreign firms.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Japanese</td>
</tr>
<tr>
<td>% of companies hiring an occupational physician</td>
<td>76.5</td>
</tr>
<tr>
<td>% of companies implemented AIDS measures</td>
<td>36.8</td>
</tr>
</tbody>
</table>

The most frequently implemented measure was education to prevent HIV/AIDS, followed by education to prevent discrimination against people with HIV/AIDS - with the aim of avoiding discrimination and anxiety in the workplace.
Similarly, Seppala (1997) reported differences between Swedish and Finnish speaking firms in Sweden in their approaches to health and safety management. Swedish firms placed greater emphasis on preconditions of safety in work and the environment and preventive work with a high degree of employee involvement. Finish speaking firms emphasised work habits and saw supervisors as intervening when unsafe habits are observed rather than assuring safety as a precondition. These differences in management strategy were associated with a 70% high injury rate amongst Finish speaking firms.

A4.2.4 Individual Factors

The importance of perceptions and values of individual members of principal management, as opposed to corporate beliefs, was demonstrated by a number of research studies. For example, Harris (1990) found that corporate reluctance to deal with AIDS in the workplace stemmed from the personal moral values of upper management. Given that principal management of organisations have a dominant influence on health and safety decision making, it is pertinent to consider research regarding the factors which influence risk perceptions amongst higher management. Indeed, Philips (1993) argues that each industry has its own view of “risk” and that there may be multiple views of risk within one organisation. These views will determine management attitudes and their policy towards their reduction. Accordingly, in order to affect these attitudes it is necessary to understand the industry/organisation perspective and work within it rather than impose an alien view of risk.

The dread factor
Daniels (1996) made reference to research into the perception of risk, suggesting that occupational stress shares those feature of hazards which are perceived as low risks, namely:

- a voluntary risk - as a person can leave a job if they so wish,
- it has little catastrophic potential and has low dread factor,
- jobs that are perceived as stressful accrue more financial benefits - leading to a perception of equity of risks and benefits,
- they have no known effects on future generations - again reducing dread,
- many effects are considered reversible - such as anxiety,
- stress is often considered to be personally controllable,
- people are familiar with stress.

All these features of occupational stress are asserted to reduce our dread of it and hence reduce the motivation for organisations to intervene. This assertion is supported by the findings that people are prepared to pay less for interventions that are targeted at diffuse health threats (Fischer et al 1991).

Personal characteristics
Other research, as summarised by Powell (1996), has identified a number of personal factors underlying management behaviour, namely:
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- Personal experience of incidents. Limited experience of incidents may result in a perception that certain types of risks happen to others and are unlikely to happen here. For example, Canter and Morgan (1996) examined health and safety at GP surgeries as part of a wider study of GP attitudes to accident prevention in the community. They found that GPs with previous experience of serious or fatal accidents (inside or outside of the surgery) were more likely to have accident log books and run first-aid training for staff.

- Personal control of risk. If a person has direct control of a hazard compared with relying upon someone else to manage it, they are more likely to perceive the risk as lower.

- Accountability: The more a person is directly accountable for any adverse consequence which might arise from a poor decision, the less likely that person is to take risks.

- Ambition: Successful and ambitious managers have greater tendency to take action, indicating a greater propensity for risk taking (MacCrimmon and Wehrung, 1986).

- Financial position: The poorer an organisation's position, the more risk averse a manager is likely to be.

- Age: The IRM found a slight trend towards risk aversion in older groups of managers (Powell et al 1996).

- Education: Managers with more education are less risk averse (MacCrimmon and Wehrung, 1986).

Decision-making processes
Phillips (1993) reviewed research into management risk related decision making and concluded that managers tend to avoid uncertainty by planning on the basis of best guesses (i.e. ignoring certain possibilities), choose the first option they can think of for which the pro's outweigh the con's (failing to recognise alternatives), groups experiencing a threat consider fewer options, and newly formed groups show a shift to a collectively more extreme position. These processes are considered important as, in conjunction with the "dread" factor of a hazard and our personal characteristics, they mediate the influence of other motivational factors underlying decisions.

Thus, in summary, it would appear that in the absence of financial incentives in the UK that only those organisations which see employee morale or productivity benefits are likely to consider introducing health promotion programmes for reasons other than legislative compliance. The propensity to do so is possibly reduced by the perception of stress and other health issues to be low (diffuse) risks and attributable to the individual's behaviour rather than being related to the organisation.

A4.2.5 The Construction Industry Experience

Late 1980's research findings
A research programme was carried out on behalf of the HSE into the factors influencing safety performance in the construction industry in the late 1980's, including the political, cultural and organisational factors underlying approaches to safety management (Whittington et al, 1992). The work involved:

- detailed analysis of 30 serious accidents,
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- postal survey of 21 construction companies, and
- interviews with managers of 24 construction companies and a number of major clients.

The work revealed a wide range of factors which de-motivated management in areas of health and safety (H&S), with only a few examples of positive factors. These factors related to the commercial and operating climate of the construction industry, and the short-term nature of projects - all of which mitigated against proactive safety management.

First though it is pertinent to note that companies did not see any commercial incentive to improve safety, with one exception, for the following reasons:

1. The probability of a visit by the HSE is likely to be perceived as too low to have a major influence on site practice. If poor practices are detected the financial or other penalties are insufficient to deter.

2. The costs associated with accidents were not regarded to be high enough to prompt management action. This was reinforced by lack of data on accident costs reinforcing management perception that they were low.

3. There was no obvious positive inducement to give safety a high priority in business or project planning or tendering. Firms with a high safety profile were not necessarily placed at any obvious commercial advantage, except with petrochemical clients. It would appear that selection of tenders is driven by commercial criteria, principally cost, with safety omitted at the tendering and bidding stage. Indeed, safety requirements were, historically, not explicitly allowed for in bids. Consequently any allowance for safety in bids placed the contracts at a disadvantage.

The one exception lay with client led initiatives, mostly petrochemical companies, who applied safety requirements to contracts. These clients were motivated to demand higher standards due to:

- a desire to avoid unfavourable publicity,
- construction activity may present a risk to normal operations,
- the clients had safety knowledge to be transposed to management of construction projects,
- meeting safety goals is seen as an integral part of clients quality management strategy.

These requirements were reflected in the priority given to safety at the planning stages.

However, notwithstanding the latter exception, the research did not identify any intrinsic commercial or other factors positively motivating construction companies to manage H&S proactively.

On the other hand, a number of disincentives were identified.

1. Fluctuating and short term work

The construction industry works in a highly cyclical market with a preference for short term contracting to cover specific projects. This has a number of consequences:
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- the complexity of contracting and subcontracting arrangements is increased - creating difficulties in defining responsibilities,

- lack of research and development or innovation - due to short term horizons,

- lack of investment in training, and,

- lack of organisational memory - every project is treated as being unique

2. Diffusion of responsibility, again due to complexity of contracts, transfer of responsibilities to subcontractors and number of organisations involved.

