



Evaluating the effectiveness of the Health and Safety Executive's Health and Safety Climate Survey Tool

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RESEARCH REPORT 042



Evaluating the effectiveness of the Health and Safety Executive's Health and Safety Climate Survey Tool

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The Health and Safety Executive (HSE) developed the 'Climate Survey Tool' (CST) to provide organisations with practical help to promote employee involvement in health and safety and to improve aspects of their existing health and safety culture and climate. This report analyses evidence from a number of users of the CST to determine its effectiveness and actions resulting from its use.

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1. EXECUTIVE SUMMARY

The Health and Safety Executive (HSE) developed the 'Climate Survey Tool' (CST)*¹ to provide organisations with practical help to promote employee involvement in health & safety and to improve aspects of their existing health & safety culture and climate. This report analyses evidence from a number of users of the CST to determine its effectiveness and actions resulting from its use.

1.1 WHY ASSESS LEVELS OF SAFETY CULTURE?

The prevailing health and safety culture within an organisation, i.e. the way it approaches and manages health and safety issues, is a major influence on the health and safety-related behaviour of people at work. HSE advocate that developing a positive health & safety culture is important if high standards of health and safety are to be achieved and maintained.

The tangible outputs or indicators of an organisation's health and safety culture, as perceived by individuals or work groups at a point in time, is often referred to as the organisation's 'health and safety climate'.

HSE developed the CST to help organisations determine some important aspects of their safety climate and to aid the promotion of employee involvement in health and safety issues.

1.2 AIM OF THIS PROJECT

The Keil Centre, a firm of Chartered Psychologists specialising in human factors affecting health and safety, was asked to undertake an evaluation of the CST to:

- investigate how organisations are making use of the CST
- validate the CST implementation process guidelines provided by HSE
- establish the extent to which organisations are implementing changes based on the results from their own CST survey
- identify and disseminate best practice in using the CST
- provide case study examples of how the CST can be used to improve health and safety and improve risk control
- establish user organisations' levels of satisfaction with the CST.

1.3 HOW THE PROJECT WAS UNDERTAKEN

The Keil Centre gathered the views of CST users in three ways to gain increasingly in-depth information:

1. an analysis of 'closed question' responses to a brief telephone interview conducted by HSE personnel. This had gained the views of 213 users
2. in-depth interviews with 25 users to gain a better understanding of how the CST had been used, and what organisations did as a result

¹ HSE Health & Safety Climate Survey Tool HSE Books 1997 ISBN 0 7176 1462 X For further information see www.hse.gov.uk/pubns/misc097.pdf

3. three case studies to provide detailed information on how the CST could be used to improve health and safety and improve risk control.

1.4 THE OUTCOME

97% of users who participated in the initial closed question interviews indicated that their expectations of using the CST had been met or exceeded. Moreover, participants in this study indicated that HSE's CST can:

- provide a helpful overview of an organisation's existing level of safety culture
- indicate positive and negative aspects of an organisation's existing health and safety arrangements
- help organisations identify opportunities for improving health and safety management systems
- be an effective way to raise the profile of health and safety within an organisation
- act as a basis for engaging and involving employees in health and safety issues
- add weight to, or can trigger, proposals for improving existing health and safety arrangements
- identify perception gaps (relating to health and safety in the workplace) between managers, supervisors and the workforce
- provide justification for taking action in new areas, such as behavioural safety
- provide organisations with a baseline against which they can monitor the impact of interventions designed to improve health and safety.
- provide organisations with an opportunity to benchmark their results with others
- help organisations identify problems with existing rules and procedures and can highlight areas where there is non compliance
- improve employee participation and levels of health and safety within the organisation

It was encouraging to note that every organisation approached in the second and third part of this project (the in-depth interviews and case studies) had taken at least one action to improve health and safety as a result of using the CST. The main body of the report summarises some of the types of activity undertaken.

Those who had been most successful at using the CST, both in terms of gaining high levels of participation, communicating results, and planning and implementing actions, had followed the principles contained within HSE's process guidelines (a user manual accompanying the CST software). These users had been thorough in their approach and had gained significant commitment from various stakeholders in the organisation before proceeding. This initial investment had paid off as the organisation found it easier to administer the CST, gain employee participation, and communicate both results and proposed actions across the workforce after the CST had been undertaken.

1.5 SUGGESTIONS FOR IMPROVEMENT

Although the majority of CST users were satisfied with the CST software, some identified aspects of the software which they felt could be improved. Their specific suggestions are described in Section 4.15 of this report.

1.6 ACKNOWLEDGEMENTS

The Health and Safety Executive would like to thank all of the organisations who gave their time to respond to the telephone surveys, interviews and case studies.

2. INTRODUCTION

Safety culture or climate surveys are being used by a wide range of organisations to investigate human factors aspects of safety. The Health and Safety Executive (HSE) has encouraged organisations to conduct safety climate surveys by developing a computerised safety climate survey tool - the CST.

2.1 WHAT IS THE 'CLIMATE SURVEY TOOL'?

The CST was first published in December 1997. Since then, over 500 organisations across a range of industry sectors have purchased it.

The CST is a computer-based product which enables organisations to customise and print a climate survey questionnaire for use within their organisation. The software also enables organisations to analyse the results of the CST and produce graphical summaries and reports.

The climate survey questionnaire, which is at the heart of the CST, consists of 71 statements and takes approximately 20 minutes to complete. The questionnaire was designed by HSE to record people's views on some key aspects of the management of health and safety within their organisation, and on some issues which are recognised as being important in occupational accident and ill-health prevention.

Managers, supervisors and the workforce are asked to express the extent to which they agree or disagree with these statements on a five-point scale. The questionnaire was purposely designed to seek the views of people in these three discrete groups (managers, supervisors and the workforce) so that results can be compared, as there are often wide differences in the views of the three groups on the same issue. HSE's philosophy is that determining the reasons for these differences will provide important information in seeking routes to improvement.

The statements in the questionnaire are put in a random order. The CST computer software automatically sorts the statements into ten dimensions or 'factors' for the purposes of the analysis. These factors consist of a group of statements which had been shown to be related by statistical analysis of data obtained in the questionnaire development. Titles have been assigned to each factor to describe the general subject which the statements cover. These are:

- organisational commitment and communication
- line management commitment
- supervisors' role
- personal role
- workmates' influence
- competence
- risk taking behaviour and some contributory influences
- some obstacles to safe behaviour
- permit-to-work systems
- reporting of accidents and near misses.

The questionnaire can also be tailored to enable respondents to write their own suggestions which they believe would give the biggest improvement to health and safety in the organisation (referred to as 'manuscript comments' in the main report).

2.2 WHY THIS PROJECT?

The CST is used widely by industry, yet there was limited information on how useful these organisations have found the tool and how they have used the results. More importantly, there was a lack of information about health and safety improvements introduced as a result of the CST survey, and their impact on the organisations' health and safety arrangements.

This report provides an evaluation of the effectiveness of HSE's CST. Our main objectives in undertaking this evaluation have been to:

- investigate how organisations are making use of the CST
- validate the implementation process guidelines provided by HSE
- establish the extent to which organisations are implementing changes based on the results from their CST
- identify and disseminate best practice in using the CST
- provide case study examples of how the CST has been used to improve health and safety and improve risk control
- establish user organisations' levels of satisfaction with the CST.

3. METHODS

This report reflects the views of a sample of users of the CST. The sample was taken in January 2001 and at that time around 500 organisations had purchased the tool. The sample represents 44% of users and covers a broad range of industry sectors (from heavy industry through to education).

In undertaking this project, data was gathered from three sources:

1. An analysis of ‘closed questions’ asked by HSE in their initial telephone interviews with 213 CST users (results are at annex 1)
2. In-depth telephone interviews conducted by The Keil Centre with 25 user organisations to gain a more detailed understanding of how the CST had been used in practice
3. Case studies conducted at three user organisations who had used the CST and had taken action as a result.

The following table illustrates how user organisations were selected:

Table 1
How user organisations were selected

| Stage | Number of user organisations | How selected? |
|-------------------------------|-------------------------------------|---|
| Initial telephone interviews | 213 | Randomly, out of 500+ organisations who purchased it |
| In-depth telephone interviews | 25 | Had used the CST and taken at least one action as a result |
| Case studies | 3 | Had used the CST and had made changes to their health and safety arrangements as a result |

3.1 SUMMARY OF INITIAL TELEPHONE INTERVIEWS

HSE administrative personnel undertook the first stage of the project. They contacted 213 purchasers of the CST by telephone to gain an initial impression of how the tool had been used and if any action had been taken as a result. Of the 213 purchasers, 142 (67%) had actually used the CST. The Keil Centre analysed the responses from the 142 users on behalf of HSE. The closed questions, together with a breakdown of the responses received, are contained in Annexe 1 of this report. To summarise the data, the closed questions found that:

3.2 ADMINISTERING THE SURVEY

- most users had involved safety representatives (72%), safety committees (82%), middle management (78%), senior management (91%) and front-line staff (60%) during the planning stage of using the CST in their organisation
- most (59%) of organisations used the tool to gather views of all staff in the organisation; 18% had issued the tool to all staff including contractors; and 13% had issued the tool to survey to a representative sample

- organisations varied in the way they distributed and collected the surveys: 40% used internal/external mail; 40% one-to-one interviews; 45% group sessions. Unfortunately, it is not possible to determine which method of distributing the survey achieves the best response rates. However, the in-depth interviews and case studies indicate that allowing groups of staff to complete the survey in work time yields the highest response rates

3.3 PROCESS GUIDELINES AND CST SOFTWARE

- the majority (77%) of users were either satisfied or very satisfied with the process guidelines accompanying the CST
- the majority (74%) of users were either satisfied or very satisfied with installing the CST software; and a further 78% were satisfied or very satisfied with the software instructions and the ease of use of the software
- 69% were either satisfied or very satisfied with data analysis options; 71% were either satisfied or very satisfied with the way the results had been displayed

3.4 RESULTS

- when interpreting the CST results, most users involved safety representatives (64%), safety committees (70%), middle management (74%), senior management (83%) and front-line staff (58%)
- 69% of users found the results from the CST easy or very easy to understand; 25% found it difficult or very difficult

3.5 ACTIONS

- 83% of users said that actions had been taken as a result of using the CST, with 79% indicating that the CST had made a positive overall impact on health and safety
- 75% indicated that using the CST had slightly (57%) or significantly (18%) increased employee participation in safety

3.6 BENCHMARKING SERVICE

- 79% of users were aware that a benchmarking service existed; 13% of users had used it. Of those who had used the benchmarking service, 57% were either satisfied or very satisfied, 43% were dissatisfied or very dissatisfied

3.7 REPEATED SURVEYS AND USER ORGANISATION EXPECTATIONS

- 32% of users had repeated the CST with the same staff groups (and others had plans to do so)
- 97% of users indicated that their expectations of using the CST had been met or exceeded.

4. SUMMARY OF IN-DEPTH TELEPHONE INTERVIEWS HELD WITH 25 USERS

Following the analysis of the responses to the initial telephone interviews, The Keil Centre approached 25 organisations from a range of industry sectors who had used the CST and taken at least one action as a result. Their agreement was gained to participate in a telephone interview to explore in more detail how:

- satisfied user organisations were with the CST
- the CST had been administered
- results had been communicated
- organisations had chosen follow-up actions
- any actions had been implemented.

The Keil Centre also asked whether using the CST had made an impact on:

- employee participation in safety
- health and safety performance in the organisation.

4.1 OVERALL IMPRESSION OF USING THE CST

To start the telephone interview, user organisations were asked to give a view on their overall impression of using the CST. Almost all (22 user organisations) responded positively, commenting that were 'very impressed' or that the CST was 'impressive, easy to use, gave us what we wanted to know'. Others used the CST as an enabling instrument to help them introduce improvements and commented that 'it was very helpful to that effect'. Others said that the CST was 'user-friendly, when you get the hang of it', that the results it yielded were 'very revealing' and 'the tool is good and the process got people talking'.

