

HEALTH AND SAFETY: INFLUENCING CHANGE IN SMEs

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INTRODUCTION

This paper describes the results of a study performed by Vectra Group on behalf of the Health and Safety Executive. It was undertaken to identify focussed intervention strategies for influencing occupational health within SMEs. The work concentrated on occupational health, but the results seem equally applicable to safety in SMEs.

Information was sought from discussions with SMEs and literature that was examined, drawn from the domains psychology business and systems, to identify focused intervention strategies. In addition all possible intervention strategies that could be identified were systematically examined for their effectiveness.

INITIAL APPROACHES TO SMEs

A questionnaire survey and discussion groups were initially intended to be used to elicit information from representatives of SMEs about their understanding attitudes and beliefs concerning occupational health. However, despite the use of considerable resources and the recruitment of assistance from the likes of the Chambers of Commerce, to obtain participants, this approach was unsuccessful. Initial expressed willingness to attend discussion groups was backed up by attendance of the meetings by only a few of those contacted. In itself, this was a significant finding that illustrates the exceptionally limited time available to those managing SMEs and it provides an implied measure of the priority given to occupational health.

The impressions gained when attempting to recruit SME representatives to the fruitless discussion groups showed that the majority of SMEs appeared to spend little time, if any, are tending to matters of occupational health. It became obvious, especially in smaller SMEs that occupational health tended not to be addressed because there were no immediate external pressures to do so. Occupational health risks were amongst many others that needed to be tolerated in running a small business. In essence, a majority of SMEs appears to be reactive: dealing with immediate pressures imposed by the likes of VAT inspectors etc.

CASE STUDIES

Instead of discussion groups, case studies were undertaken based on interviews with members of SMEs. Interviews were held with employees and those in management

positions. The case studies were obtained either by calling in personal favours or simply by presenting oneself at the premises of an SME and striking up a discussion according to a pre-designed structure. The results illustrate the knowledge, attitudes and approaches to occupational health in SMEs.

It became clear from the case studies that, very often, SMEs have one or two key decision makers who will choose to implement change, or not, as the case may be. Therefore, if an intervention strategy is to be successful, then these individuals whom Vectra termed 'gatekeepers' must be persuaded to change. These 'gatekeepers' provide, or more often withhold, resources for improving health and safety: preferring to react to more immediate threats or demands upon their business.

Many factors were identified that militated against effective provision for occupational health and safety. Amongst these were:

- A mobile workforce who would later have difficulty ascribing their occupational health condition to any one employer, and so a later insurance claim or prosecution would be unlikely;
- Many SMEs have a short business life of less than 10 years, and so may not exist when a health claim would be made;
- They perceive that they are unlikely to be visited by a regulator and no incentives for improvement are applied by insurance companies;
- There is a low likelihood of workforce demands for improvement because they are not organised by trade unions;
- SME gatekeepers are unaware of any business case that provides a compelling argument for improvement;
- Entrepreneurs who, by definition, tend to be risk takers run many start-up businesses that are SMEs.

BEHAVIOURAL MODELS

The literature on attitudes to health and to occupational health were examined in considerable detail to establish what models might already exist that show how to influence changes in occupational health. It was interesting to note that the models established within the literature all focused upon the attitudes, behaviours and beliefs of individuals. Some models refer to the cost benefit balance of changing one's behaviour (see Rosenstock, 1990). Other models talk about the prediction of personal behavioural change in the light of certain variables, particularly beliefs about health (see Weinstein, 1988). These models can be used by doctors, for example, who may wish to influence an individual so that they improve their lifestyle and so too their health. However, they do not address changing approaches to health in an organisation. Furthermore, Stroebe (2000) points out that these and other comparable models have little validity in practice.

Such models appear to contain an implicit assumption that an understanding of the psychology of an individual in respect of Occupational Health issues provides the wherewithal to influence changes within an entire organisation. Of course, such a supposition is

not unreasonable if the challenge is for a senior manager, who is already committed to improvements in occupational health and safety, to instigate change in others. However, the case studies clearly illustrated the need to influence a change in the priority gatekeepers towards occupational health and safety. Very often the gatekeeper will not personally be exposed to the occupational health challenge, or risk, to which their workforce is exposed and so there is no personal incentive for change. Taking the existence of gatekeepers and the limited utility of the models together, the occupational health models in the literature were seen to be largely irrelevant.