Thus, on the one hand safety is seen (usually) as a non-competitive cost and, on the other hand, the nature of the business mitigated against assuring clear accountabilities. Consequently, the research found little incentive to improve health and safety.

1990’s research findings
Mayhew and Quinlain (1997) carried out four surveys of occupational health and safety (OHS) performance in the residential building sectors of Britain and Australia over a five year period 1991-1995, three surveys in Queensland and one 1995 survey of self-employed builders in Britain. The surveys involved interviews and statistical analysis. They found very little difference between the two countries. As noted below, their observations are broadly similar to those reported by the late 1980’s UK research:

- in this sector, competition, speed and cost minimisation were central features. Breaches of OHS requirements were directly linked to attempts to minimise costs. Many believed that complying with legislation added costs and would make them uncompetitive. It was observed that builders did not view client imposed requirements in the same way as legislation. For example, mining companies in Queensland had more stringent requirements than legislation which were neither resented nor viewed as interfering in private enterprise. The implication being that a strong client ensures an even playing field, whereas low levels of enforcement allow ‘cowboys’ to get away with poor OHS and make it uncompetitive to raise OHS performance. Also, OHS requirements imposed by clients are accepted as a normal economic requirement, whilst government imposed requirements are resented.

- those working in the residential building industry believed it to be safe, even though the evidence contradicted this.

- work related injuries were treated as “normal” and not worth reporting.

- the level of familiarity and understanding of legislation was not high (though it was higher in Britain than Australia). Where they did not know that legislation existed, there was widespread belief that the law had nothing to do with them.

- most thought the legislation to be invasive (‘it told them what to do’) and impractical (they believed that most safety gear could not be worn on a domestic site)
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- there was a belief that OHS was a matter for craftsmen themselves rather than a managerial responsibility or work environment issue.

- the complex splintering of tasks under subcontracting created an environment where responsibility for OHS was easily confused.

In contrast, many of the builders they surveyed who had involvement with larger scale projects did not see the legislation as arduous, apparently because commercial site experience impressed on them the importance of OHS.

Finally, whilst British self-employed builders displayed superior OHS knowledge this did not translate into greater regulatory compliance, with breaches of regulations rationalised on basis of economic survival and minimal chances of detection.

Subsequent developments
In March 1995 the Construction Design and Management Regulations 1994 came into force with the aim of establishing an atmosphere of loss prevention in the construction industry - by introduction of risk assessment and clarification of client and contractor statutory duties and accountabilities throughout the whole design, construction, operation, maintenance and demolition process. For example, the client is required by law to appoint a competent planning supervisor and principal contractor, and to be satisfied that adequate resources and time are allowed for safe and healthy working, whilst planning supervisors must ensure a health and safety plan is in place before work commences. In this way the regulations appear to have addressed the factors identified in earlier research to be de-motivating construction management.

However, many small building projects are effectively exempted (those involving less than 30 days to complete, not more than 500 person days or work and with less than five persons on site at any one time). Therefore the regulations may have little or no impact on health and safety in this segment of the construction sector.

Whilst there have been reports of variable levels of compliance with the CDM regulations it is reported that the CDM regulations were generally successful in getting health and safety incorporated into projects (Nattrass, 1996). Indeed, the 1997 Evaluation of CDM Regulations (The Consultancy Company, 1997) commissioned by the HSE found that there was greater awareness of health and safety issues right across the industry. The interview based study covered 33 client companies, 59 designers, 109 contractors and 3 planning supervisors covering many different sectors of industry and sizes of enterprises. There were:

- 37 small enterprises (<£500,000),

- 131 medium sized enterprises (£500,000>£50m), and;

- 66 large enterprises (>£50m).

The work focused on client and contractor attitudes towards CDM, rather than how CDM had influenced their health and safety motivation or how CDM had interacted with other factors such as cost-based tendering or short-term projects. Also, whilst the study identified business and health and safety benefits arising from CDM as well as the costs of compliance, it did not explore how these influenced managements’ attitude towards health and safety. Nonetheless, a number of the study’s findings are incidentally relevant. Firstly, it can be noted that:
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- "the fact that CDM was on its way made the industry look at its processes before they became legislation" with the majority of clients seeking to develop their management systems and reinforcing compliance with health and safety prior to the implementation of CDM.

However, this was not be attributed to direct action by the HSE as "the lack of action (by the HSE) brought about a form of self-regulation" (p19). A consistently reported comment from contractors was that "behavioural changes on site are not all attributable to the CDM Regulations and neither are the reduction in incidents". Rather, it is the total volume of health and safety legislation which has brought about the increased awareness which has resulted in "safer equipment and operation" and "the client being more willing to spend money on safety related items".

The attitudes towards CDM were mixed. For example, the majority of clients and contractors either welcomed CDM regulations or were supportive of its objectives. However, despite many clients indicating that the CDM regulations offered business benefits, such as reduced cost of maintenance, the study concluded that clients "...with the exception of large concerns......, most see the CDM Regulations as an additional burden they could without both in terms of additional bureaucracy and cost...particularly where there is poor recognition of the benefits" (p55). Indeed, one client who indicated they did the absolute minimum necessary to comply with health and safety legislation did so on the basis of a business risk assessment and a supporting business justification. Whilst the attitudes of SMEs and large companies were broadly similar, the issue for smaller contractors was lack of knowledge of the regulations and their ability to support the administrative requirements of the regulations, which they were sometimes unwilling to deal with.

The research also indicated that certain features of commercial systems may still hinder compliance. For example, comments from architects included:

- "the fee structure of architects inhibits the take up of the role of planning supervisor and therefore it can’t be supported”,

- "it depends on clients attitude to CDM whether they are prepared to accept or fund the costs of the planning supervisor. Clients are often surprised at their obligations and responsibilities”, and;

- the attitude of some professional designers is that health and safety is someone else’s problem, especially as many schools of architecture contain little if any health and safety in the design process.

