

# How Does Safety Stack Up?

*A survey of corporate financial decision makers' perceptions of safety performance, programs and personnel*

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**S**H&E PROFESSIONALS have a vested interest in knowing more about top-level management—most of whom determine what resources are designated for safety within organizations. By knowing more about these managers' perceptions of safety, an SH&E professional may be better equipped to negotiate for valued resources.

For example, suppose you know that top-level managers within your industry think that good safety performance is primarily the result of industry-level enforcement of high safety standards or perhaps the result of proactive safety programs. Would such information help you prepare a more persuasive argument for funding safety programs or personnel?

This article aims to review top-level managers' perceptions of their companies' safety performance, programs and personnel in

an effort to give safety professionals a competitive edge in resource negotiation. The article also explores the reasoning behind these perceptions in order to help identify best practices or potential strategies for improving occupational safety.

## **The Critical Role of Top Managers**

Managers play critical roles in organizational functions and their outcomes (Avolio, Sosik, Jung et al., 2003). Occupational safety research also shows that management's level of commitment to safety is associated with safety outcomes (Barling, Loughlin & Kelloway, 2002; Marsh, Davies, Phillips et al., 1998; Zohar, 2002).

However, much of this research has focused only on lower-level management. For example, Barling, et al (2002) and Zohar (2002) documented relationships between the characteristics of front-line supervisors, safety climate (unit-level) and safety outcomes. Only a limited amount of safety research has investigated the possible influence of higher-level management on occupational safety. For example, Rundmo & Hale (2003) explored the effects of higher-level managers' safety attitudes on their safety behaviors. These researchers concluded that safety attitudes can be important factors for the formation of managers' behavioral intentions as well as actual behavior. One would expect that this behavior could then affect the safety attitudes and behaviors of other employees.

The survey described here focuses on top-level management and attempts to advance the understanding of their opinions of safety and reasons for forming these opinions. The research team focused specifically on those managers who are responsible for making decisions about property and casualty risk management or insurance-related services. These individuals likely make decisions about high-level budgets, resource allocations and corporate priorities, so arguably they have the most authority for making financial decisions related to safety. In this context, these individuals as referred to as corporate financial decision makers.

## **Methods**

### **Participants & Procedures**

Telephone surveys were performed to explore the research questions. The goal was to collect data from 200 medium-size companies (more than 100 to less than 2,000 employees) and 200 large-size companies (more than 2,000 employees).

Data were collected in two stages. During the first stage, 4,000 randomly selected phone numbers from the continental U.S. were obtained from a vendor from a database commonly used by researchers to

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obtain representative samples of U.S. businesses (Chen & Huang, 2005). These phone numbers were associated with firms that had at least 100 employees.

A total of 10,819 calls (resulting in no answer, call back, refusal, completed interview) were made, and 231 respondents agreed to participate in the interview—a 20% response rate. Of these respondents, 203 were from medium-size companies and 28 were from large-size companies.

Because only 28 respondents represented large-size companies, a second stage of data collection was conducted, focusing on sampling large-size companies. An additional 8,000 phone numbers were purchased and 21,217 phone calls were made. As a result, an additional 173 respondents from large-size companies agreed to participate.

The final data set consisted of 203 respondents from medium-size companies and 201 from large-size companies. The survey respondents were the most senior executives/managers responsible for making decisions about property and casualty risk management or insurance-related services from each of the 404 participating companies.

Of the 404 respondents, 47.5% were chief financial officers and 9.9% were controllers. The remaining 42.6% consisted of directors of finance, vice presidents, treasurers, chief operations officers, risk managers and safety directors/managers. Approximately 50% of the sample worked for companies that had annual revenues of at least \$75 million. A clear majority of the respondents were male (81.7%).

### Measures

Survey questions were developed by the project team and a group of subject-matter experts. These experts consisted of other researchers and loss prevention experts from an insurance company. A total of six core survey items were developed, then piloted on a group of 11 people who did not participate in the formal study. The pilot allowed the project team to test the items and identify potential methods for increasing the response rate.