The only findings pertinent to gatekeepers are those from the psychological literature on compliance. These suggest that, in the absence of incentives such as enforced regulation or a business case, change might be obtained if there is perceived moral or ethical imperative to implement such a change. However, case-study discussions confirmed that, despite relative ignorance of the subject matter, managers of SMEs did not believe that occupational health and safety risks were an issue for their organisation. It became very clear that other literature and models needed to be examined to identify means to change the attitudes and actions of gatekeepers towards occupational health and safety.

BUSINESS AND OTHER MODELS

Within the last 20 years a vast literature has been generated concerning the management and implementation of change within business. The reader is directed to Cameron and Green (2004) for a comprehensive review of models. However, as in the Occupational Health literature, this literature is intended to assist those already convinced of the need for change and seeking to implement it. The literature focuses largely upon the means used to persuade others about the importance of change and the ways to implement new organisational structures, roles and responsibilities progressively and smoothly. This aims to take account of attitudes, skills, beliefs and other personal needs. Such literature was, again, not perceived to be relevant to a regulator who seeks to influence change from outside the organisation, within which change is required.

Cummins and Mullin (2002) produced another principal source of literature on the use of persuasion for bringing about change, and stems from the fields of sales and marketing. This provides one well-explained comprehensive approach to this subject. It is almost axiomatic to state that the methods believed to be most effective for persuading change in this field are closely guarded commercial secrets rather than matters for wide and academic dissemination. Nevertheless, the literature, as with the psychological literature for compliance, makes clear the importance of there being personal incentives for change that lead to a purchase.

INTERVENTIONS

Vectra undertook an internal brainstorming session and potential forms of intervention for improving Occupational Health were identified. The types of intervention were not confined to those already known to be used for influencing occupational health and safety, but were taken from a very wide range of circumstances where an external body would

be seeking to influence change within an organisation or individual. Therefore, interventions were examined from business improvement grants, sales, marketing, TV licence enforcement, and combined taxation to name a few.

It was realised that interventions can be classified into two distinct categories, Direct and Indirect interventions. For occupational health and safety a direct intervention would be one that would directly alter the risks. For example, the implementation of engineered noise control measures would directly affect the likelihood of industrial deafness at a later time. An indirect intervention is one that seeks to change an organisation or individual's behaviour by changing their understanding, attitudes and beliefs. These are indirect because they rely upon those affected implementing their own changes to improve occupational health or safety. Of course, the majority of interventions used by health and safety regulators are indirect. However, this work was not constrained by restricting the scope of consideration to the type of interventions currently used by regulators. Therefore, as in other business improvements, direct interventions such as tax breaks and other financial incentives were also considered.

Each of the identified interventions was carefully considered to reveal its advantages and disadvantages in terms of its likely effectiveness for improving occupational health. No single focused intervention strategy was found that was likely to be effective. Instead, it was clearly established that each intervention had both strengths and limitations.

CONSIDERATIONS FROM CASE STUDIES, PSYCHOLOGICAL & BUSINESS MODELS AND INTERVENTIONS

It became very clear that a new model was required to systematically identify the strengths and limitations of different intervention strategies. Thus, a design principle for intervention strategies was advanced within which a any single identified intervention should be examined for its limitations and for complementary intervention strategies to compensate for those limitations. The new model was required to synthesise our insights together with the findings from the literature sources: psychology, occupational health and safety, change management, sales and marketing. Therefore, Vectra set about developing such a model.

In order to develop an appropriate model it was necessary to fully grasp and understand all the considerations and diverse models revealed by the literature.

The considerations that were identified were incorporated into a simple systems based business model, in order to characterise the many and diverse factors affecting an intervention's likely success.

It is not possible in the space of this paper to fully expand upon the many and diverse considerations that ultimately lead to a model. However, it is possible to illustrate some of the facts that were considered.