As regards the impact of the CDM regulations on health and safety performance, the study concluded that it was too early to tell. Whilst it was felt that there was an increasing awareness of health and safety and that this will lead to a change in attitudes, there was no substantive evidence available to verify the situation. This is supported by review of construction sector statistics which do not yet reveal any significant change in the rate of decline in injuries. The fatal injury rate per 100,000 employees (self-employed and employees) in the construction sector has fallen at approximately the same rate over the past 13 years, as shown by the average fatal injury rates for each of the 3 year periods shown below:
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<table>
<thead>
<tr>
<th>Period</th>
<th>Fatal injury rate per 100,000 employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1994/95-96/97</td>
<td>7.5</td>
</tr>
<tr>
<td>1992/93-93/94</td>
<td>8.5</td>
</tr>
<tr>
<td>1988/89-91/92</td>
<td>9.5</td>
</tr>
<tr>
<td>1985/86-87/88</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Review of public statements concerning health and safety subsequent to the proposal and implementation of the CDM regulations does provide some (highly tentative) further information on the factors motivating health and safety management in the construction sector in the 1990’s. Clearly the possible unreliability of self-reported motivations has to be acknowledged. Notwithstanding this proviso, it is apparent that:

1. despite the HSE publication of value of losses in construction sector (estimated at 8.5% of profit on one site) health and safety management may still be seen as a cost rather than an investment in loss prevention. This is illustrated by the concern expressed about the cost of complying with the regulations (Hinksmann, 1993. Barrie, 1994a 1994b) - with the fear expressed that they would “prove a financial killer for many schemes, particularly those worth less than £250,000” adding as much as 10% to project costs (Barrie, 1994b).

2. compliance with the CDM regulations has been motivated by the need to comply with the law - no “intrinsic” factors such as cost savings are mentioned. For example,

   • the Building Employers Confederation health and safety director said clear evidence was emerging that clients were becoming increasingly influenced by safety performances - with an increasing number of companies taken off tender lists or threatened with removal a result of checks by clients (Dow, 1994).

   • Trafalgar House’s divisional safety director said there had been a cultural change across the board of clients motivated, at least in part, by the (at that time impending) CDM regulations - with more extensive safety prequalification requirements on issues such as accident records, improvement notices and review of safety management arrangements. (Dow, 1994)

   • Howard Humphreys director of transportation stated that “consultants will be obliged to consider safety much more seriously once this new law is introduced” (Russel, 1992).

Clearly care must be taken in reaching conclusions on the basis of such anecdotal self-reporting, especially as other research has shown that the desire to avoid poor publicity and meet expectations of safety conscious clients also influenced construction management. In addition, it is possible that other events, such as the £20m construction fire at the Broadgate development which led to increased developers excess liability in insurances (Alexander, 1991), have contributed to greater concern for safety in the construction sector. Also, research is not available regarding the impact of HSE campaigns, such as the Good Health is Good Business campaign, on attitudes.

Thus, as with the NHS, we have been unable to discover any substantive research into what has motivated the construction industry to change the approach to health and safety in recent years or the extent to which attitudes towards health and safety have changed.
A4.2.6 Risk Management In The UK

The suggestion that legislation is a driver of management action in the UK is further supported by the findings of an IRM survey of 208 members of IRM and Airmic in 1994 (Powell, 1996). They report that:

"perceived threats from increased legislation would seem to encourage individuals to develop a greater understanding of the risks to which they are exposed" (p175).

The ranking of risk areas was headed by legal liabilities, followed by business interruption and financial risks. As stated:

"Whatever the major event, corporate thinking turns to legal and perhaps financial outcomes and costs" (p16).

The factors influencing risk perception were:

1. Objective risk information (on the extent of the risk)
2. Threat of legal liabilities.
3. Training (with training in risk management reducing risk aversion).

The Board of Directors was the most influential group, followed by internal specialists, supervisors and then statutory bodies.

Powell makes reference to research on risk taking, to emphasise the point that groups tend to be less risk averse whereas individuals are more risk averse - to highlight the view that increased personal accountability effects decision-making.

A4.2.7 Factors Motivating Environmental Management

The Department of City and Regional Planning of the University of Wales completed a survey in 1996/97 of the stimuli encouraging SMEs and large companies in South Wales to make environmental improvements. The main focus of their work was to explore the differences between large companies and SMEs in order to inform the strategies of policy makers and regulators towards these two groupings. The questionnaire based survey was responded to by:

- 216 SMEs (under 250 employees),
- 204 large companies.

Key findings include:

- more large companies than SMEs answered that they were motivated to make environmental improvements,
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- industry is far from homogeneous with individual motivation, benefits, perception and pressures depending on a range of factors, including company size, activity, position in the supply chain etc.

- regulation was the most common source of motivation irrespective of size, industry sector or level of regulation,

- a significant minority of companies which claimed to be motivated by regulation had little or no experience of regulatory pressure,

- other important stimuli are personal concern for the environment, good neighbourliness, potential to increase profits.

Table A6 summarises the reported stimuli.

<table>
<thead>
<tr>
<th>Stimuli</th>
<th>SMEs</th>
<th>Large companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compliance with regulation</td>
<td>60</td>
<td>85</td>
</tr>
<tr>
<td>Potential to increase profits</td>
<td>50</td>
<td>65</td>
</tr>
<tr>
<td>Good neighbourliness</td>
<td>50</td>
<td>62</td>
</tr>
<tr>
<td>Personal concern</td>
<td>50</td>
<td>55</td>
</tr>
<tr>
<td>Company environmental policy</td>
<td>15</td>
<td>50</td>
</tr>
<tr>
<td>Employee concerns</td>
<td>35</td>
<td>45</td>
</tr>
<tr>
<td>Supply chain pressure</td>
<td>25</td>
<td>42</td>
</tr>
<tr>
<td>Market opportunities</td>
<td>15</td>
<td>35</td>
</tr>
<tr>
<td>Pressure from parent company</td>
<td>2</td>
<td>28</td>
</tr>
<tr>
<td>Pressure from competitors</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>Bankers, insurers &amp; shareholders</td>
<td>9</td>
<td>15</td>
</tr>
<tr>
<td>Potential pressure group activity</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: Figures are correct to ± 2%

A number of key differences between were reported between SMEs and large companies, including:

- supply chain pressure, stakeholder pressure and market opportunities rarely stimulated SMEs,
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- only 21% of SMEs believed that environmental improvements result in cost savings, compared to 50% of larger companies,

- only 54% of SMEs and 70% of large companies (with environmental policies) would be motivated by these to make improvements,

- only 13% of SMEs and 39% of large companies understood their legal obligations.

As regards supply chain pressure, they found that only 22% of SMEs recognised that an Environmental Management System could help them satisfy their customers’ requirements whilst 57% of large companies responded positively. The reason for this dichotomy is that large companies are more likely to receive environmental enquiries from their customers and that SME customers are still willing to proceed even when the SME gives negative response to an environmental enquiry.

They concluded that there are a number of key sources of motivation which are often cited in the literature and promoted as reasons for environmental improvements, which constitute fairly low level sources of motivation for respondents to their survey, ie supply chain pressure, market opportunities and stakeholder pressure. Also, the survey cast doubt on the universal efficacy of environmental policies as a means of delivering improvements. Rather, given that regulation was the most common source of motivation in all companies, they conclude that there is a strong role for regulation as a means of encouraging environmental improvements. Moreover, they argue that it is untenable to hold that there is a universal set of benefits which companies can gain from environmental improvements. There is a diverse response from business to stimuli, with the weight of stimuli varying greatly between businesses.