However, some (6 user organisations) had negative comments on the software and/or the length of the questionnaire saying 'it's alright, but a bit inflexible in terms of too many questions' and 'software not too hot, but overall OK'.

On balance, the CST received a positive response and most users indicated that they were content with the product, but that an updated version (in terms of software) could make it even more effective.

4.2 ADMINISTERING THE CST

HSE has produced 'Process Guidelines' which accompany the CST. These guidelines provide users with information on how to achieve the maximum benefit from using the CST.

The in-depth interviews with 25 user organisations were unable to identify whether the guidelines had been followed by all organisations or, if the guidelines had been used, how satisfied organisations were with them. Many telephone interview participants had either undertaken the CST a long time ago, or had inherited the project from a predecessor, which often meant that they could not recall whether they were satisfied with the guide or not.

However, the follow-up interviews did reveal that some (9) organisations followed the guide when planning and implementing the CST, although some of these did not refer to the guide when providing feedback or planning actions.

Through in-depth discussions with user organisations it became clear that best practice in using the CST came from those organisations who had adopted the principles of the process guidelines (irrespective of whether the user could recall using them). These users tended to:

- discuss with key stakeholders the reasons for using the CST and its expected benefits
- ensure that they devoted the necessary time and resource to fully pre-brief staff on what they were doing and why
- enable employees to complete the CST in work time
- provide comprehensive feedback to staff after the CST results had been collated
- demonstrated what actions were planned as a result of the CST
- continue to refer back to the CST during safety-related meetings to keep the CST results active.

Typically, these organisations had sought and gained approval from representatives of management and employees before administering the CST which had yielded longer-term benefits. For example, although respondents acknowledged that undertaking these consultations took time, they also made it clear that the benefits of engaging staff early on meant that the CST had not received a hostile response when it was distributed - much of the anticipated resistance significantly decreased after employer and employee representatives understood the background and purpose of the CST. Users also commented that having a HSE-devised product had helped to reduce any suspicion about using the tool to examine health and safety across the organisation, as it was not seen as a purely management-driven initiative.

4.3 RESPONSE RATES

A further advantage of investing time in the planning and organising stage was that the organisations (who adopted these principles) typically yielded high response rates of above 70%.

The lowest response rates were achieved in organisations who did not appreciate the amount of time, effort, and commitment required to undertake the CST. These organisations were sometimes unable to allocate sufficient time to consult stakeholders before using the CST. This, combined with less successful approaches to gaining employee participation, (e.g. by sending questionnaires to employees' home addresses for completion), typically yielded response rates of between 25-50%.

Typically, higher response rates were found in organisations who had:

- planned the CST in conjunction with stakeholders
- promoted use of the CST within the organisation
- linked the CST to aspirational goals for improving health and safety
- enabled employees to complete the CST questionnaire in work time.

4.4 COMMUNICATING RESULTS

User organisations varied in the quality, timeliness, and coverage when communicating CST results.

Overall, the users who were good at providing pre-briefs and who had obtained high response rates also used comprehensive methods to communicate the CST results to all staff. They often adopted existing, formal, health and safety communications systems (e.g. safety committees, team briefs, safety action group meetings) and also used less formal communication systems (e.g. newsletters, notice boards, etc.) to get the results to staff.

Other organisations chose to tailor the results they received by department or section within the organisation, or audience (e.g. senior manager would receive headline data; local managers comprehensive breakdowns). These organisations tended to provide a general overview for the consumption of the organisation as a whole, with departments being asked to take forward actions based on their local reports.

Some organisations communicated the results of the CST together with a schedule of proposed actions which had been agreed with internal stakeholders (management and employee representatives) and this had helped to demonstrate that the organisation was responding quickly to the results of the CST.

Unfortunately, not all of the organisations who took part in the follow-up interviews adopted such rigorous communication arrangements. Some respondents commented that undertaking the CST took time and effort and, with competing work and deadlines, the actions arising from the CST could easily be placed on the 'back burner' unless there was a strong commitment (from the project manager, management, and other key personnel) to see the CST through.

Examples of poorer practice were found when organisations did not 'close the loop'. For example, the questionnaires had been handed out, employees had been encouraged to participate, but the organisation had failed to provide feedback from the exercise, had not taken any action as a result, or any actions that were planned had not been linked to the CST results.

This inevitably meant that administering the CST had raised employee expectations and had prepared the ground for making improvements to existing health and safety arrangements. However, any momentum that had been gained was soon lost when the organisation failed to deliver due to a lack of time or resource. Not only was this found to be frustrating for the participants, but it could also mean that people would be less likely to participate in the future. Similarly, those organisations who provided feedback to selected groups, e.g. senior managers and safety committees, but did not know if frontline staff had received adequate feedback, also commented that they might be less likely to gain the support of these staff in future exercises.

The main barrier identified for communicating the results rapidly across the organisation was the amount of data the CST produced. Some organisations were overwhelmed with the volume of information, which led to difficulties in deciding which should be the priority area. However, this view has to be offset against comments received by other respondents who said that, while the CST produced a good deal of data, it was simple to draw out the key areas of interest and to share these rapidly. Furthermore, several respondents commented on the ease of generating results for separate departments within their organisations and this was seen as one of the most valuable features of the CST.

4.5 CHOOSING FOLLOW-UP ACTIONS

The interviews revealed that organisations varied in the way they chose follow-up actions. Some organisations found that the results of the CST helped them to shape their response to specific areas that appeared to require attention, whereas others focused on the manuscript comments received from employees. Again, the key to choosing follow-up actions was in sharing the proposed actions with management and employee representatives before distributing them across the organisation. It was also important to select actions which were meaningful to respondents, linked back to CST results, and were realistic.

Due to the passage of time between running their survey and undertaking this evaluation, few organisations could recall whether they had followed HSE's process guidelines when implementing follow-up actions. However, those who appeared to have followed the principles of the guide appeared able to develop action plans, in response to the CST results.

4.6 SPECIFIC ACTIONS ARISING AS A RESULT OF USING THE CST

As a result of using the CST, all of the organisations interviewed had taken action to improve health and safety. The complexity of these actions varied, from the provision of better personal protective equipment through to the identification of key risk-taking behaviours and the introduction of a behavioural safety programme. The following is a list of comments from respondents about actions undertaken as a result of using the CST, grouped under topic headings:

4.6.1 Health and Safety Communications

- 'Site managers receive regular briefings - health and safety issues are always on the agenda now'
- 'Communications have improved as a result of introducing targeted training for managers'
- 'Action taken to gain consistency (in safety communication) between shifts as the tool identified big differences in responses'
- 'We now have weekly safety meetings rather than quarterly as the tool revealed a gap in our communication arrangements'
- 'All managers now discuss health and safety'
- 'Safety committee meetings have improved dramatically – they are of a higher quality and more targeted. General levels of communication about safety-related issues have also improved significantly'

4.6.2 Incident Reporting

- 'We introduced a near-miss reporting system'
- 'Managers follow-up all incidents, regardless of size'
- 'We reviewed the near-miss reporting system as survey revealed that this was what the organisation was least good at. Organisation responded by engaging the workforce which revealed a possible blame culture. As a result the organisation introduced a confidential reporting system which has increased the number of (appropriate) reports' (Reports had almost doubled within the organisation)

- ‘We’ve introduced a permit to work system, have improved our risk assessment ‘sign off’ arrangements, raised awareness of hazards and have encouraged team leaders to challenge unsafe behaviours’

4.6.3 Employee Participation/Consultation

- ‘Employee participation is a key area for us and work has been undertaken to ensure employees’ comments and contributions are acted on’
- ‘Improved consultation arrangements and provided a mechanism for employees to have a ‘voice’ in the organisation about health and safety issues’
- ‘We found that we may not have been doing enough on consultation, so have taken steps to improve. For example, by setting up an employee safety committee’

4.6.4 Responding To Unsafe Behaviours

- ‘Organisation has introduced behavioural safety programme as a result of using the tool’
- ‘We identified key safe behaviours and introduced a programme of work to reduce the number of risk-taking behaviours in the organisation. Organisations started this by promoting simple messages, e.g. practical behavioural change messages, such as getting people to hold handrails’

4.6.5 Other Actions

- ‘Health and safety training has increased’
- ‘Working to bridge perception gap identified by the tool as existing between team managers, senior managers and workers’
- ‘Provision of PPE for all staff’
- ‘Organisation acted on all comments made by staff and this really provided a clear demonstration of commitment to health and safety’
- ‘Organisation identified that there were problems with existing health and safety procedures and instructions as a direct result of using the CST’.

4.7 KEY CHALLENGES IN DECIDING ACTIONS

Some participants commented that it could be difficult to identify specific actions as the CST only covered broad areas, like training and risk assessment. Others commented that their action plans had not worked as the users did not know what to do with the results from the CST, or what the CST was supposed to achieve.

One organisation requested that HSE should provide a guide to help organisations if they had a deficiency in certain areas. For example, if an organisation scored low on question 1, there could be a list of activities that the organisation could consider doing to improve their existing arrangements. This view was shared by one of the case study participants who was of the view that the CST should provide greater support after the survey had taken place.

4.8 COMMUNICATING ACTIONS

The user organisations who showed the most commitment to using the CST and made it a key component of their health and safety system, made sure that any actions they had decided to

take after using the CST were clearly linked to the outcomes of the survey. These organisations often found that they did not need to reinvent their communications systems to relay this information. As one user commented - ‘We said to staff that the Safety Climate Tool had revealed x and here’s what we’re doing in response. Again, we used our existing methods to communicate the message.’

These organisations then delegated responsibility for taking forward identified actions to divisions within the organisation, making the task of co-ordinating actions and producing an organisational response to the CST much easier.

Other organisations, who often forgot to follow the guide when responding to the CST results, varied in the way they communicated actions. Some adopted good practice principles, such as ensuring that all staff were aware of planned actions arising out of the CST. However, the actions of others could serve to frustrate those who participated in the exercise by not linking actions to the CST, or by prioritising actions without consultation.

4.9 EFFECTS ON EMPLOYEE PARTICIPATION

Several participants commented that the CST had encouraged employee participation in safety when it had been initially distributed, or when the organisation had provided feedback. However, this interest was reported as tailing off unless employees were kept informed about progress on any actions the CST had identified, or the survey was repeated. One organisation commented that ‘if you don’t do it again (employees get the feeling that) it’s ‘flavour of the month’. And the worst thing to do is to raise expectations and deliver nothing.’

Many user organisations said that they found it difficult to assess the degree to which undertaking the CST had led to increased employee participation, particularly if the organisation had other systems in place that encouraged employees to talk about safety routinely.

A strong theme that emerged via the in-depth interviews was that sustained levels of employee participation and interest in the CST was more related to the visible actions being undertaken by the organisation as a result, rather than undertaking the CST itself. Furthermore, providing feedback to employees at regular intervals also appeared to be key to gaining participation. As one respondent who had not provided adequate feedback commented ‘we paid for not closing the loop with employees (in terms of providing feedback). Employees are no longer interested or aware of the impact of the tool.’

4.10 EFFECTS ON EMPLOYEE PARTICIPATION – SUGGESTIONS FOR IMPROVEMENT

Most organisations chose to use the optional suggestions page which employees could use to record manuscript suggestions for improving health and safety. These were often found to be invaluable to the organisations. Some used the suggestions page as the key drivers for action, commenting that the organisation had responded to these to demonstrate commitment to staff.

One organisation dealt with employee concerns as a separate issue from the main results of the CST as they felt that these could serve as a distraction to the main results. This appeared to be an effective way of retaining focus on the CST as a whole, while at the same time dealing with issues raised by employees that had the potential to lead to an accident, or which could go on to improve levels of health and safety.

Taking this approach served two purposes:

- first, it clearly demonstrated to employees that the organisation was responding to the outputs of the CST and was tackling those health and safety concerns that could and should be dealt with.
- second, the organisation was able to retain its focus on dealing with the broader outcomes of the CST, which could not be dealt with overnight, but which would need to be tackled over a longer time period with a range of strategies.