In the final telephone survey, participants were asked six questions—three multiple-choice and three open-ended. The multiple-choice questions were:

- 1) How does your company's workplace safety performance (e.g., OSHA recordable, workers' compensation, medical costs) compare to other companies in your industry?
- 2) How do your company's safety programs compare to other companies in your industry?
- 3) How do your firm's personnel responsible for safety (e.g., safety director, human resources, supervisor) compare to other companies in your industry?

A 3-point response scale was used (1 = not as good as; 2 = the same as; 3 = better than). For each particular topic (e.g., safety performance, safety programs, safety personnel), participants were then asked one open-ended follow-up question. They were asked why they thought they were not as good, the same or better compared to other companies in their industry.

**Table 1**

## Summary of Responses

How does your company compare to other companies in your industry?

| Question           | Not as good | The same    | Better      |
|--------------------|-------------|-------------|-------------|
| Safety performance | 22 (5.8%)   | 108 (28.3%) | 251 (65.9%) |
| Safety programs    | 14 (3.8%)   | 145 (39.7%) | 206 (56.4%) |
| Safety personnel   | 14 (4.0%)   | 163 (46.6%) | 173 (49.4%) |

### Data Analysis

Frequencies and percentages were calculated for the questions answered on the 3-point response scale. Participants' responses to the open-ended questions were content analyzed using the long-table approach (Krueger & Casey, 2000), which was adapted to incorporate computer use. As a first step, all individual responses to the different open-ended questions were read, then grouped based on similarity. Responses from a single person could be grouped into more than one category or subcategory. Responses that did not seem to answer the question were set aside.

Several researchers met to discuss the responses, establish initial categories and subcategories, and revise categories and subcategories in an iterative process. Category and subcategory names were further revised during the sorting of responses to better reflect the entire group of responses after additions and eliminations were made.

In some cases, small subcategories were collapsed into a general subcategory and vice versa. The decision to collapse or expand subcategories was based on the frequency with which participants mentioned the particular type of response. More specifically, each subcategory had to be mentioned by at least 10 respondents or had to be mentioned in at least two questions by more than 2 respondents per question. These criteria were designed to keep the numbers of subcategories manageable.

### Results

Table 1 summarizes responses to the three multiple-choice questions. A high percentage of participants reported that their companies' safety performance, programs and personnel were better than that of other companies (65.9%, 56.4% and 49.4%, respectively). Few participants reported that their safety performance/programs/personnel were worse than those of other companies (5.8%, 3.8% and 4.0%, respectively).

Content analysis of the open-ended questions revealed two main response themes: contributing factors and outcomes. Some respondents based their answers to these questions on aspects of their companies that might contribute to safety performance/programs/personnel. Others based their answers on outcomes that reflected the caliber of their safety performance/programs/personnel. Within each major category of response, the research team identified several subcategories.

**Abstract:** Top-level managers make important decisions about safety-related issues, yet little safety research has been done involving these individuals. SH&E professionals must work with these managers to access valued resources, so understanding their perceptions and decision-making processes is critical. This study involved a survey of corporate financial decision makers to gather their opinions regarding their companies' safety performance, programs and personnel, as well as the reasoning behind these opinions. The objective was to identify ways to improve occupational safety and offer ideas for ways SH&E professionals might more easily access resources for safety.