A4.3 OVERSEAS RESEARCH

A4.3.1 Australian Worksafe Initiative

As reported by Bottomley of the Occupational Health and Safety Authority (OHSA) of Victoria, the Australian authorities have been considering the means of encouraging best practice. As part of their work Victoria state OHSA completed a survey of 25 organisations that had been prosecuted to discover the impact of prosecution on management. They concluded that there had been no significant difference in accident rates before or after prosecution. The study concluded that alternative means of supplementary enforcement apparatus was required, such as financial tools, as prescriptive legislation and prosecution has “an insidious influence on culture through the attitudes it engenders and encourages” - with the perception that government has most responsibility for management of health and safety, at best encouraging minimum compliance and evasion of audit by regulatory authorities.

Although they regard financial tools to be important there has been little research into the costs and benefits of occupational health and safety in Australia, and the authorities report that they have “found it difficult to communicate what little is known to decision-makers” and “.... to date fines imposed by magistrates and judges have not been large enough to act a significant disincentive” (p3, Bottomley, 1994).

However, one study which did look at the link between productivity and safety demonstrated:

“that the assumption that greater productivity in the coal industry is the result of greater management attention to safety is entirely false....There is thus no logical reason why
managers concerned to improve productivity should turn their attention to improving safety...company self-interest cannot be relied upon to guarantee safety incentives" (p35, Hopkins, 1994).

They found that the primary factor which influenced output per worker is the technology in use, namely pillar extraction versus long wall mining technologies - with long wall mining more productive and inherently safer than the old method. This explained the correlation between safety and productivity in New South Wales coal mines in 1972 to 1992.

This work suggests something of a paradox where, on the one hand, both prosecution and enforcement fail to engender proactive management, on the other hand, firms either lack financial incentives or do not accept or recognise financial incentives. This is further illustrated by a survey of noise control programmes in Australia as described below.

Survey of noise control programmes
As part of the Australian Worksafe initiative a follow-up survey was completed of 14 workplaces to assess the extent to which engineering noise control recommendations were being implemented and to identify the factors influencing implementation (Foster, 1996). The companies included:

- 2 small enterprises (less than 20 employees)
- 4 medium enterprises (20 to 200 employees)
- 8 large enterprises (more than 200 employees)

All companies involved “noisy” activities, with half from the metal fabrication sector. A questionnaire and interview were used 12 months after initial noise assessments in the follow-up study, and noise measurements were made to quantify noise reduction achieved. As regards implementation of recommendations it was found that:

- no company implemented all of the recommendations
- 57% of companies implemented some of the recommendations

Three factors were identified to influence implementation.

1. The costs and difficulty of engineering noise control were major factors in the implementation of recommendations for both large and small companies. Unless a productivity gain was to be made, “expensive” noise control treatments were often not undertaken. If solutions were cheap and easy, they were usually implemented.

Larger companies were more likely to construct enclosures and noise control treatments, due to availability of maintenance sections to undertake such work.

2. The presence of a manager or occupational health and safety (OHS) officer who was motivated and committed to controlling noise was found to be the most important factor in initiating noise assessments and driving the noise management program - persuading management to act on noise control.

Companies without an OHS officer took only minimum measures to satisfy regulations, occasionally failing to even provide personal protection.
3. The provision of engineering detail for noise control measures increased the likelihood of implementation of recommendations.

A4.3.2 Israeli Survey Of Occupational Hygiene Recommendations

The Occupational Hygiene unit of the Israeli Institute for Occupational Health investigated the extent of implementation of recommendations in occupational hygiene survey reports in 100 workplaces in 1990 (Peretz et al., 1992). The unit had previously conducted chemical and physical occupational hygiene surveys and made recommendations. The workplaces were not always obliged to implement recommendations although Israel had adopted the threshold limit values recommended by the American Conference of Governmental Industrial Hygienists as legally binding in 1983. Recommendations covered:

- control of emissions at source,
- verification, and
- personal protection.

Information on implementation and the reasons for implementation/non-implementation was gained by means of interviews.

Extent of implementation

193 recommendations were made for 73 of the 100 workplaces surveyed, ranging from 1 to 5 recommendations per workplace. It was found that:

- 85% of workplaces carried out at least one recommendation,
- 51% of recommendations were implemented in full - with safety officers claiming to have considered 68% of these independently of the Unit,
- 33% of recommendations were not implemented, and;
- 16% of recommendations were partially implemented.

Factors influencing implementation

Five main factors were found to influence implementation, as outlined below in order of importance.

1. Knowledge and awareness of the importance of occupational hygiene in the workplace accounted for 34% of non-application.

   Where safety officers had previously considered the need for prevention 68% of recommendations were implemented compared with 25% elsewhere.

2. Cost of implementation accounted for 26% of non-application.

   Only 17% of recommendations relating to personal protection, which generally involve lower costs, were not implemented compared with 46% of the “medium priced” recommendations.
3. Application of regulations.

The frequency of implementation of recommendations by the factories with hazards covered by regulations was higher than that in all the other workplaces. The extent of implementation was related to the existence of regulations covering a hazard rather than the hazard itself.

4. The effectiveness of safety management, with greater implementation in firms with higher status and more proficient safety functions.

5. In small and medium sized factories there was a relationship between extent of implementation and involvement of management in safety. In larger firms decisions were driven by safety officers.

A multivariate analysis of these factors revealed that they could be grouped into 2;

1. Existence of a well functioning safety system and involvement of management - with a manager acknowledged as someone to whom hygiene matters can be referred.

2. Knowledge of safety and hygiene along with regulations and cost of implementation.

These factors were found to have an additive influence on implementation.

They concluded that the extent of implementation could be increased by:

1. increasing knowledge of dangers,

2. strengthening the position of the person responsible for safety,

3. introducing additional regulations (covering other hazards),

4. providing recommendations to highest level of management,

5. adding engineering details to recommendations, and;

6. strengthening systems of enforcement of regulations.

A4.3.3 Dutch Construction Sector

Lumens (1997) reports in the Dutch construction sector a similar picture to that in the UK, where occupational health controls are not widely implemented due to:

- high costs involved in maintaining control measures,

- exposures accepted as everyday practice, such as dust,

- low awareness of control measures other than PPE,

- low availability of “off the shelf” control technology.
Many of these are said to relate to the same sector specific factors noted in the UK, such as short term contracts, many small firms, time pressures and complex sub-contracting arrangements. No financial motives to improve health and safety are reported by Lumens.