The first example of one of the facts that Vectra considered is the status of SME Managers as gatekeepers and the need for interventions that would persuade them to take action. It is possible to influence a gatekeeper directly if they perceive

regulator pressure that not only requires change, but will also lead to penalties if the required change is not implemented. The case study showed clearly that the majority of SMEs believed there was a very low likelihood of them being subject to inspection by the HSE.

Gatekeepers are the key stakeholders within an SME Manager; if they are not convinced about the importance of implementing change then this is unlikely to happen. SMEs are invariably short of time and resources and this affects their willingness and their ability to improve health and safety performance.

Taking these two facts together, it became clear that an effective intervention strategy might be one within which the gatekeeper was influenced by others inside their organisation. For this to be possible, the gatekeeper would need to be bypassed so that the workforce themselves would act as an incentive for change upon the gatekeeper. SMEs are very diverse in terms of the processes they undertake, the nature of their markets, and the qualification and sourcing of their workforce members. Therefore, an intervention to influence the workforce within a wide range of SMEs would demand advertising with a very clear message through the available communications media, for example, newspapers, billboards and television commercials.

Any advertising would need to be carefully targeted so that the chosen workforce would in fact be exposed to the advertising. Therefore, it would become necessary to understand which newspapers, radio channels and journals, for example, would best target the desired audience. In addition, it would be necessary to ensure that the message was clear and simple so that the need to influence the gatekeeper was made obvious to the workforce.

Let us consider another example. It is clearly established that manual handling is a major source of physical injury within British industry. In large organisations the management will implement programmes for manual handling risk assessment and provide necessary training. However, as one of our case studies illustrated, there may be no systematic approach in an SME. An intervention targeted directly at the workforce would either need to convincingly demonstrate the risks so that the workforce placed pressure upon the gatekeeper, or would need to provide a simple illustration of how an individual can improve their manual handling techniques. It should be stated that an advertisement is no substitute for a training course and manual. Therefore, the ability to change behaviour across the diverse situations within which manual handling could be an issue would be very limited indeed.

The two illustrations, provided above, show that the considerations are complex. Considerations should, not only include the characteristics of the workforce but must also address:

- the complexity of the information being conveyed;
- the likelihood that the change being required will significantly improve health;
- the likelihood that the message will be received by the target audience; and
- the likelihood of the target audience having resources to directly or indirectly implement the change required.

It became clear that for any model to successfully assist in designing effective intervention strategies, which complement one another, we must consider a wide range of variables.

INTERVENTIONS ATTRIBUTES SET

The Interventions Attributes Set was developed. This provides a framework within which the many and diverse factors can be systematically considered, and then an overall intervention strategy developed which consists of complementary interventions. (This notion is not dissimilar to that which might be used for improving sales for a commercial product. A sales campaign will consist of gathering marketing intelligence, targeting advertising, providing incentives to purchase, and ensuring that salesmen convey compatible messages to those who will influence product availability or purchasing patterns). Figure 1 illustrates the Intervention Attributes Set.

We now briefly describe each facet of the Intervention Attributes Set.

Task Influences are those features of an intervention that will, or are intended to, change the manner in which a task is undertaken. Tasks influences themselves are in two distinct categories, direct and indirect. **Direct** refers to the way that change is instigated, by changing the design or provision of equipment, or by making changes in the working environment. For example, provision of appropriate equipment may be a high efficiency filtration forced ventilation helmet for use with sprayed chemicals. A change to the working environment might be the installation of a new ventilation system for indoor use, or improvement to lighting etc. These influences are termed direct because they have an immediate and deterministic relationship with the occupational health risk. Alternatively, the way that a task is undertaken may be changed by **indirect** means, by attempting to alter the behaviour of the workforce. Because indirect task influences are aimed at behavioural change, they tend to be less robust than direct Task Influences. This is because they are affected by changes in motivation, levels of resource and other factors affecting compliance behaviour. Indirect Task Influences cannot be supposed to have a deterministic effect upon the level of risk, whereas, direct ones can.