Other organisations used the suggestions page, but commented that the results could be overwhelming and difficult to close out if the root cause of concern was out of the control of the immediate line manager or organisation (e.g. lack of funding).

Others had struggled to keep track of employee comments as these had not been recorded centrally, so monitoring whether they had been dealt with was not possible. This meant that employees who had taken time out to provide constructive comments did not receive feedback and may not have noticed any tangible change in health and safety as a result of their contribution to the CST.

4.11 EFFECTS ON HEALTH AND SAFETY

Perhaps not surprisingly, using the CST was believed to have had a positive effect on health and safety during its administration and feedback. However, some respondents believed that this initial effect had tailed off, particularly if there had been changes within the organisation (e.g. moving to another building, a reduction in personnel etc.), or changes in the personnel who had originally conducted the survey.

Although some respondents commented that it was hard to isolate the CST from the other activities that were taking place in the organisation, the overwhelming view was that the CST had made a positive impact. Respondents measured this impact in various ways, from using the CST to provide benchmarks and justification for action through to winning a national award for participation in health and safety. In addition to the practical actions user organisations had taken (as discussed under 'Implementing Actions'), they had also used the CST to help them raise the profile of health and safety and identify less obvious health and safety issues or issues that had not been looked at before e.g. gaps in perceptions or risk taking behaviours.

The CST was also found to be helpful in identifying perception gaps between groups of people. For example, some organisations found that employees held the belief that supervisors were not concerned about safety, although supervisors thought they were. One organisation responded by gathering the supervisors into a group and explaining that a perception gap had been identified. As a group, a range of actions were agreed to help bridge the gap (for example, by establishing regular meetings to discuss health and safety issues). The organisation is awaiting the results of the next survey to assess whether its actions have made a difference.

4.12 IDENTIFYING RISK TAKING BEHAVIOURS

The CST helped some user organisations detect whether risk taking behaviours were taking place, and take action as a result. The following is a list of comments from respondents:

- ‘Productivity versus safety argument: employees sometimes put productivity before safety, especially if it was seen as ‘the way we do things around here’
- ‘We found that employees were taking short cuts to get the job done. As a result, we sent a strong message across the organisation that short-cuts are not acceptable – safety always comes first.’
- ‘[We found that]...people were cutting corners, trying to investigate why. Message now getting across that putting productivity before safety is totally unacceptable.’
- ‘We introduced a behavioural safety programme as some were not reporting risk-taking behaviours and others had an ‘I’m alright Jack’ attitude.’

One criticism expressed was that the wording of the questionnaire was vague and that the true extent of risk taking behaviours may not be accurately measured by the CST. As one user commented - ‘the wording is vague – is it the person taking the risks, or is it the perception of fellow workers? Could lead to over-inflation of results with one person taking a risk and five people seeing it and reporting it.

4.13 COMPLIANCE WITH HEALTH AND SAFETY RULES, PROCEDURES, INSTRUCTIONS

The CST was found to help identify how well people complied with health and safety rules, procedures and instructions. However, it was not clear whether some users of the CST took this to indicate that their health and safety arrangements were adequate, despite other issues emerging from the CST (e.g. perception gaps between supervisors and front-line workers). Some respondents appeared to not take action on this if the overall message coming out of the CST was that people were generally compliant with rules and procedures.

One organisation used the results of the CST as an opportunity to review its rules and procedures to ensure they were suitable for employees. The CST indicated that compliance was not as high as the organisation had expected. Instead of simply reissuing the existing set of rules and procedures to employees with a notice to comply, the organisation opted to find out if there was a problem with the way the rules and procedures were written (a decision made easier through using the CST findings). As a result it was found that safety procedure manuals were viable for safety professionals, but were overly complicated for those involved in the day-to-day work activity. To address this, employee-led work groups were established to revise the procedures and this brought two benefits:

- increased levels of interest and participation in meaningful safety-related activity
- improved compliance with safety procedures as lengthy manuals had been converted into pictorial diagrams which both experienced and new personnel could relate to.

4.14 RETAINING MOMENTUM AND INTEREST IN THE ‘CST’

Retaining momentum and interest in the CST was a key challenge faced by many respondents.

The way momentum was gained, retained, or lost is best illustrated by some of the comments received:

- 'interest tailed off after the results had been distributed and it was hard to retain momentum. Will be running the survey again in 6 months and will need to consider how we are going to link the original with the follow-up and how we're going to demonstrate what has happened in between the two.'
- '[interest has] tailed off a bit now. Wanted to work on culture before repeating survey – knew this takes time so waiting for 5 years.'
- '[retaining momentum]...can be difficult, but have introduced company safety quizzes, with prizes. Other safety-related activities also taking place, e.g. formal audits.'
- 'not easy, but we give out freebies to participants – ice scrapers, etc. On the platform we organised a raffle – you got a ticket when you handed in a completed form....gestures that participating is appreciated.'
- 'We're running this on a yearly basis as we've found it helpful to provide feedback and share programmes of work designed to improve safety. Issuing the CST will also kick start things again – the near miss reporting system has been found to work well – scattergun approach initially, but now getting good quality near-miss reports and follow-up actions. The key for us has been having much more relevant information and greater levels of participation.'

Other organisations decided to run the CST every two years, but in order to keep interest and retain momentum they would ask relevant health and safety related questions in the annual staff attitude survey, enabling analysis of two types of data relating to the key issues for the organisation.

Finally, following the use of the CST, a number of organisations had implemented a range of more sophisticated tools and systems to help them detect health and safety concerns quickly. As a result, their existing health and safety arrangements had evolved to take into account the nature of the organisation and the key issues it faced. In other words, using the CST had started the ball rolling in many organisations, which had led to a more elaborate approach to health and safety. This resulted in organisations commenting that the CST was only one of a range of tools available to them, and that it was not as responsive as some of the systems available to them (which had been specifically designed to home into detailed aspects of the health and safety system).

4.15 CST SOFTWARE

The biggest challenge organisations described when using the CST was the user friendliness of the software package. A number of suggestions for improving the software were made. However, the suggestions for improvement need to be set in context. A good number of users adapted to the software's limitations. 75% of users thought that the software was adequate and that results could be gathered and tailored relatively easily. Any modifications made to the CST software would appear to need to be relatively minor to ensure that surveys could be compared from one to the next and to ensure that existing users, who are familiar with the package, are not confused by any improvements.

Some organisations had difficulties in producing charts and graphs that could be adapted and modified on their system and this proved to be a significant barrier. Some respondents commented that they would not be using the CST in the future until the 'gremlins had disappeared' and the software had been modified to enable them to email information to other parts of their organisation quickly and efficiently.

Some organisations mentioned specific difficulties associated with the CST software package not working very well on either Windows NT or Windows '98. Users, who had used early versions of the CST, commented that the absence of a file in the software (Vbrun 300.dll) had reduced the impact of the CST. One organisation found that running the CST across their site didn't work, as people lost interest because they couldn't access the software, or work out how to pull their own graphs out.

Suggestions were made on how to improve the way data was inputted and used within organisations. One large organisation commented that enabling the results to be read by an electronic reader would also help with the data analysis. The commentator added that the cost of a reader was around £5k; their last survey analysis, which had been undertaken by an external consultant, had cost £12k.

5. THREE UK CASE STUDIES

5.1 INTRODUCTION

Three UK companies were identified who had used the Climate Survey Tool and had taken action as a result. Within each company, in-depth interviews were undertaken with a senior manager and operational manager. In two of the organisations an employee representative was also interviewed. All participants were asked a series of questions to establish a) reasons for using the CST; b) approach taken in using the CST; c) benefits gained, and d) lessons learned. Relevant documentation was also made available.

5.2 BRIEF DESCRIPTION OF CASE STUDIES

5.2.1 Westinghouse UK Fuels, Springfields

This company used the CST to assess how well its safety-related activities were working. The organisation also wanted a tool that could help examine existing levels of safety culture and which would help them set the future agenda. The company has undertaken a range of activities to improve its health and safety culture and climate as a result. The organisation is due to repeat the CST in summer 2002 and the results from the original survey will act as a baseline measurement against which the organisation will assess the impact of various health and safety improvement programmes.

5.2.2 Pilkingtons, St Helens

This company has used the CST since it was first published by HSE. The main outcome of using the CST has been the introduction of a behavioural safety programme. Other activities have also taken place in the organisation to improve health and safety as a result of using the CST. The organisation has continued to use the CST and has established baselines against which it can assess the impact of these activities.

5.2.3 BP Southern North Sea (SNS) Business Unit

Amoco Exploration (UK) Company used the CST in 1998 in relation to their gas terminal at Bacton and their offshore gas production platforms off Norfolk. Following the merger of Amoco with BP, BP Amoco conducted another CST survey in 1999 which covered the same ground as the first one. In 2001, BP Exploration conducted a third CST survey which covered the whole of their SNS Business Unit, comprising their gas terminals at Bacton, Norfolk and Easington and Dimlington, Humberside and their gas platforms off Norfolk, Lincolnshire and Humberside and their office at Great Yarmouth as well as the staff at their Head Office in Aberdeen who provide support to the Business Unit.

The CST initially enabled the organisation to take stock and consider ways of improving their health and safety management systems and arrangements. However, since it was first used, the organisation has introduced several targeted safety-related initiatives, the assessment and impact of which falls outside the scope of the CST.

The overall impression of the CST is that it has the potential to be a powerful tool for improving health and safety within an organisation, if adequately planned and resourced.

5.3 WESTINGHOUSE UK FUELS, SPRINGFIELDS

Springfields, near Preston, Lancashire, is the site of British Nuclear Fuels Limited UK fuel manufacturing operations and has been making nuclear fuel since 1946. Processing several thousand tonnes of uranium a year, Springfields has the experience and technology to make fuel for all major designs of nuclear reactor across the globe.

Springfields was the first plant in the world to make civil nuclear fuel for a commercial power station and to date has produced several million fuel elements and provided products and services for over 140 reactors in more than 12 countries.

In February 2001 Springfields became part of the Westinghouse European Fuel Business that combines the expertise, skills and resources of the company's European fuel activities.

Recent measures taken to improve the safety performance include the introduction of a behavioural safety programme and all employees attending safety workshops. Safety training has focused not just on the workplace but also on safety in the home, 24-hour safety and safe driving.

The Springfields site received the Manufacturing Industry Sector Award for Occupational Safety in the 2001 Royal Society for the Prevention of Accidents (RoSPA) Awards and was short-listed for the Sir George Earle Trophy (a major health and safety award).

5.3.1 Reasons for Introducing the Climate Survey Tool and Expected Outcomes

The site had undertaken a number of activities to improve safety, but did not know whether any perceived improvements were due to compliance or to a true commitment to safety and continuous improvement.

The organisation wanted a tool that could help examine existing levels of safety culture and which would help them set the future agenda. The CST was one of a few tools on the market that could do the job. Having an HSE-developed tool also meant that the CST was likely to be greeted with less resistance than a customised package (which might have been perceived as a management-driven initiative).

Finally, the organisation had also had safety placed firmly on the agenda by a new chief executive. Establishing what the existing safety culture was in the organisation appeared to be a logical first step in planning future safety-related activity.

5.3.2 Implementation

The organisation had established an employer/employee 'Safety in Partnership' forum and the introduction of the CST was discussed at a forum meeting. The proposed approach for issuing the CST, gathering data, and communicating results and actions was agreed. Employee representatives were fully consulted before, during and after use of the CST.

The organisation anticipated that using the CST from start to finish would take around 8 weeks. It took around 14 weeks as the mechanics of conducting the CST took longer than anticipated (in terms of promoting the CST, getting people to complete the questionnaire, co-ordinating returns etc.)

To gain a high response rate the organisation:

- programmed the work to make sure that the schedule was achievable and results could be turned around quickly
- publicised what they were doing and why
- set targets for response rates
- encouraged employees to complete the survey in work time and sent an invitation letter with the CST to remind employees of the reasons why the CST was being used
- provided a guarantee that responses would be treated anonymously and individual respondents would not be identified
- provided respondents with envelopes addressed to the contractors undertaking the data analysis, again to provide added confidence in anonymity
- created safety events to reinforce the reason for the CST and issued the survey immediately afterwards

5.3.3 Use of HSE's Process Guidelines

The organisation had referred to HSE's process guidelines when administering the survey and communicating results. The organisation opted to use an external contractor to analyse the completed survey questionnaires.