**Table 2**

## Contributing Factors Responses: Reasons for Rating

| <i>Responses based on contributing factors</i>      |  |   |
|---|--|---|
| Subcategory name                                    | Description  | Example   |
| Top-level management's attention/emphasis on safety | Participant rated company based on top-level management's (e.g., CEO, president, vice president, COO) attention, emphasis or focus on safety.  | "Company's workplace safety performance is not as good as others because management has a nonchalant attitude."     |
| Company's attention/emphasis on safety              | Participant rated company based on its attention to safety, emphasis on safety, or dedication to safety issues.  | "We have better safety awareness than other companies."   |
| Resources available for safety                      | Response made reference to money, time, equipment or more general resources.   | "Our safety programs are better because of the amount of money we put into them."                                   |
| Risk of work environment                            | Response made reference to the riskiness or the safety of the environment (e.g., risk inherent in the industry, neatness of the work environment).                                     | "Our risks are the same as other companies like us."  |
| Proactive/preventive                                | Response made reference to company/personnel proactiveness or effort to prevent injuries/accidents before they occur.  | "[Safety personnel] are more proactive."  |
| Safety standards                                    | Response mentioned high/low safety standards or standard safety rules/procedures.  | "All companies in the industry follow the same safety regulations."   |
| Safety programs <sup>a</sup>                        | Response included content about quantity, quality or type of safety programs offered.  | "We have an internal health program that is focused strictly on employees."   |
| Safety training <sup>b</sup>                        | Response mentioned quality, quantity or specific type of training or educational program in the training category.   | "Our personnel receive better training."  |
| Safety incentives <sup>c</sup>                      | Response mentioned incentives (e.g., pay, awards, other perks).  | "We have a bonus structure that compensates employees on how well they comply with safety standards."               |
| Personnel <sup>d</sup>                              | Response mentioned quality/quantity of employees in general or safety personnel specifically.  | "We have a dedicated safety team who monitor workers well."   |
| Personnel's dedication to safety <sup>b</sup>       | Response attributed quality of personnel to their dedication, emphasis or focus on safety.   | "We have staff members who are dedicated to employee safety."   |
| Personnel's background <sup>b</sup>                 | Response attributed quality of personnel to their education, knowledge, talent or experience.  | "Our staff who address safety concerns have a lot of experience and education."                                     |
| Staffing <sup>b</sup>                               | Response mentioned quantity of safety personnel or assignment of key personnel to safety issues.   | "Our company's personnel are better because we have a regional safety manager and every store has a safety person." |
| <i>Responses based on outcomes</i>                  |  |   |
| Subcategory name                                    | Description  | Example   |
| Statistics  | Participant rated company based on some type of statistic (e.g., numbers of workers' compensation claims, injury rates, mod factors, industry reports, trade papers, insurance rates). | "Our insurance company is offering us rebates because we have a low incident rate on workplace incidents."          |
| Word of mouth                                       | Response explained that managers rated themselves based on communication with others either in their industry or within the company.   | "I have spoken to officials from other companies."  |

<sup>a</sup>Applies only to performance question. <sup>b</sup>Applies only to personnel question. <sup>c</sup>Applies only to programs and personnel questions. <sup>d</sup>Applies only to performance and programs questions.

### Contributing Factors Category Responses

Researcher identified 11 subcategories of responses within the contributing factors category (Table 2). Some were only applicable to one or two of the open-ended questions. For each of the three questions, the typical responses falling into this category were summarized.

#### Safety Performance

Table 3 summarizes responses to the question, "Why do you think your company's safety perform-

ance is not as good as, the same as or better than that of other companies in your industry?" The three most common types of responses were about safety programs, a company's attention/emphasis on safety and personnel. Nearly 31% of respondents claimed that their safety performance was the result of the quantity, quality or types of safety programs in place at the company. An example response is, "We provide educational programs that focus on promoting safety and security."

**Table 3**

**Frequency of Responses about Safety Performance**

| <b>Category/subcategory<br/>Contributing factors</b> | <b>Not as good</b> | <b>Same</b> | <b>Better</b> | <b>Percent of total<sup>a</sup></b> |
|--|--------------------|-------------|---------------|-------------------------------------|
| Management   | 2                  |             | 15            | 7.76%                               |
| Programs   | 4                  |             | 63            | <b>30.59%</b>                       |
| Attention/emphasis                                   | 3                  | 4           | 37            | <b>20.09%</b>                       |
| Personnel  | 1                  | 1           | 35            | <b>16.89%</b>                       |
| Resources  | 2                  | 2           | 16            | 9.13%                               |
| Risk/environment                                     | 3                  | 21          | 6             | 13.70%                              |
| Standards  |                    | 13          | 8             | 9.59%                               |
| Proactive/preventive                                 |                    | 1           | 5             | 2.74%                               |
| Other  |                    | 2           | 8             | 4.57%                               |
| <b>Outcomes</b>                                      |                    |             |               |                                     |
| Statistics   | 6                  | 42          | 93            | <b>91.56%</b>                       |
| Word of mouth  |                    | 10          | 3             | 8.44%                               |

*Note.* Bolded values represent the top three percentage values within the contributing factors category and the top percentage value within the outcomes category.