Incentives are related to the notions contained within behavioural modification models that postulate positive and negative utilities. The role of an incentive is to 'persuade' a person to change their attitudes, beliefs or behaviour. Thus, a positive incentive is one with positive utility whereas a negative incentive has negative utility on OCCUPATIONAL HEALTH practices. **Positive** incentives promote the benefits of following good occupational practices, for example, reduced absenteeism due to sickness, reduced insurance premiums; or it provides assistance to comply with good practice, for example, grants towards equipment compliant with occupational health regulations and best practice. **Negative** incentives emphasise the potential costs of not adopting good occupational health practices. Therefore, negative incentives include the levying of financial premiums or fines, increasing the likelihood of an inspection, raising awareness of the cost to the company of absenteeism. A third category of incentives is included because

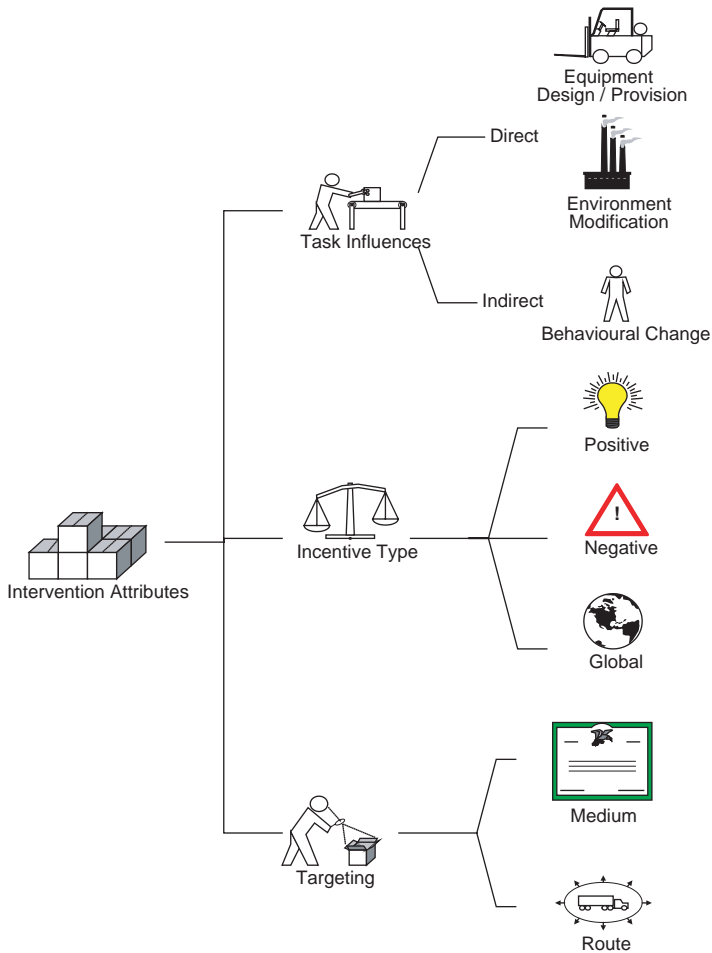


Figure 1. The intervention attributes set framework

some interventions may have no immediately related occupational health incentives but may release resources that do these are termed *global*.

Targeting is the property of an intervention that expresses its efficiency. A well-targeted intervention would be one, which affects all members of a specific working population experiencing the occupational health risk. For example, HSE undertakes a very specific campaign whereby they inspected every printing shop. In contrast, a poorly

targeted intervention is one that does not impinge upon all members of the target workforce. For example, rather than visit all the printing shops a billboard information poster is used on its own. In the well-targeted campaign, there is a greater likelihood of having direct contact with all employers and employees. The poorly targeted intervention relies on the person seeing the poster and taking the time to read and comprehend its message. In addition, targeting can be considered the ability of the intervention to bring about change. This property arises from the degree of match or mismatch existing between the information in the medium and the characteristics of the target recipient. For example, an advertising campaign can be focused by its appeal to the needs, motivations and perceptions of a specific target audience. However, for a well-focused advertising campaign to become a well-targeted intervention it is critical that the appropriate route is used so that the intended target audience have exposure to the intervention.