The process guidelines were helpful to a point, but it was felt that some areas could do with clarification. For example, in a large organisation it was difficult to know whether some respondents fitted into either a managerial, supervisory, or worker category. As a result the organisation had to invest time in preparing additional guidelines to help clarify which box respondents should tick.

The process guidelines could also be difficult to penetrate in parts and it was felt that a revised version, which adopted a simpler style, would be helpful.

5.3.4 Software

The software was thought to be adequate, but could be more intuitive and could also offer more options to export data and graphs to common presentational/word processing packages. However, it was thought that any revisions of the software should not come at the cost of not being able to make a comparison with previous CST surveys. Furthermore, users had become familiar with the software and radical changes could lead to longer administration time.

5.3.5 Safety Issues

At the time the survey was issued the main safety issues were perceived to be:

- inconsistencies in the approach to safety across the work site
- slips, trips and falls
- lack of near-miss reporting
- productivity versus safety perceived as an obstacle to safety.

The CST was used to:

- confirm assumptions and provide evidence for taking action
- tease out why slips, trips and falls were happening
- understand why near-misses were not being reported by the person who it had happened to or colleagues who had witnessed the incident

- understand in more depth what the perceptions of employees were on the relative balance of productivity versus safety.

5.3.6 Communicating Results

Three members of the organisation (project officer and two members of his team) went through the complete data set and identified a number of areas in which they thought action should be taken.

A summary of the complete analysis was presented to the 'Safety in Partnership' forum and the project officer presented both the items that the organisation was good at, together with those where more action was seen as being necessary.

The project officer produced recommendations for action in 10 areas, which were accepted and communicated to staff through team brief sessions, safety conferences, and safety meetings.

The project officer also produced a presentation pack, written around the 10 areas identified as requiring further action. The pack also drew upon good and bad areas of the CST results, which helped to demonstrate that was aware that a good deal of effort was already taking place on safety issues.

All of the results generated by the CST were made available to employees who wanted to see them.

5.3.7 Taking Action

The CST was found to be extremely helpful in identifying gaps in health and safety arrangements and/or risk control, and the organisation responded to these. For example:

- a training programme was devised for supervisors after the CST identified that supervisors were not clear about their role in health and safety issues
- teams were established to look at instructions and procedures after the CST helped to identify that these were too technical and not appropriate. Teams were responsible for reviewing instructions and procedures to make them more relevant and applicable to their environment. This resulted in work teams actively participating in safety-related activities and a sense of pride in achievement when simplified procedures were accepted and become the template for safety instructions across the site. Work teams also perceived managers as being committed to partnership working to improve safety and acknowledged that action was being taken as a result of the CST
- generation of a site-wide 'learning from experience' database, which helped to communicate lessons learnt from near-misses or other safety-related activities
- a commitment to continue to communicate how the organisation was responding to other issues arising out of the CST
- the near-miss reporting system was reviewed to ensure that it was consistent across the site. In parallel, employees and their co-workers were encouraged to report near-misses and take action as a result. This message was sent out in a 'no blame' context and near misses are now regularly discussed at Safety Improvement Team meetings.

5.3.8 Health and Safety Outcomes - Attitudes and Behaviours

It was not possible to determine the impact of the CST on safety attitudes and behaviours as a number of initiatives had been introduced with the specific intention of addressing these (e.g. a behavioural safety programme).

However, the CST was useful in providing the evidence for the introduction of longer-term safety-related activities designed to encourage appropriate safe behaviours and attitudes. For example, the organisation has ensured that apprenticeship workers are involved in the CST and are aware of what the appropriate behaviours, attitudes and responses to safety issues should be. It is hoped that promoting safety messages at an early stage and continuing to reinforce them will pay off when apprentices move into the main work site, nurturing the message that positive safety behaviours are a key element for achieving sustainable low accident rates.

5.3.9 Employee Participation

The CST was found to help develop a partnership approach to safety, which aided employee involvement.

The project manager indicated that to retain employee interest and motivation it was key for the organisation to say what it was going to do as a result of CST findings and link any planned actions back to the CST results when they were being implemented.

The CST had also helped to generate a number of suggestions from employees on improving health and safety. These had ranged in quality, but were seen by the organisation as one of the most valuable pieces of information generated as a result of using the CST. The organisation condensed the numerous (over 1200) comments down into broad themes and tried to tie their actions into the main employee concerns.

5.3.10 Repeated Exercises

The organisation was very satisfied with the CST and saw it as a success. The organisation planned a further exercise for 2002, which would take place at both the Springfields site and a sister site in Sweden. The results of the initial survey will be used as a baseline.

The organisation had used HSE's benchmarking service, but had found this to be a largely academic exercise as it was not clear who the organisation was benchmarking itself against. The project manager suggested that the service could be reviewed to ensure that organisations knew that they were comparing like with like.

5.3.11 Lessons Learned

The organisation is planning to use the CST later in 2002.

On this occasion the organisation will be:

- reducing demographics to make the analysis simpler (as this data had not been of much value to the organisation)
- lining up the CST with the annual staff attitude survey to gain a year on year impression of how some key health and safety issues were being perceived or dealt with

- making more use of employee comments to ensure that any appropriate actions are factored into the CST programme and closed out
- promoting the CST heavily and demonstrating that the organisation has taken action as a result of CST findings
- asking team leaders to present proposals on what they will be doing as a result of CST findings.

5.3.12 Tips for Others

Those who had been involved with the CST provided a number of tips for organisations who were considering using the tool:

- CST needs senior management commitment for it to succeed
- The work needs to be properly programmed, with achievable target dates
- There needs to be a mechanism for enabling employees to complete the CST in work time
- confidentiality is crucial for participation and for having full and frank discussions
- communication about the CST need to be transparent, regular and targeted
- there needs to be a strong commitment for taking action. The easiest part of the process was seen as getting the information in - the key was deciding what to do with that information to ensure an impact on health and safety was made, that actions were realistic, and that employee expectations were managed.

5.3.13 Suggestions for Improvement

It was felt that HSE's benchmarking service could be improved by either providing names and contacts within organisations, or having a facility by which an organisation in a certain sector could gain assurance that the organisation they were comparing themselves against were appropriate.

It was felt that slight tweaks to the software to make it more intuitive and easier to export data could improve the CST, but these tweaks should not come at the cost of losing a system that was working and yielding results.

5.4 PILKINGTON GLASS, ST HELENS

Pilkington is one of the world's largest manufacturers of glass and glazing products for building, automotive and related technical markets.

The Group has annual revenues of €4.6 billion, manufacturing operations in 25 countries on six continents and sales in 130 countries, employing around 27,400 people worldwide.

Pilkington's in St Helens is a multi-site operation and undertakes the following four main functions:

- building products - Pilkington's biggest division. Pilkington makes glass products to help control energy usage, protect against fire, insulate against noise, provide safety and security, afford decoration and privacy, and to build all-glass facades
- primary products - manufacturing and coating glass
- processing and merchandising - glass toughening, laminating, cutting, glazing, double glazing

- producing products for the automotive industry.

At one time, the UK sites employed around 20,000 people, but with the advent of automation that figure is down to around 5,000.

Pilkington has embraced changes in its operations to keep pace with business demand and become innovators in the sector. The organisation is keen to protect and improve its health and safety performance through rules, procedures, systems and behaviours.

5.4.1 Reasons for Introducing the Climate Survey Tool and Expected Outcomes

Pilkington Doncaster and Pilkington St Helens were some of the first users of the CST. The organisation wanted a tool to help them measure the impact of a range of activities being undertaken to improve safety. The organisation also wanted to identify areas for improvement and investigate the areas in which a proposed behavioural safety programme would have the most benefit.

5.4.2 Implementation

Pilkington undertook the CST across the site, from senior managers to frontline workers.

In conducting the survey Pilkington did not set a specific time limit on how long it would take to complete. However, from the outset the organisation wanted to turn the information around in the shortest possible time to demonstrate commitment to the process.

To achieve a high response rate (85%), Pilkington provided a brief to participants on what they were doing and why. Arrangements were also made to enable participants to complete the survey in work time. This approach was found to be extremely effective, particularly as previous staff surveys, which had adopted other approaches, received low (30%) response rates.

5.4.3 Use of HSE's Process Guidelines

The process guidelines were found to be helpful, both in terms of administering the survey, undertaking the analysis of the results, and communicating these results to the workforce.

However, it was felt that further information and guidance could be produced to help organisations who had gathered the data and did not know what the next steps should be. The existing process guidelines appeared to be predominantly geared at the 'front end' of the CST process whereas further advice, possibly along the lines of a 'next steps' manual, could be of benefit after the survey had been conducted.

5.4.4 Software

The organisation found that the full CST results could be overwhelming and converting this into an easily digested and meaningful report for workers was a challenge. Furthermore, the software did not aid the report writing process and it was extremely time consuming to extract data from the CST software and place this onto more commonly used software applications.

Often, the project team would start from scratch when preparing presentations for the organisation as the amount of effort involved to export data was found to be excessive. This could lead to frustration if the individual was under a time pressure to deliver a presentation

pack. As a result, it was felt that a more user-friendly software package would greatly assist the project team (see 'suggestions for improvement').

5.4.5 Safety Issues

At the time of administering the CST, the main perceived area of concern was seen as slips, trips and falls. The organisation had introduced systems and procedures in an attempt to reduce these. However, accidents had continued to occur and the organisation wanted to use the tool to identify any underlying issues that may be influencing accident rates.

As a result of using the CST, the organisation had identified certain risk-taking behaviours, which reinforced the view that a behavioural safety programme should be introduced.

The CST had also identified that safety communications, which were not seen as an area of concern before the survey was issued, could be improved. Again, action was taken to combat this by improving safety briefings and workshops.

5.4.6 Communicating Results

Initially, the volume of results from the CST were found to be overwhelming. To overcome this, the organisation chose to report headline figures based around 10 key questions which the CST team believed were representative indicators of the organisation's safety culture.

To aid the rapid communication of results, the organisation used existing safety communication channels (safety committees, team briefs, safety action group meetings, etc.). The organisation also developed a presentation pack for management workshops, which contained the key elements for supervisors and work teams. The organisation found that adopting this approach both helped to convey the results rapidly, and also helped to share the ownership of the CST results and actions arising out of them.

5.4.7 Taking Action

The CST was found to be helpful in shaping the agenda for action.

The results helped the project team start a discussion with managers, supervisors and workers about the key safety issues identified and what action should be taken as a result. The project manager and his team engaged staff and spoke openly and frankly about what the results were indicating, taking the view that even if managers did not believe the results of the CST they were indicative of the perceptions of staff and that work was required to change that perception.

The actions arising out of the CST were prioritised by the project team and agreed with managers, supervisors and the workforce. Actions for each of these groups were identified and a rolling safety improvement programme was proposed, starting with the managerial and supervisory grades.

5.4.8 Health and Safety Outcomes - Attitudes and Behaviours

The CST was found to help identify existing attitudes and behaviours towards safety-related issues, for example, the use of PPE (supporting the assumption that, on occasion, gloves were not being worn in the handling of glass).

As a result, the CST became an integral part of a behavioural safety programme which was designed to reduce risk-taking behaviours in conjunction with an external consultancy. The behavioural safety programme, introduced with the assistance of an external consultancy, had a specific emphasis on promoting key safety behaviours (e.g. wearing gloves, holding handrails).

These key safety behaviours were identified partly as a result of using the tool, partly through engaging employees on the results, and partly from engaging the expertise of the external consultancy. The organisation invested resource in promoting the key safety behaviours via posters, 'think safety' cards (providing the key messages using diagrams or pictures together with a check list asking the employee to assess the risks from the task they are about to undertake) and targeted campaigns. These campaigns were linked into both the CST and behavioural safety programme.