<sup>a</sup>Values reflect percentages of respondents within a particular category. Values in the percentage column do not sum to 100% because each respondent could give multiple reasons.

*Nearly 17% attributed their company's safety performance to the quality or quantity of their general employees and/or safety personnel.*

Responses falling into the subcategory of a company's attention/emphasis on safety mentioned the company paying more (less) attention to safety, placing a great deal of (too little) emphasis on safety or being dedicated (lacking dedication) to safety issues. Slightly more than 20% of participants offered such responses. An example is, "We place more emphasis on safety than other companies in our industry do."

Nearly 17% attributed their company's safety performance to the quality or quantity of their general employees and/or safety personnel. An example response is, "I think my company's safety performance is better compared to other companies in our industry because we have a lot of staff who are dedicated to safety."

**Safety Programs**

Table 4 summarizes responses to the question, "Why do you think your company's safety programs are not as good as, the same as or better than those of other companies in your industry?" The three most common responses were those falling under the subcategories of company attention/emphasis on safety, safety standards and resources for safety.

Approximately 22% of respondents claimed the standing of their safety programs relative to others in their industry was the result of the company's attention/emphasis on safety. For example, "My company's safety programs are better compared to other companies in our industry because we focus on it."

Nearly 16% of respondents reasoned that the quality of their programs had much to do with industry- or company-specific safety rules or proce-

dures. One respondent said, "I think our safety programs are the same as those in other companies because there is a general standard across the industry that we follow."

Finally, 13% attributed the quality of their safety programs to resources such as money, time or equipment that their companies had for safety. One such response was, "Our safety programs are not as good as other companies because we have less resources devoted toward safety awareness and hazard prevention."

**Safety Personnel**

Table 5 summarizes responses to the final question, "Why do you think your company's safety personnel are not as good as, the same as or better than that of other companies in your industry?" Again, the three most common response subcategories were identified—background of personnel, safety training and staffing.

Approximately 29% said that the quality of their personnel was directly related to the quality of their background. To be grouped into this subcategory, the response had to mention the personnel's experience, knowledge, talent or academic history. An example was, "Our staff who address safety concerns have a lot of experience and education."

The safety training subcategory included responses making reference to some type of training or educational program provided by that specific company. Some 20% said something such as, "My company provides good training for personnel and the management team in general."

*Incorrect views of a company's safety performance, programs and personnel might be the result of having incorrect or limited information, or of misinterpreting the information received.*

**Table 4**

**Frequency of Responses about Safety Programs**

| <b>Category/subcategory<br/>Contributing factors</b> | <b>Not as good</b> | <b>Same</b> | <b>Better</b> | <b>Percent of total<sup>a</sup></b> |
|--|--------------------|-------------|---------------|-------------------------------------|
| Management   | 1                  |             | 11            | 5.50%                               |
| Training   | 1                  | 2           | 23            | 11.93%                              |
| Attention/emphasis                                   | 4                  | 7           | 37            | <b>22.02%</b>                       |
| Personnel  | 1                  | 3           | 23            | 12.39%                              |
| Resources  | 4                  | 2           | 23            | <b>13.30%</b>                       |
| Risk/environment                                     |                    | 20          | 1             | 9.63%                               |
| Standards  |                    | 32          | 2             | <b>15.60%</b>                       |
| Proactive/preventive                                 |                    |             | 13            | 5.96%                               |
| Incentives   |                    |             | 4             | 1.83%                               |
| Other  | 3                  | 5           | 20            | 12.84%                              |
| <b>Outcomes</b>                                      |                    |             |               |                                     |
| Statistics   |                    | 19          | 57            | <b>73.79%</b>                       |
| Word of mouth  |                    | 17          | 11            | 27.18%                              |

*Note.* Bolded values represent the top three percentage values within the contributing factors category and the top percentage value within the outcomes category.

<sup>a</sup>Values reflect percentages of respondents within a particular category. Values in the percentage column do not sum to 100% because each respondent could give multiple reasons.

Finally, nearly 13% attributed the relative quality of their company's safety personnel to staffing. These responses made reference to the quantity of safety personnel or assignment of key personnel to safety issues. An example of such a statement was, "Unfortunately, we are understaffed."