However, whilst application of control measures are low and exposures to hazards are, in general, too high, Lumens (1997) reports two cases where occupational health regulations have "evaded the argument of cost" in Holland:

1. In order to be authorised to demolish buildings possibly containing asbestos, demolition firms have to meet regulations on handling of toxic waste and safe working methods. He reports that "In this branch of business, competition due to budgeting on safe working conditions has virtually disappeared" (p93).

2. Only contractors that work according to the "VCA- certificate" are permitted to work for chemical companies.

Thus, firms which must proactively demonstrate compliance with safety requirements before they are allowed to operate in a specific field appear to do so.

A4.3.4 The OSHA Experience

Since the inception in 1971 of the Occupational Safety and Health Administration (OSHA) many researchers have attempted to measure its effectiveness. Due to the relatively short lifespan of the administration the investigations have concentrated on safety statistics and not health statistics.

The conclusions from the studies are mixed and are to a degree dependent on the research methods used. Generally speaking:


- but studies which have analysed the data of specific plants revealed a motivational effect of inspections on sites visited by OSHA. (Gray and Scholz, 1993. Cooke and Gautschi, 1981).

One possible explanation for the apparent lack of OSHA impact was the introduction of worker compensation, which may have led to an increased reporting rate, masking benefits of inspections. However, Lanoie (1992) controlled for the impact of compensation schemes in his investigation of the overall effectiveness of policies adopted by the Quebec Occupational Safety and Health Board in improving workplace health and safety during the period 1983-87. The Quebec Board had followed a similar strategy to OSHA but had some additional measures, such as creation of joint worksite safety committees and requirement for a prevention program. Lanoie examined data at industry level, covering 28 industries. After controlling for effects of other factors, such as the introduction of compensation systems, he found that, at best, the boards measures had led to a minor reduction in the frequency of accidents.

The industry level studies indicated that the apparent limited impact of OSHA was due to three reasons, namely:
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- OSHA regulations cover only some of the causes of injuries, i.e. workplace design, so that even perfect compliance would have a limited effect on injuries (Mendeloff, 1979),

- OSHA only inspected a small fraction of all plants, and;

- the expected penalty for failing to comply with any of OSHA’s regulations was far below the cost of compliance (Smith, 1976).

It should be noted that early OSHA regulations focused on equipment and workplace design only, that the average fine per violation in 1975 was $26 and the number of inspections per firm was 0.02 (i.e. 1 in 50 per year).

Bartel and Thomas (1985) sought to quantify the benefits of varying inspections frequencies and costs. They concluded that the rate of inspection could increase the willingness of firms to comply (a doubling of the inspection rate could raise compliance by 25.8%) and manipulation of the penalty structure would have an even greater impact. However, they estimated that if all firms moved into complete compliance, injury rates would fall by 9.8% only. Therefore, a doubling of the inspection rate would lead only to a 2.5% reduction in the lost workday rate.

Other studies revealed some further mediating factors. First, Viscusi (1986) found that the actual probability of inspection (as opposed to perceived probability) was a more significant factor than the level of an initial penalty. Therefore, the prolonged presence of OSHA and the threat of fines for continued non-compliance (which can escalate) are more important than the modest financial incentives created by fines for violations discovered in a random inspection.

Secondly, in terms of OSHA enforcement in the construction industry, Weil (1992) found that enforcement was greater at construction sites which were unionised compared to those that were non-unionised. For worksites of all sizes the probability of an OSHA inspection was greater, the duration of walkaround inspections were longer, the time to rectify violations was shorter, and although a larger number of penalties were issued, their values were less. Weil considered that this situation was due to a greater inclination of union members to exercise their right to request an OSHA inspection, brought about by them receiving information and training via their union and protection from discrimination.

The most optimistic are Gray and Scholz (1993) who estimated, based on 6,842 manufacturing plant injury data between 1979 and 1985, that a plant that is inspected (and penalised) in a given year experiences a 22% decline in injuries over the following three years and a 20% decline in lost workdays. They calculate that this translates to a general industry reduction of about 2% in the rate of injuries, which is similar to the 1.5% to 3.6% effectiveness estimated by Viscusi (1986). Gray and Scholz note that their results are based on a sample of large and intensively inspected firms and may overstate the effect of inspections on moderate and smaller sized firms subjected to less vigilant monitoring. These findings though are comparable to those of Cooke and Gautshci (1981) whose analysis of plant specific data for the period 1970-1976 found OSHA citations had been effective in reducing injury rates in larger (over 200 employees) firms.

It can be concluded from this work, that the OSHA inspections and penalties had a “narrow” motivating effect on inspected firms rather than a general deterrence effect across industry. The “narrow” effect is best explained by the way that inspections focus management attention rather than by the management wish to avoid financial penalties, although the fear of escalated costs does appear to play a role. As stated by Gray and Scholz,
“these results support a behavioural theory of compliance based on bounded rationality, which provides a more plausible explanation for the magnitude of observed impacts on safety than arguments based on more commonly employed expected utility models. Inspections that impose a penalty appear to focus managerial attention on safety issues in a way that leads to broader efforts to reduce hazards.” (p199)

Gray and Scholz argue that these findings support the idea that managers seek to meet social obligations and norms, and that regulations and the imposition of fines are a means of clarifying social responsibilities and focusing management attention on discrepancies between their behaviour and normative beliefs. Thus, inspections and fines serve to focus attention on patterns of behaviours that have been overlooked which are out of line with organisational beliefs and social norms. The initial focus of OSHA violations triggers a broader review that goes beyond a legalistic response to OSHA standards.

The 1982 reforms
In 1982 OSHA announced a major reform experiment, the Voluntary Protection Program. This followed a Californian trial of a similar strategy called Cooperative Compliance Program (CCP). Companies with exemplary occupational safety programs could join the program and assume many of the responsibilities normally handled by OSHA inspectors. Under the scheme:

- regular OSHA inspections were halted,

- a job site labour-management safety committee is formed to assume OSHA responsibilities, such as conducting inspections,

- OSHA assumes a monitoring role via a Designated Compliance Officer.

Evaluations of the program found that accident rates at CCP projects were significantly lower than accident rates for comparable projects and companies.

Whilst these reforms appear to have been driven mainly by changes in government political thinking in the 1980’s, namely a general shift towards self-regulation, the participating firms appear to have been motivated primarily by the professional opinion that a participatory scheme of self-regulation would be more effective (Rees 1988).

A4.3.5 Prescriptive Approaches

The work of Lumens (1997) raises the issue of the prescriptive approach to health and safety. Whilst we have been unable to discover research on the impact of “prescriptive” regulatory regimes on management motivation and safety performance it is worth demonstrating these approaches, as per the cases of Singapore and Germany described below. In these cases the issue of management motivation is superseded by a mandatory requirement to implement certain systems, with direct oversight by regulatory authorities.