5.4.9 Employee Participation

The project team commented that it was difficult to tease out the impact of the CST on employee participation as other activities, particularly the behavioural safety programme which had the specific intention of improving employee participation, had been introduced at around the same time. However, using the CST results to engage employees about safety issues was seen as a strong benefit of using the tool.

5.4.10 Repeated Exercises

Pilkington indicated that they were very satisfied with the CST and the results it had produced. While the initial survey had taken longer than expected, the organisation found that repeated surveys were quicker to administer, particularly as the same project team had conducted them. Repeated exercises were also found to have a bigger impact on employee participation - the first survey was greeted with a degree of cynicism but participants appeared more willing to contribute during the second survey after it was clear that actions had been taken as a result of the CST.

The organisation now uses the CST to assess how well their health and safety interventions are working and for identifying where the next target areas should be. However, the CST is not used in isolation within the organisation. A range of safety-related activities have taken place either as a direct result of using the CST (e.g. greater involvement of supervisors in team management) or as a result of planned improvements which the organisation (e.g. the introduction of a behavioural safety programme).

Finally, although not a complete CST exercise, the organisation has also lined up the CST with the annual staff attitude survey to gain a year on year impression of how some key health and safety issues are being perceived.

5.4.11 Lessons Learned

In early surveys, the organisation found that some respondents had not categorized themselves correctly as managers, supervisors, or members of the workforce. To aid clarity and to make the CST more applicable to the organisation, Pilkington produced their own guidelines. These guidelines conveyed both the purpose of the CST, what the results meant, and how this linked in with other organisational activities to improve safety.

This guide made clear:

- The reasons why the organisation was undertaking a CST
- That the survey was completely anonymous and could be completed in work time
- That feedback would be provided after the results of the CST had been gathered.

5.4.12 Tips for Others

Pilkington suggest that organisations using the CST for the first time would be advised to:

- Make clear the reasons why the organisation is undertaking a CST
- Ensure that the survey is completely anonymously and can be completed in work time
- Provide feedback soon after the results of the CST have been gathered
- Target activity in response to CST results and set actions – communicate these to workers
- Tailor the results, and actions arising out of them, to the manager, supervisor and the workforce
- Record data for use in conjunction with future CSTs.

5.4.13 Suggestions for Improvement

The organisation suggested actions that could enhance the CST:

- HSE could link the outcomes of the survey to relevant chapters of HSE guides e.g. 'Successful health and safety management' (HSG65), 'Reducing error and influencing behaviour' (HSG48), or could produce a separate guide to assist users who had gathered the results, but did not know what to do with them.
- HSE could co-ordinate the data received from a range of organisations who had used the CST and undertake correlations to identify whether some elements of health and safety management appeared to have a more significant impact on accident/incident rates than others. This data could help to identify specific characteristics of both high and low performing organisations
- HSE could provide greater opportunities for organisations to compare themselves against other organisations.
- The software could be improved to enable the rapid export of data across the organisation. At present, the project group spent a good deal of time transferring data between packages, or duplicating work where this is not possible.

5.5 BP SNS BUSINESS UNIT

BP plc is the parent company of one of the world's largest international oil and energy groups. Key strengths are in oil and gas exploration and production, supply and marketing, chemicals and technology. Today, more than 40% of the Group's fixed business units are in the USA.

BP Exploration is responsible for the Group's 'upstream' oil and gas business which encompasses exploration, field development and production, including the processing and marketing of natural gas.

In 1965 BP sank its first North Sea well on Block 48/6 104 km off the Yorkshire coast. The UK's first commercial natural gas field was discovered - West Sole. Since then BP has

developed a number of other fields, and now produces around 20% of the UK's oil and 15% of its gas.

BP's Southern North Sea business unit presently consists of 3 onshore gas terminals located at Bacton in Norfolk and on the East Yorkshire coast, 6 manned and more than 30 normally unattended installations (NUIs) off the Norfolk and Lincolnshire coast lines.

Day to day support is provided from two offices in Dimlington and Great Yarmouth. The Head Office is based in Aberdeen.

Overall, approximately 1000 people are employed within and in support of the SNS Business Unit, including services provided by a number of major contracting companies.

BP has adopted the Dupont STOP Programme throughout the UK. The company has also developed a number of its own initiatives in order to improve safety performance, such as Advanced Safety Auditing and Safety Leadership Training.

A number of the sites within the SNS have received safety awards, most recently the Bacton Terminal commendation in the sector awards and Dimlington Terminal's Gold Award from RoSPA.

5.5.1 Reasons for Introducing the Climate Survey Tool and Expected Outcomes

Amoco initially used the CST in 1998 as part of their Operations Safety Improvement Programme (OSIP). OSIP came in response to a number of health and safety concerns, raised by managers, supervisors, workers and the HSE. The CST was recognised as a useful way of making an initial assessment of the health and safety climate of the organisation and for targeting actions in response to any emerging health and safety issues. The tool was primarily used to get a better feel of employee perceptions about the way health and safety was managed within their part of the organisation. It was used in parallel with a number of other techniques, including conducting face to face interviews with a wide range of personnel as part of OSIP.

5.5.2 Implementation

Amoco and BP SNS Business Unit found that planning and organising the CST survey was crucial to its success and in each case allocated sufficient time and resource to the project and undertook the CST survey across the site, from senior managers to frontline workers.

The organisation was keen to achieve a high response rate to the CST when it was first used. To achieve this, Amoco:

- Engaged the services of an external consultant who had prior experience of using the CST and extensive experience of health and safety, within both on and offshore industries, to organise the survey and analyse the data and prepare an independent report on the findings together with recommendations for action;
- Provided a brief to management, safety representatives, and participants on what they were doing and why;
- Thoroughly planned the exercise to make sure that the proposed schedule was achievable;
- Publicised what they were doing and why (through flyers and adverts on notice boards and discussions);
- Gave assurance that all responses would be treated confidentially;

- Encouraged employees to complete the survey in work time and sent an invitation letter, signed by a senior manager, with the CST questionnaire to remind employees of the reasons why the exercise was taking place;
- Provided respondents with envelopes addressed to the contractor undertaking the data inputting to provide added confidence as to anonymity.
- Members of the OSIP Team travelled to the various worksites, delivered a briefing to all personnel, handed out the questionnaires and collected in the completed questionnaires.

This approach was found to be extremely effective and yielded a response rate in excess of 90%.

For the second deployment of the CST, BP Amoco adopted a very similar approach, using a small specialist team led by the same external consultant, and again achieved a response rate of some 90%.

The third deployment of the CST by BP across the whole of their SNS Business Unit was approached slightly differently, primarily because of the time of year when it was conducted. Again, a small team led by the same external consultant planned and organised the deployment of the CST. The survey was conducted during December 2001 when shift changes were being juggled in order to ensure that personnel worked offshore during Christmas or the New Year, but not both. For logistical reasons it was not possible for members of the CST Team to travel to all work locations as in the previous surveys and questionnaires had to be sent out for completion on the installations and within the offices by post. In this case, the response rate fell to 58% overall.

5.5.3 Use of HSE's Process Guidelines

The process guidelines were found to be helpful in setting up and administering the survey, but not for providing information on what an organisation should do with the results.

In BP's experience, gathering the results of the CST survey was very much a first step in the process of making significant health and safety improvements. The identification of the types of activity that would go on to secure these improvements required 'drilling down' by managers and supervisors assisted by the HSE advisers. Importantly, this 'drilling down' exercise was aided by an external consultant who had considerable expertise in health and safety issues and the CST.

The guidelines were not found to be particularly helpful in providing information on what to do with the data generated by the CST. Furthermore, the organisation believes that converting the results into actions would have been extremely difficult to achieve without having significant senior management backing and external expertise.

5.5.4 Software

BP contracted out the data-inputting element of the CST and as in the other case studies, found that the full CST results could be overwhelming. Converting these into easily digested and meaningful reports was a challenge and was largely performed by the external consultant, partly for his knowledge of the tool and his health and safety experience but also, importantly, to demonstrate to personnel that no punches would be pulled with respect to any findings arising from analysis of the data. Furthermore, the software did not enable the data to be 'sliced and diced' in a way that would have helped the organisation to home into areas of

particular interest. Undertaking more detailed analyses of the data was found to be time consuming.

Users of the software believed that it was adequate, once the user had become used to it.

5.5.5 Safety Issues

At the time of administering the first CST survey, there was a general sense that health and safety arrangements needed to be improved. The organisation used the tool with no preconceptions of what it would find and what implications the findings could have on the way the organisation operated. However, since the first deployment of the tool was in parallel with a number of other techniques, there was an opportunity to validate the findings of the CST. As a result, it became apparent that the findings arising from analysis of the CST data closely mirrored those obtained by the OSIP Team through face to face interviews and other techniques. This gave the organisation considerable confidence in the CST and encouraged its further use.

Each CST survey identified a number of key issues which needed to be addressed in order to achieve improvements in the organisation's health and safety performance. One of the major issues identified was that health and safety procedures within the organisation should be examined and reviewed. While the tool was not able to provide an insight into exactly what the difficulties were with the procedures, or how improvements could be made, it did enable a further investigation which identified that existing procedures were often out-of-date, hard to understand, inaccessible, etc.

Taking action as a result of using the CST has helped to improve the way health and safety procedures are drafted, received, understood, and used by employees.

5.5.6 Communicating Results

The CST Team developed a communications strategy to get the results out to the organisation. This involved:

- Sharing the results with senior management;
- Sharing the results with trades union representatives at a safety representatives conference;
- Producing a presentation pack for managers and supervisors to help communicate the results to all staff.

A summary of the complete analysis, in the form of a report from the external consultant, including recommendations for action, was made available to the project team and to any member of staff who wished to examine it.

5.5.7 Taking Action

In addition to adopting various courses of action, including revising health and safety procedures, the organisation also responded to manuscript comments made by staff. These concerns were typed up, prioritised, and given to managers to respond to. The organisation ensured that the responses, together with planned actions, were communicated rapidly to members of staff.

The results of the CST surveys were found to be useful in opening up a dialogue with managers, supervisors and workers about the key safety issues identified and what action

should be taken as a result. As indicated earlier, the CST survey results were found to be the first step in the safety improvement process. The key was to undertake a further, detailed, investigation into the most commonly reported concerns. Only then did the organisation find itself able to develop action plans in response to the CST surveys.

For example, whilst the CST survey might identify procedures, instructions and rules as being an area of concern, the tool itself does not provide any indication as to which particular procedures present a problem. Following the deployment of the last survey and analysis of the data, members of the team developed a strategy to address this issue. Each member of the team visited a number of work sites and conducted face to face interviews with appropriate groups of personnel in order to identify the specific procedures which need to be reviewed in depth. Not only did this exercise produce a large amount of valuable data, it also demonstrated to personnel that senior management took the findings of the survey seriously and were prepared to put time, effort and resources into dealing with the issues raised.

5.5.8 Health and Safety Outcomes - Attitudes and Behaviours

It was hard to determine the impact of the CST on health and safety attitudes and behaviours as specific interventions, such as Advanced Safety Auditing (ASA) and the Safety Training Observation Programme (STOP) had been introduced to make improvements. However, the CST was seen to complement any behavioural safety programmes and had aided the argument for their introduction.

There was a general sense that the CST had helped the organisation embrace the less tangible influences that can affect the way the health and safety is managed.

One area of concern that did come out as something upon which the company needed to act was that of risk awareness. The CST survey showed that significant work was needed in terms of education and training in order to raise risk awareness to an appropriate level.

5.5.9 Employee Participation

Use of the CST was seen to have a positive impact on employee participation in health and safety issues. In particular, employees are now much more outspoken on matters affecting health and safety and the introduction of behavioural safety programmes such as ASA and STOP have further encouraged employees to talk about any concerns at an early stage (an organisational aspiration).

The organisation has also established open reporting systems which encourage participation in safety and have also undertaken a good deal of work to ensure that senior members of staff, both onshore and offshore, spend time talking to staff about health and safety issues.