The *medium* is the vehicle by which the intervention is delivered. It could consist of a regulatory visit, advertising, educational material, television advertising, single-issue occupational health wardens, etc. Stephens et al (2004) provide some guidance on the use of media in a list containing the advantages and disadvantages of various media with a number of the routes also considered.

The *route* of an intervention is an expression of the likelihood that the intervention will hit the target. For example, when using advertising as a medium, a trade journal may be an accurate route when seeking to influence SME management. Conversely, when seeking to influence a scattered workforce, advertising in the tabloid or local papers may be a more beneficial route.

Two individuals who had no familiarity with the content and very little experience in designing or evaluating intervention strategies tested the intervention attributes set. Two key points emerged from testing the Intervention Attributes Set. First, the Intervention Attributes Set offers an effective systematic means to identify weaknesses in a proposed intervention; and also provides some support for designing alternative, or complementary, interventions that may make an overall intervention more effective. The second was that, any proposed intervention should have measures designed to evaluate its effectiveness in practice so that any unexpected consequences or revealed weaknesses may be addressed.

IMPLICATIONS FOR FUTURE INTERVENTIONS

There are two broad categories of implication arising from the work outlined in this paper. The first concerns the application of the Intervention Attributes Set, while the second concerns the wider implications of the findings generated by this work.

It is clear that the Intervention Attributes Set provides a sustained way of encompassing the diverse range of factors that must be considered if an effective intervention strategy is to be developed. Subsequent to the completion of the work, HSE have found that the resultant framework is not only helpful when considering the likely effectiveness of interventions, but it also provides a framework that is beneficial when considering the wider regulatory process.

This work clearly has wider implications. First, it confirms the difficulty in instilling and improving good health and safety practices in SMEs. Secondly, when it is estimated that there are 3.5 million SMEs within the UK, it is clearly not a practical proposition to regulate all of them by means of visits. This work shows that there is no simple “silver bullet” that can be used to provide an effective improvement in occupational health or safety. Instead, a carefully designed suite of complimentary interventions will almost always be required if the desired changes are to occur. When interviewing representatives of SMEs, it becomes clear how constrained they are in all of the resources that are required to implement improvements in health and safety. This strongly suggests that comprehensive improvement in occupational health within SMEs throughout the UK may only be engendered if they are provided with direct financial assistance or incentives to implement direct interventions such as improved machinery or the use of personal protective equipment.

CONCLUSIONS

In the past, the main focus of HSE regulation has been upon larger organisations. However, it has been clear for some time, see for example Health and Safety Commission (2003) that a large proportion of occupational health and safety issues arise within SMEs. There can be no realistic prospect of the HSE directly regulating these many organisations. It is hoped that the Intervention Attributes Sets and the wider findings of the work reported here will assist HSE in improving health and safety using interventions that we describe in this paper as indirect.

REFERENCES

- Cameron, E. and Green, M. (2004) *Making Sense of Change Management: A Complete Guide to the Models, Tools and Techniques of Organizational Change Management*. London: Kogan Page.
- Cummins, J. and Mullin, R. (2002) *Sales Promotion: How to Create, Implement and Integrate Campaigns That Really Work*. London: Kogan Page.
- Health and Safety Commission, 2003, Health and Safety Statistical Highlights 2002/03, Norwich. Health and Safety Executive.
- Rosenstock, I. (1990) The health belief model: Explaining health behaviors through expectancies. In: K. Glanz et al (eds) *Health Behavior and Health Education*. San Francisco, CA, Jossey-Bass Publishers. pp. 39–62.
- Stephens, P., Hickling, N., Gaskell, L., Burton, M., and Holland, D. (2004) *Occupational health and SMEs: Focused intervention strategies*. Health and Safety Executive Research Report 257. Sudbury, HSE Books.
- Stroebe, W. (2000) *Social Psychology and Health*, 2nd Edition. Buckingham: Open University Press.
- Weinstein, N. D. (1988) The precaution adoption process. *Health Psychology*, 7(4), 355–386.