Occupational Health Control programmes in Singapore
Whilst research has not been carried out into why factories control health hazards in Singapore, an elaboration of the regulatory regime by Poon and Tan (1989) does provide insights into the motivations. In particular, Singapore, at the time of reporting, operated a government driven “prescriptive” control scheme which effectively imposed control measures on factories, as follows:
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- all factories submit a list of chemicals used to the Department of Industrial Health for registration - who checks for any toxic chemicals.

- the department "imposes" control measures on registration.

- after registration factories are placed under an Industrial Hygiene Monitoring Programme - where the department carries out periodic checks (including air samples) of factories.

- workers in certain high risk occupations are required to have pre-employment and periodic (annual) medical examinations provided by their employers, including blood and urine tests.

Whilst in-plant hygiene monitoring and control is encouraged by the Ministry, this supplements rather than replaces departmental monitoring.

Medical surveillance in German chemical industry
As with Singapore, in Germany the motivation of management is superseded by a system of mandatory medical surveillance (Wolf, 1989). This system includes pre-placement examinations to exclude persons with impairments which might increase risk of being affected by accidents or occupational disease, and regular follow-up examinations for workers exposed to certain hazards or working conditions. This includes exposure to certain substances, such as carcinogenic substances and noise but also activities such as driving and panel control, and workplaces with risk of falls.
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A5. BUSINESS MANAGEMENT VS HEALTH AND SAFETY MANAGEMENT MOTIVATORS

A5.1 OVERVIEW

Three studies are reported here which have focused specifically on the issue of whether the same factors motivate general business management and health and safety management. The three studies report broadly comparable findings, namely that:

1. Where health and safety performance is recognised as a critical success factor for the business it is awarded a high priority and managed in a proactive manner. However, health and safety is not managed proactively primarily in order to avert costs of injury and illness or even loss of assets, although this latter issue is a consideration in the case of capital intensive major hazard operators. Rather, health and safety performance is regarded to be a key factor in the maintenance of public and regulator confidence in the company and the maintenance of an image of corporate responsibility. The fear being that adverse reaction to health and safety performance will lead to restrictions being placed on the business such as new regulations and inspections, loss of business, business interruption, curtailment of expansion plans etc.

These companies tend to be either high risk operations (both small and large companies) where the potential for a major incident or health problem is clear, or large organisations conducting low risk operations but which have a high public profile and are judged in terms of corporate responsibility.

2. Other companies do not regard health and safety to be an important commercial issue and treat it as a separate area of management, distinct from business management. Decisions are mainly reactive and compliance driven, with expenditure on health and safety viewed as a “cost” rather than an investment with commercial benefits. The only exception to this situation is where external parties, particularly customers, pass down health and safety requirements to the company, at which point health and safety is viewed as an important commercial factor.

A5.2 RESEARCH FINDINGS

A5.2.1 TQM And The Management Of Health And Safety.

The European Centre for Total Quality Management (part of the University of Bradford) completed a study of the extent to which the principles of TQM are applied to health and safety (Osborne and Zairi, 1997) on behalf of the HSE. Whilst this work focused on the application of TQM to H&S, a number of its findings are pertinent to this review, in particular:

- evidence regarding the extent to which TQM is applied equally to business processes and H&S provides an indication of the extent to which the same factors are driving the management of these two areas, and;

- they explicitly looked at the values driving business management and safety management within surveyed firms - specifically the reasons for links or absence of links between TQM and H&S management.
Data was collected from 24 organisations known to be advanced in their use of TQM in their core business, using an adaptation of the European Quality Award assessment criteria. The 24 organisations ranged from “family” businesses to global organisations and covered a wide range of industries. It was found that TQM principles are applied less to H&S than in the core business, suggesting that there is some difference in how management treat these areas. Indeed, they found that:

“TQM is driven by values for customer service whilst H&S management tends to be driven more by issues of compliance” (pii).

“H&S is driven more by a negative motive to comply with legislation and to avoid being penalised” (pii).

They also found that investment in H&S is viewed as necessary to comply with legislation rather than generate income or profit. Indeed, they found that in a small number of organisations the approach to H&S was “reactive in the extreme”, even though they had applied TQM to the core business, even winning industry awards. In a significant number of businesses there was limited transfer of learning from TQM programmes into the management of H&S.

Whilst nearly all businesses incorporated H&S into their management processes set up to deploy resources, e.g. budgeting, few incorporated H&S into goal and policy deployment processes - except where safety was a significant feature of the core process. In the majority of businesses there was little evidence that the H&S needs of stakeholders were identified using similar processes to other needs.

In some businesses change management processes based on TQM gave H&S a low priority unless the business is critically dependent on safety for its survival.

These findings suggest that H&S is treated independently of core business processes and assessed against different values and criteria except where safety is seen as a critical success factor.

The reasons for this included:

- TQ was identified overwhelmingly with the product and service needs of customers, almost to the exclusion of all other stakeholders - consequently H&S issues are not about stakeholders.

- As board members do not appreciate the significance of H&S to their business safety it is not viewed from the same perspective of management and control as financial performances. Indeed, even where safety was a critical customer need, as in the case of an aircraft operator, the focus on operational aircraft safety did not necessarily lead to equal treatment of occupational health and safety.

- Managers either fail to accept responsibility for H&S or are unaware of their responsibility - and consequently fail to seek improvements in H&S.

- Safety is treated as an implicit requirement, taken for granted, rather than an explicit customer need.
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- The lack of positive safety performance indicators conflicts with the TQM use of key performance indicators focused on customer satisfaction.

- H&S is viewed as a cost rather than an investment that adds value - this discourages the idea of quantifying value added by investment in H&S and setting improvement targets.

The authors suggest that the safety profession has unwittingly taken ownership of H&S away from management, removing the motivation to manage safety alongside other aspects of the business.

A key reason for differences in the approach to H&S and core business is the nature of the business being carried out. Whilst safety is seen as a critical factor in petrochemicals and nuclear energy sector, this is not so in, for example, financial services and IT. In these less hazardous sectors H&S is not seen as a critical factor for business success and it is only necessary to comply with statutory requirements unless other pressures, e.g. from customers, demand otherwise. In these cases, legislation is necessary to safeguard H&S in organisations which are otherwise unlikely to recognise H&S issues.

However, they did find that some organisations had chosen to adopt TQM in the management of H&S. The main reasons for organisations linking TQM to H&S are usually associated with factors and influences external to the organisation, including:

1. **stakeholders**, usually customers who include H&S as part of assessment of potential suppliers, demanding that the business adopts similar values, standards and practices as their own,

2. **external assessment bodies** requiring a consistent management approach to be adopted throughout the business,

3. **parent company imposes its policies**, and;

4. a perception that H&S performance is critical to the overall success of the business - especially where H&S is **identified as a critical success factor** in achieving the business mission (usually due to the experience of a major incident or disaster by the organisation or in its sector), i.e. there is a significant risk of loss to the business,

5. **Risk of losing credibility** with the industry regulator and thence other stakeholders, such as customers, due to issue of enforcement notices, prosecution and litigation, especially where stakeholders (including customers) expect higher levels of corporate responsibility.