The culture of the organisation has moved forward considerably as a result of using the CST and through introducing safety-related initiatives. There is a general feeling that the ownership of safety is shared and that employees will receive support should they raise a health and safety concern.

5.5.10 Repeated Exercises

BP have run the CST on three occasions, but there is a feeling that it will not be used again in its current form as the organisation has taken significant steps forward in terms of the maturity of its health, safety and environment performance and the CST may no longer be the right tool to use to measure progress.

However, the organisation does not wish to completely abandon the CST as the initial surveys had provided helpful insights and baselines. One possible way forward is for the organisation to use those elements of the CST that remain relevant and combine these with tailor-made items which home in on key areas of interest.

5.5.11 Lessons Learned

From survey to survey BP learnt that:

- The CST had to be properly planned and resourced for it to be a success;
- Allocating work time to complete the CST was key to high response rates;
- Using the expertise of an external consultant was crucial to getting the most out of the product and for developing an effective improvement programme;
- The CST was just the starting point – it was not a stand-alone tool, but a means to start a discussion and make gradual improvements in safety;
- Confidentiality is crucial and personnel need to be convinced that it will be maintained.

5.5.12 Tips for Others

BP suggests that organisations using the CST for the first time would be advised to:

- Make clear the reasons why the organisation is undertaking a CST survey;
- Ensure that the survey is completely anonymously, can be completed in work time, and confidentiality secured;
- Provide feedback soon after the results of the CST survey have been gathered and analysed;
- Consider establishing a small CST team, preferably with external expertise, who are responsible for managing the project. Without this it was felt that the project could lose focus and impact;
- Target activity in response to the CST results and develop actions in association with the workforce.

5.5.13 Suggestions for Improvement

The organisation suggested actions that could enhance the CST:

- The question set could be reviewed to overcome some existing ambiguities. BP found that some respondents interpreted the questions in a different way than they had expected, with a common error being that staff would cast their minds back to (say) every supervisor they had when answering general questions about a supervisors approach to health and safety;
- HSE could produce a guide to assist users who had gathered the results for the CST, but did not know how to dig deeper into the emerging issues;
- HSE could consider producing industry-specific CSTs to provide more targeted questions for organisations;
- HSE could raise the profile of human factors issues across the board. The CST was seen as an excellent way to get organisations involved in human factors issues, but this needed reinforcing

6. CONCLUSIONS

The overall conclusion of this report is that the HSE Climate Survey Tool has helped to identify actions that could improve an organisations health and safety culture and climate.

The CST, if used correctly, can enable organisations to gain a broad understanding of existing levels of safety culture and climate and the areas where improvements could be made. It can be a powerful asset to an organisations health and safety arrangements and this evaluation clearly demonstrates that organisations have taken action as a result of using it.

There would appear to be several ingredients which make for successful use of the CST and participants who followed these appeared to get the most from the product. Overall, using HSE's process guidelines is crucial to the success of the CST and the remaining points emphasise the key elements of that guide that appear to underpin a best practice approach:

- before starting the CST, organisations need to appreciate the amount of time and effort involved in running the CST correctly. Starting the CST with insufficient resources to complete it is counter-productive. The work needs to be properly programmed, with achievable target dates. There also needs to be a strong senior management commitment for taking action.
- confidentiality is crucial for participation and for having full and frank discussions
- communication about the CST need to be transparent, regular and targeted. Communication with participants is key when rolling out the CST. Providing a clear summary of what the organisation hopes to achieve by using the CST and linking this into wider organisational aspirations provides meaning for respondents (and can help avoid 'survey fatigue')
- enabling participants to complete the CST in work time is key to securing good response rates
- producing the results and actions arising out of the CST promptly helps retain momentum and interest
- continued reference back to the CST when actions are being closed out is also key to retaining interest and for demonstrating that the organisation takes the CST results seriously and is committed to taking action.

6.1 FUTURE DEVELOPMENT OF THE CST

As a package, the CST satisfied the majority of users. Few users had significant concerns and suggestions for improvements were limited to undertaking 'tweaks' to the software.

Some users thought that HSE could consider linking the results of the CST to other HSE guidance documents which could help them if the survey flagged up that further investigation was required.

Other comments were centred around the wording of the process guidelines and the applicability of these after the results had been received by the organisation. If HSE was considering a review of the software it could, at the same time, also review the process guidelines to aid clarity and provide further support to those who were having difficulty in setting future actions.

Finally, HSE could also review the benchmarking service to examine whether it was fit for purpose. In undertaking this examination, HSE could also consider whether the data submitted to the service could enable cross-organisational comparisons to identify whether organisations with excellent safety records appeared to share key characteristics. Again, this would help to refine the product and help user organisations target their actions.

7. ANNEXE 1 – ANALYSIS OF CLOSED QUESTIONS

The following figures provide responses from those organisations contacted by HSE who had used the CST (142 out of a sample of 213 - 67%). They exclude the 71 organisations (33%) who had purchased the CST, but had not decided to use it.

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ORGANISATIONS WHO HAVE USED THE CST

- How many sites does your organisation have within the UK?
- How many people does your organisation employ within the UK?
- How many people does your organisation employ at the sites where the tool has been used?

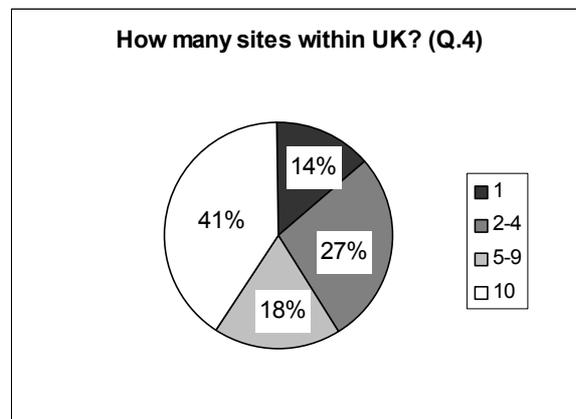


Figure 1

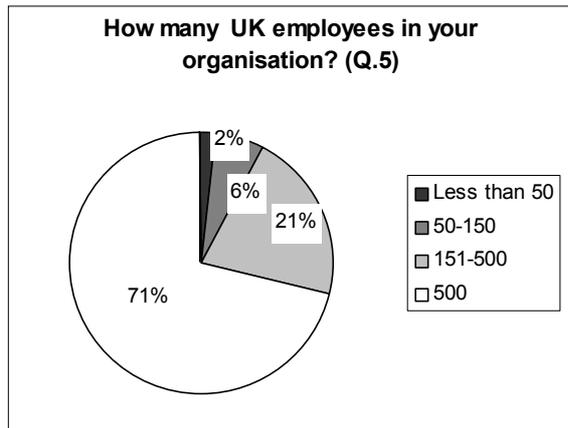


Figure 2

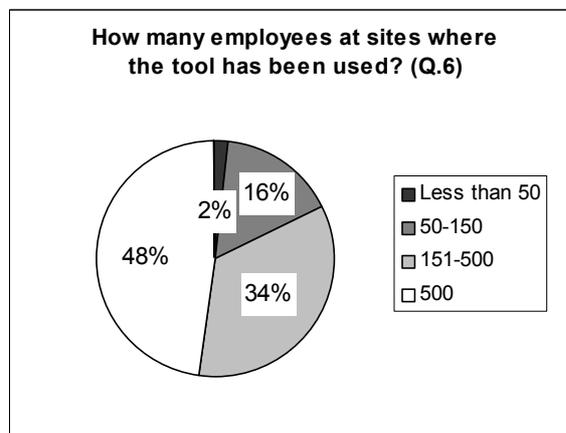


Figure 3

ADMINISTERING THE SURVEY

- Did you get senior management support for conducting a climate survey, before you started?
- What staff groups were involved in the planning process?
- What staff groups within the organisation have been included in a survey?
- How were the questionnaires distributed and collected?

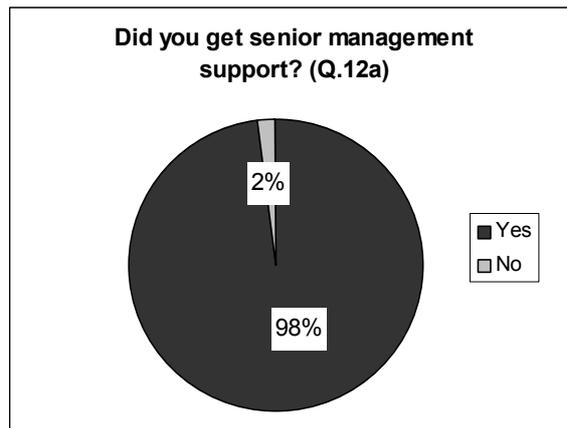


Figure 4

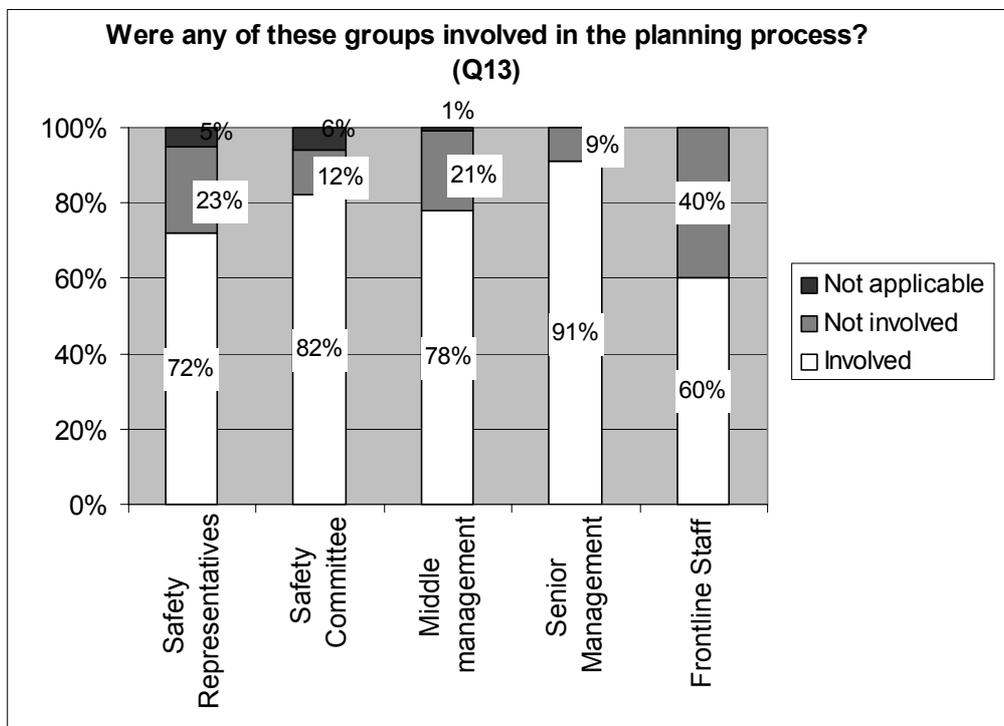


Figure 5

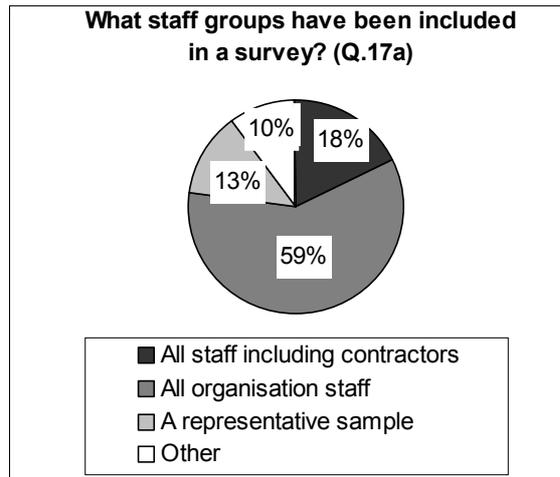


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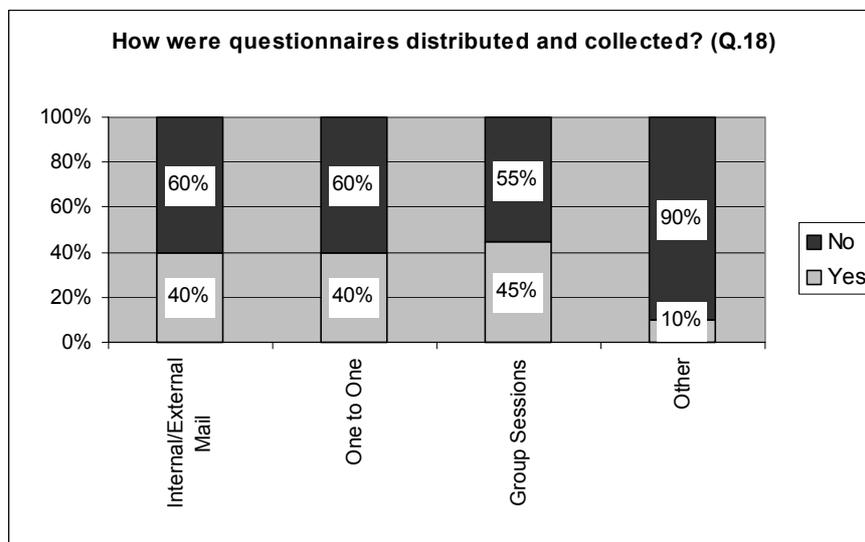


Figure 7

CST SOFTWARE

- How satisfied were you with the ease of installing the software?
- Did you use the support help line?
- How satisfied were you with the support provided?
- How satisfied were you with the software instructions (Red Book)?
- How satisfied were you with the ease of use of the software?
- How satisfied were you with the way the results were displayed?
- How satisfied were you with the data analysis option?

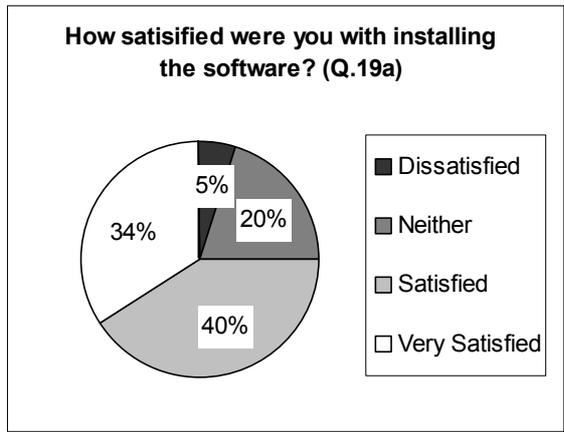


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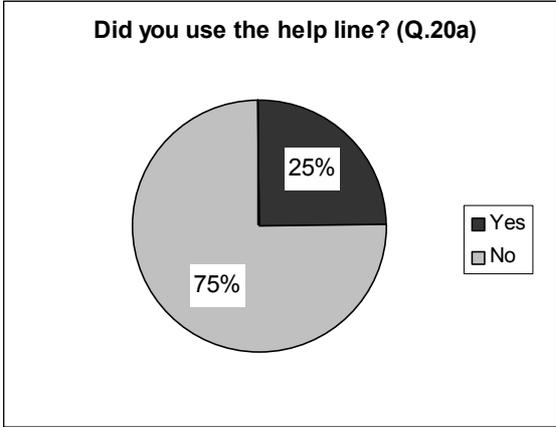


Figure 9

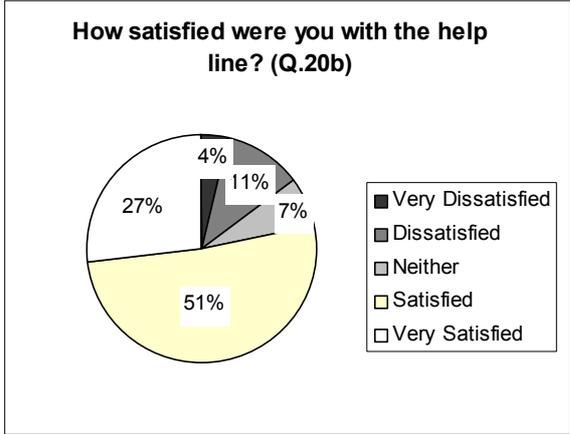


Figure 10

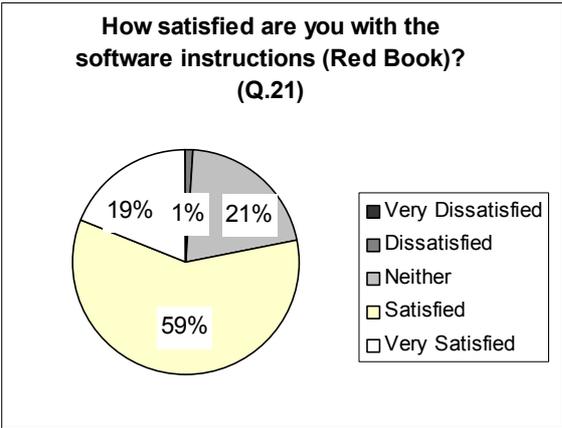


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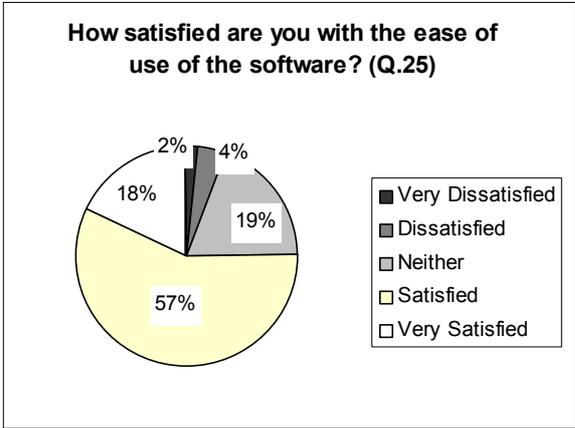


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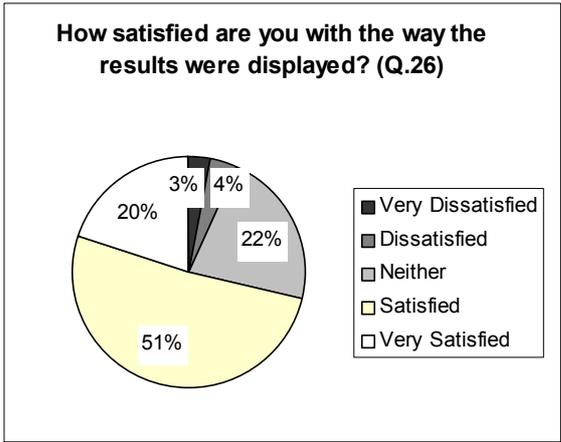


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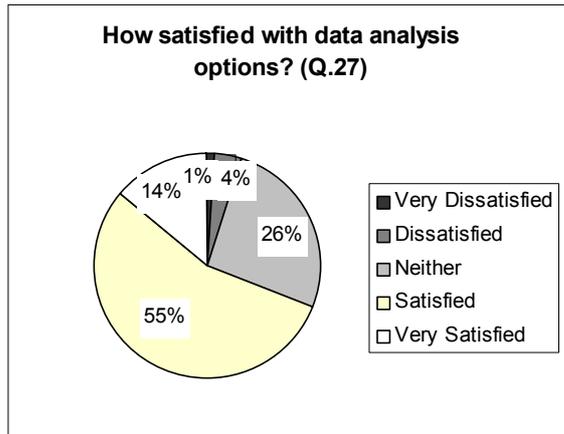


Figure 14

CST PROCESS GUIDELINES

- How satisfied were you with the process guidelines (Blue Book)?

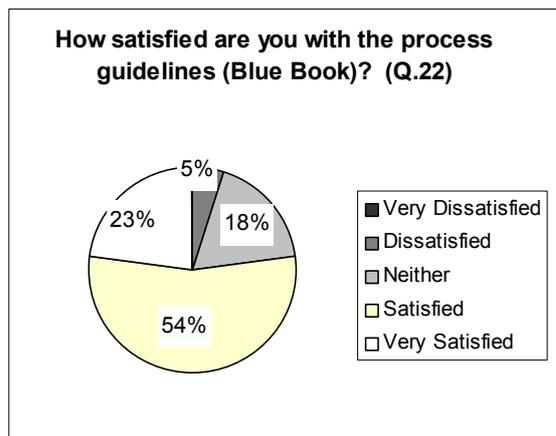


Figure 15

THE CST QUESTIONNAIRE

- How satisfied were you with the content of the questionnaire?
- How satisfied were you with the options to customise your survey?
- Did you use the suggestions for improvement page?
- If yes, did you find the information useful?

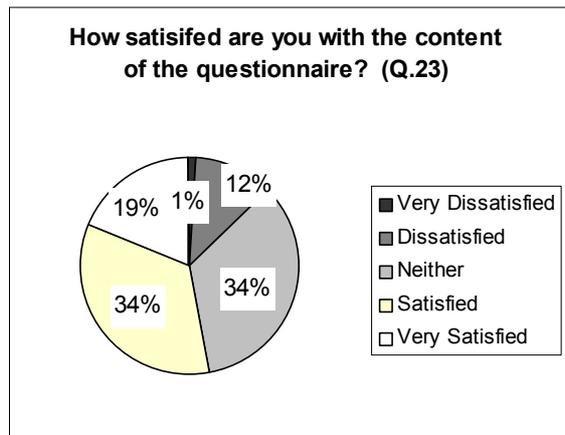


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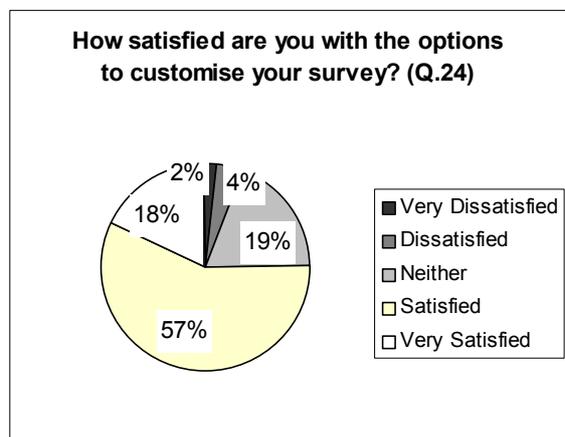


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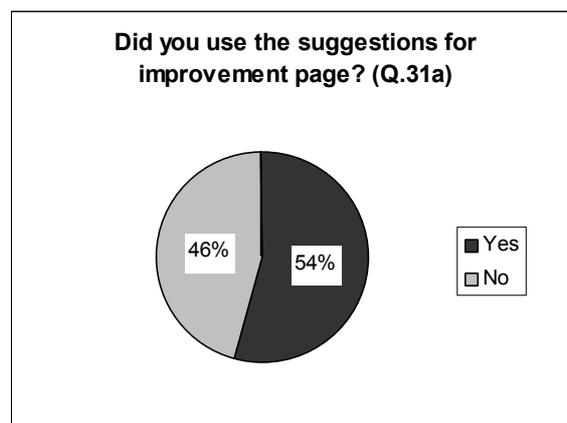


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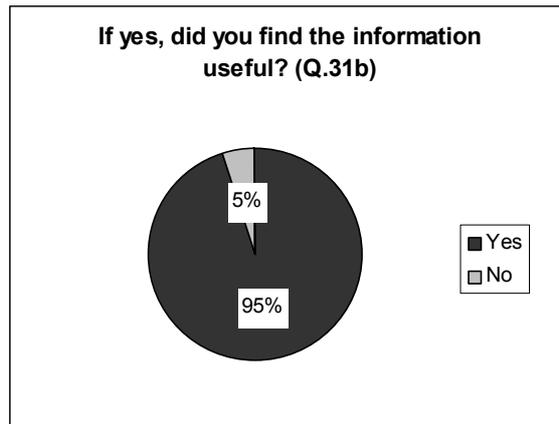


Figure 19

CST RESULTS

- Which groups were involved in interpreting the results from the survey?
- How easy was it to translate the results produced into actions?