6. **tradition and culture** of the business places a high value on the safety and welfare of employers.

These findings are supported by the HSE commissioned work of Walker et al (1997) regarding the Characteristics of Health and Safety Competition Winners, which examined the reasons 24 companies (all with under 1000 employees) gave for pursuing health and safety awards. They found that:

- the cost of accidents is not always a persuasive argument for managing health and safety, especially as many firms do not calculate the cost of lost time accidents because they occur so infrequently,
the main motivation is to obtain a record of achievement which can be used for internal and external promotional purposes, including demonstration of safety competence within tendering processes, especially in engineering and construction sectors,

- internal purposes included workforce motivation,

- many employers described caring for employees as a motivator for health and safety, especially those with personal experience of accidents and illness.

A5.2.2 Business Process Re-engineering And Health And Safety Management

The findings of the latter research are broadly confirmed by the results of another HSE commissioned study into Business process re-engineering and health and safety management, completed by Entec UK Ltd (Wright and Berman, 1996). This study involved detailed analysis of 10 case study organisations which had undergone major organisational change, including:

1. rail organisation,
2. nuclear organisation
3. chemical manufacturer,
4. mail distributor,
5. drinks manufacturer,
6. quarry,
7. a NHS hospital trust,
8. water utility,
9. conventional power generator,
10.a aircraft maintenance firm.

In all of these cases attempts had or were being made to introduce a more proactive approach to the management of health and safety.

*Links between wider reorganisation and revision of health and safety management*

As part of this research the links between the wider reorganisation and changes in health and safety were considered. In most cases the business reorganisation was aimed at improving commercial performance by reducing costs (usually number of staff and/or management), updating working methods, outsourcing and rationalising management structures. The exception being the NHS hospital trust whose reorganisation was prompted by the wider restructuring of the NHS. Key findings included:

- 3 of the 10 organisations initially viewed the reorganisation as a purely business matter with no implications for health and safety management. New management principles such as empowerment were not extended to the area of health and safety management.
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- The view was taken by some organisations that a common approach has to be taken to the management of all areas of responsibility, both safety and business management, to assure synergy and effectiveness. Accordingly, health and safety management practices were revised in line with the wider reorganisation.

- Other organisations took the view that safety problems associated with the reorganisation would pose a threat to the organisation and hence needed to be controlled to ensure the business goals of the reorganisation are achieved.

- Some health and safety professionals saw the reorganisation as an opportunity to make revisions to the management of health and safety which would otherwise not be accepted. In these cases there may not have been any explicit link between the wider reorganisation and the philosophy underlying health and safety changes, or any thought that the principles underlying the wider business reorganisation should be applied to health and safety. However, coincidentally or not, the principles guiding revision of health and safety management were often similar to those underlying the wider reorganisation, such as empowerment, upskilling, devolution of responsibilities etc.

Thus, whilst some organisations applied the same values to general management and health and safety management, other saw the two areas as separate functions.

Specific factors motivating better health and safety management
The study also looked at the specific reasons why these organisations sought to introduce more proactive health and safety strategies. These reasons can, to some extent, be considered on a sector by sector basis, as follows:

1. Major hazard organisations: The chemical manufacturer, rail, aircraft maintainer and nuclear organisation all had to satisfy their respective regulators and maintain the confidence of the public. Safety is seen as critical to the business, safety has a high public profile with the safety record of the organisation having a bearing upon decisions impacting the business such as plant expansions and issue of new regulations. Proactive efforts are made to ensure that problems are foreseen and addressed to the satisfaction of regulators. In a number of cases the occurrence of a major accident was referred to as a key factor in prompting major change in the approach to safety management, namely the Flixborough explosion and Kings Cross Underground fire.

2. Newly privatised: Two newly privatised medium hazard organisations (a power generator and a water utility) were reportedly prompted to adopt a more effective approach to health and safety for fear that a poor safety record would cause significant public relations problems that in turn would impact the business. This combined with the higher level of regulatory attention awarded the utilities post-privatisations, realisation of management accountability and focusing of public attention on their performance to make safety a critical business objective. In both cases the utilities felt that the traditional reactive and compliance approach to safety, driven by a safety department, did not achieve adequate safety standards and would not achieve the aim of demonstrating corporate care for safety. In addition, the previous (pre-privatisation) focus on assuring continuity of supply was felt to have combined with a lack of management accountability to have allowed poor occupational health and safety standards to persist unchallenged.
3. **Low and medium hazard organisations:** At least four of the ten organisations (including the mail, quarry, NHS hospital trust and drinks manufacturer) expressed a fear of prosecution and adverse HSE attentions as a factor motivating management - prompted by either a recent adverse HSE audit, the HSE expressing an intent to focus on the industry or the organisation itself, or due to occurrence of one or more serious or fatal accident. In all cases the organisation regarded its previous safety performance as poor and considered the possibility of prosecution, imposition of improvement notices and subsequent loss of credibility to be significant. This was heightened by the realisation of senior management that they held ultimate accountability for safety performance and were liable to prosecution or adverse publicity as an individual. In the case of the NHS trust the acceptance of responsibility was preceded by the creation of a defined management structure with a chief executive, to whom such accountability could be attributed, and loss of crown immunity.

In addition, some organisations felt that a more proactive approach to health and safety was necessary to ensure the organisation was able to comply with recent regulations such as the Manual Handling Regulations and the Management of Health and Safety at Work regulations - for which a reactive centralised safety function was deemed inadequate.

It should be noted that in all cases the “business case” for assuring safety standards was a “defensive” one in that the failure to assure safety standards left the organisation liable to pressure from external bodies such as regulators and the media. None of the organisations volunteered the view that improvement of health and safety standards would improve commercial performance other than by averting adverse actions of third parties - i.e. the averted cost of accidents and ill-health was not cited as a motivational factor.

The concern for assuring public credibility prompted many of these organisations to seek third party “accreditation” of safety management arrangements as another means of publicly demonstrating their safety competence.

A review of literature and previous research regarding reorganisation and health and safety was also completed as part of this study (Wright, 1996). This survey confirmed the factors noted above, but also identified the extension of parent company quality initiatives to health and safety as another factor - in line with a belief that all areas of management should be managed to the same standard.