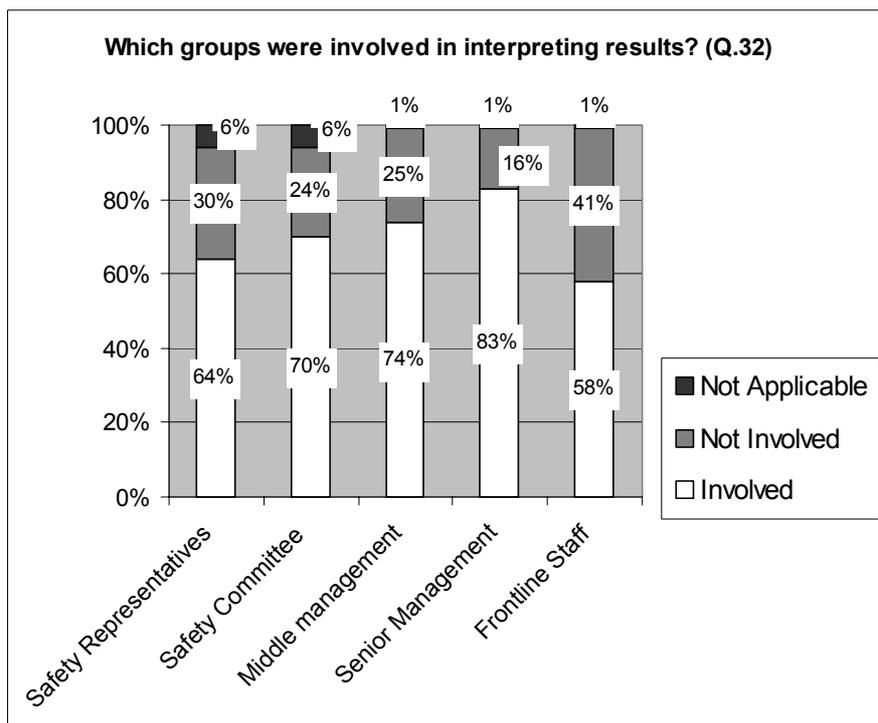


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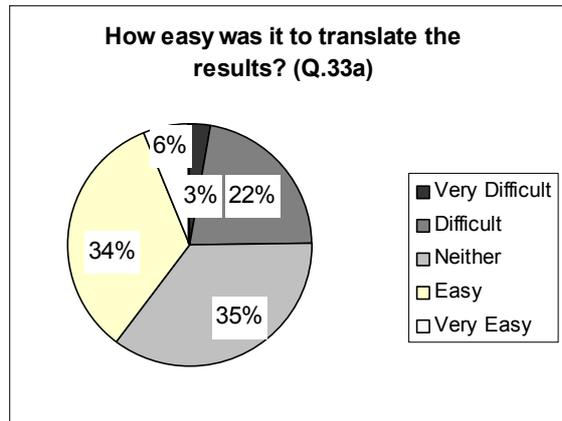


Figure 21

ACTIONS FOLLOWING THE CST

- Have any actions been taken as a result of the survey?
- What was the overall impact of conducting a survey and the subsequent interventions on the level of health and safety?
- To what extent has the climate tool altered levels of employee participation in safety?

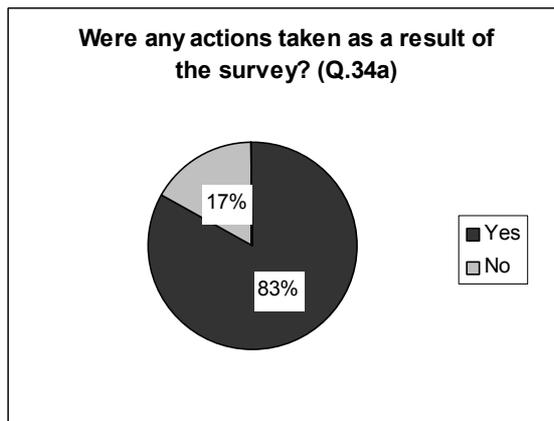


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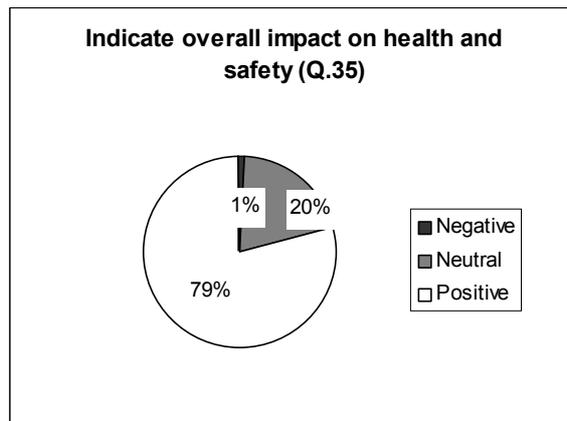


Figure 23

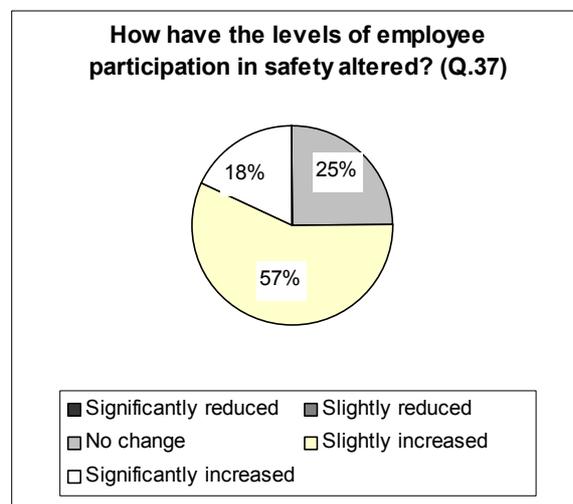


Figure 24

THE BENCHMARKING SERVICE

- Are you using or have you used the benchmarking service?
- If no, are you aware that it exists?
- If yes, how satisfied were you with the data analysis options?
- How satisfied were you with the usefulness of the information produced?
- How easy was it to understand the information produced?

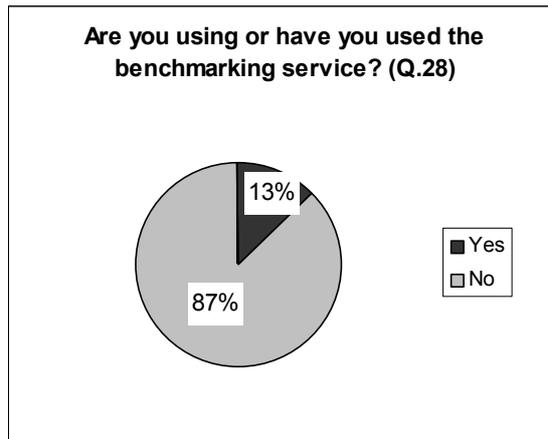


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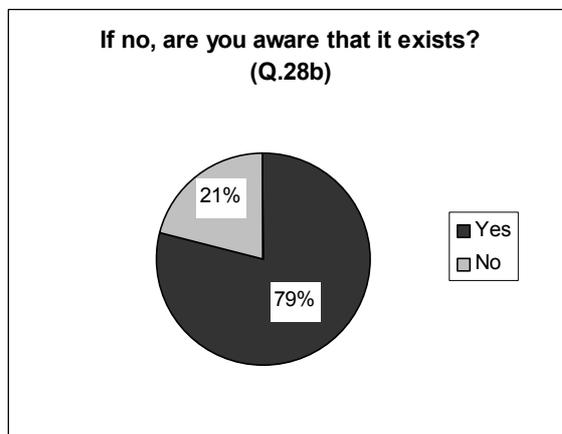


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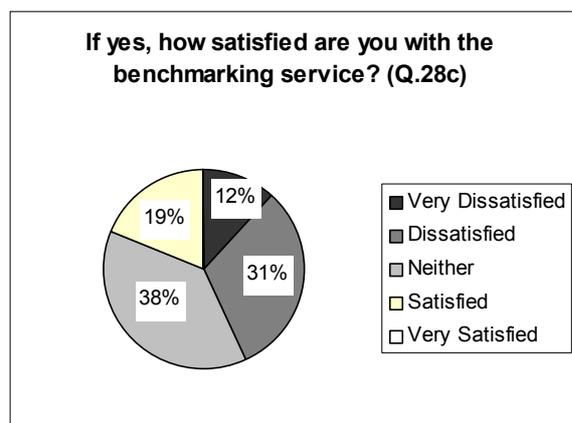


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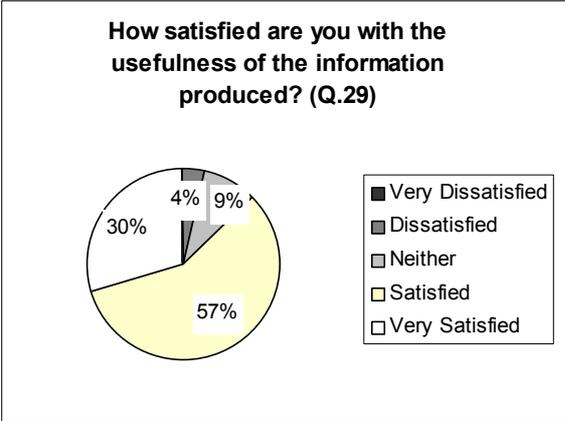


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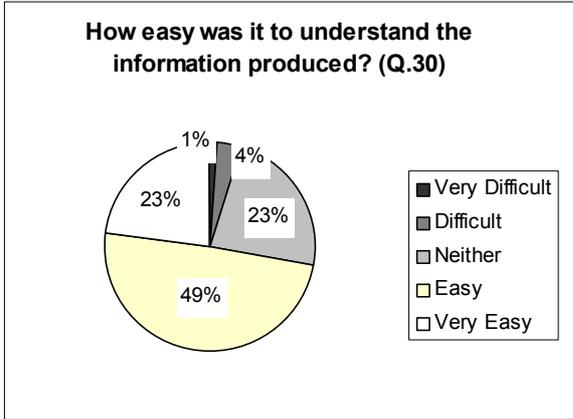


Figure 29

HAS THE CST BEEN REPEATED?

- Has your organisation repeated the climate survey with the same staff groups?

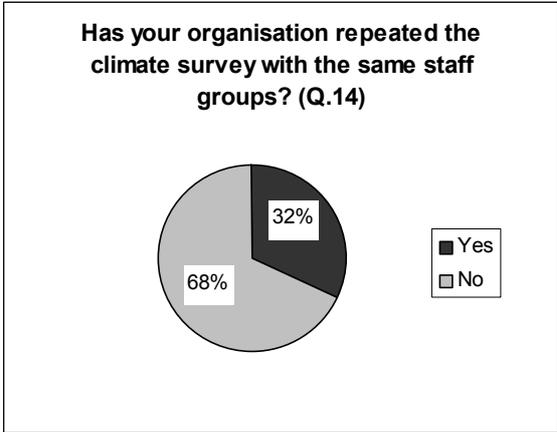


Figure 30

HAVE USER ORGANISATIONS' EXPECTATIONS BEEN MET?

- Has the health and safety climate tool met expectations?

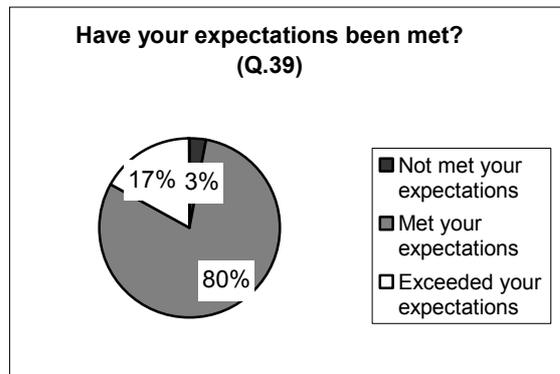


Figure 31



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