**A5.2.3 Business Responses To The Regulation Of Health And Safety In England**

Genn (1997) reports on the findings of an empirical study of 40 industrial and agricultural business responses to regulation of health and safety in the workplace. The survey covered a variety of organisations, including multinational corporations, medium and small sized organisations. It was found that:

- companies which do not have a “natural interest” in safety (i.e. small low risk organisations) require considerable advice, encouragement and coercion.

- large companies and those operating in major hazard sectors are self-motivated - where there is a potential for catastrophe of either an economic or political nature, and also where companies are large, highly visible and mindful of their public image.

In the latter cases, companies were observed to have a high motivation to improve and maintain standards. Examples are:
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1. Situations where the health risks for workers and the local environment are well established, such that the very existence of the site is at risk if poor standards occur - such as oil refineries, chemical works and lead smelting. They found that as it is the nature of the risk which leads to the motivation, the size of the firm is not important with both small and large firms that carry out hazardous processes motivated.

2. Where the enterprise does not carry out potentially catastrophic processes, but employs a large workforce health and safety is given a high priority as the sheer size of the operation gives the firms high visibility and means that poor management has public relations consequences.

In smaller firms with no obvious major hazards, compliance with regulations was not seen as vital to the safety of the enterprise, with little or no motivation to invest in health and safety without coercion. Health and safety is subordinated to the more immediate pressure of production on time at low cost, with a largely reactive approach to health and safety, responding only to inspections. In these cases firms tend to lack any safety personnel and do not seek to keep up to date knowledge of health and safety requirements, often not making any attempt to educate themselves and only considering health and safety after an inspection. Investment in health and safety is viewed as a cost, with little evidence of proactivity towards insidious health hazards where the benefits are remote in time.

As regards the attitude towards inspections, it was found that all companies tended to view inspection recommendations as “demands” regardless of whether the inspector “asks” for something or “tells” an employer to do something, or whether the employer and inspector enter into dialogue about the recommendation - for fear of prosecution or application of a prohibition notice.

They concluded that:

“outside of the most highly motivated companies, knowledge and comprehension of regulations and standards is limited, and the approach to compliance is often confined to implementing those improvements demanded by inspectors during visits” (p232).

The research suggested that greater attention be paid to the variety of employers and their compliance strategies, with greater concentration of regulatory effort on those types of companies susceptible to (or depending on) external encouragement and pressure.

The suggestion that companies will prioritise health and safety when it is recognised as a significant commercial consideration is supported by anecdotal self-reports by organisations outside of the industrial and agricultural sectors surveyed above. For example, Thresher, the drinks retailer, is reported (HSIB, 1993) to have developed an extensive risk management and EAP programme for staff to prevent violence to staff due to the impact on staff morale, absenteeism and staff turnover - and the consequential impact of loss of experienced staff on customer service and impact of poor reputation for staff protection on recruitment.

A5.2.4 US Aviation Research

The passenger airline business is a sector where loss of customer confidence is known to be detrimental to commercial performance. Analysis of the effect of accidents on a company’s share value indicate that when the company is shown, very soon after the incident, to be at fault, its the share price is affected (Mitchell & Maloney, 1989) and does not recover fully even when the
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blame is later found to reside elsewhere (Chalk, 1986). If the company is not found to be at fault the reduction in stock value is not significant.

These findings can be interpreted in a number of ways. Some researchers have argued that they demonstrate the case for self-compliance in high risk sectors, as “at-fault” firms will suffer commercial penalties. However, whilst these findings confirm that high risk firms are correct to fear the commercial consequences of accidents, the research did not examine whether carriers and aircraft manufacturers are self-motivated by this phenomena or whether they are motivated through the regulation mechanism. It should also be noted that the regulator, namely the Federal Aviation Agency, was a key player in these accidents, investigating the causes, attributing fault and imposing changes. Indeed, it was the NTSB report which attributed fault in the case examined by Chalk that led to the adverse stock market reaction. Therefore, it can equally be argued that the regulator is a key part of the mechanism by which commercial consequences of accidents are realised and attributed.
A6. CONCLUSIONS

The conclusions of this literature survey are as follows:

1. Whilst large firms tend to be profit oriented, this does not necessarily lead to a concern for cost reduction, as other strategies such as increased sales and reduction in capacity may be pursued. Moreover, where a desire to reduce cost is apparent this is often achieved by reduction in staff levels, automation and mergers rather than changes in working practices or management systems. Changes in management practices are likely to be pursued though when competitiveness can no longer be achieved on the basis of cost alone, leading to a focus on productivity of staff and changes in management practices. Many of these changes may be enacted without financial assessment and are driven by subsidiary motives such as increased staff motivation which are assumed to offer commercial benefits.

2. Also, large firms often pursue initiatives without undertaking financial evaluations in the belief that they will, in some intangible way, have significant commercial benefits, such as initiatives to maintain an image of corporate responsibility.

3. Small firms do not tend to be motivated by money, focusing instead on self-fulfilment.

4. The wish to avoid the costs of work related ill-health and injury acts as a motivating factor only when a number of the following conditions are met;
   - the costs are regarded to be high (such as 8% of labour costs),
   - the costs are borne by the organisation (rather than the state),
   - the costs are tangible and measurable within company accounts,
   - the costs are considered to be under the influence of the organisation,
   - benefits of interventions will be realised within a few years,
   - there are no institutional or operational barriers to change, such as cyclical work loads or lack of a corporate entity,
   - the company is large enough to have resources and skills to implement interventions, and;
   - the company does not have any beliefs which go against the principle of changing individuals' behaviour.

5. In those situations where cost avoidance is not a motivator, those organisations with a high public profile who believe that adverse publicity may impact their business are likely to view health and safety performance as a critical business factor. This is particularly true in the case of both small and large firms with obvious major hazard potential, and large firms (without major hazard potential) but who due to their very size are sensitive to public attention.
6. In those cases where neither cost nor public image is important, management action is driven by regulation and their understanding/perception of hazards. Behaviour is largely “compliance” oriented, mediated by their perception of the degree of risk posed by hazards. The exception being when customers pass down health and safety requirements to organisations, leading companies to then view health and safety as a critical business factor.

7. In general, the motivation to manage health hazards is reduced by a general perception that they are neither acute nor fatal and attract little public angst. Consequently the attitude towards health and safety can be highly incongruent, with a commitment to safety not matched by a commitment to health management. This is mediated by the level of professional training of managers, knowledge of risks in an industry and the existence of regulations.

8. In general, the current low level of fines and frequency of inspections is associated with a belief that these “tools” do not prompt management action (outside of the high profile companies) to comply with regulations. However, where certification is an “entry” requirement into a business, regulation can lead to compliance with legal duties.

9. The management of health and safety is often viewed as being distinct from wider business management, except where it is seen to be a critical business factor, with different values and management principles applied to the two areas of responsibility.
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