**Outcomes Category Responses**

Within the outcomes category, two subcategories of responses were identified: statistics and word of mouth. Some statistics responses involved mention of injury rates, others involved mention of numbers of workers' compensation claims, results from industry reports, trade papers and insurance rates. Responses grouped in the word-of-mouth subcategory made mention of knowing that they were not as good as, the same as or better than other companies as a result of communication with peers (either within or outside of the company). Tables 3, 4 and 5 summarize the frequency of outcomes responses falling into these two subcategories for each of the three questions asked.

Responses from the outcomes category can easily be summarized without a question-by-question breakdown. The recurrent response theme, regardless of the question asked, was that most respondents mentioned statistics—safety performance, 91.50; safety programs, 73.27%; and safety personnel, 72.41%. In other words, many of the top-level managers whose responses fit into the outcomes category appeared to base their perceptions on statistical information.

**Discussion**

Several interesting themes can be culled from the survey responses (see sidebar on p. 34). One factor of note is that the majority of respondents said their company was better in these different aspects of occupational safety than were other companies in their industry (Table 1). Most of the remaining respondents said their company was the same as other companies in their industry, while only a few said their companies were not as good.

How can a majority of the companies that responded be better than other companies in their industry? Two explanations are possible: 1) Most of the participating companies had above-average safety performance, programs and personnel. 2) Those surveyed offered overly positive ratings.

Why might top-level managers do this? It may be that these managers are attempting to promote their companies or themselves. Alternately, these managers may have an incorrect view of their companies' safety performance, programs and personnel. Such views might be the result of having incorrect or limited information, or of misinterpreting the information received.

It is also possible that these managers are reflecting optimistic bias (Weinstein, 1987) or in-group bias (Turner, 1978). Optimistic bias is when individuals are unrealistically optimistic about their own situations and the risks they might face in the future (Weinstein, 1987). In-group bias suggests that when a person groups him/herself with others, s/he is

**Table 5**

## Frequency of Responses about Safety Personnel

| Category/subcategory<br>Contributing factors | Not as good | Same | Better | Percent of total <sup>a</sup> |
|--|-------------|------|--------|-------------------------------|
| Management                                   |             |      | 2      | 0.98%                         |
| Programs                                     |             |      | 4      | 1.96%                         |
| Background                                   | 1           | 19   | 39     | <b>28.92%</b>                 |
| Training                                     | 1           | 10   | 31     | <b>20.59%</b>                 |
| Staffing                                     | 8           | 2    | 17     | <b>13.24%</b>                 |
| Attention/emphasis                           | 1           | 1    | 12     | 6.86%                         |
| Dedication                                   |             | 2    | 16     | 8.82%                         |
| Resources                                    | 1           | 1    | 8      | 4.90%                         |
| Risk/environment                             |             | 11   |        | 5.39%                         |
| Standards                                    |             | 18   | 1      | 9.31%                         |
| Proactive/preventive                         | 1           | 1    | 7      | 4.41%                         |
| Incentives                                   |             | 1    | 2      | 1.47%                         |
| Other  | 2           | 3    | 6      | 5.39%                         |
| <b>Outcomes</b>                              |             |      |        |                               |
| Statistics                                   |             | 12   | 30     | <b>71.19%</b>                 |
| Word of mouth                                |             | 14   | 4      | 30.51%                        |

*Note.* Bolded values represent the top three percentage values within the contributing factors category and the top percentage value within the outcomes category.

<sup>a</sup>Values reflect percentages of respondents within a particular category. Values in the percentage column do not sum to 100% because each respondent could give multiple reasons.

more likely to favor those within that group compared to those in another group. In this survey, the respondents may have had a natural tendency to be overly optimistic about their companies' safety or they may be overestimating their company's safety because this is a characteristic of their own group.

Based on the results of this survey, one cannot definitively conclude whether the participants' perceptions of safety performance, programs and personnel reflect the facts. It is important that SH&E professionals know that these individuals' views might be flawed. These managers make decisions that affect safety (e.g., resource allocation). Errors or biases in their views of safety performance, programs and personnel could lead to incorrect decisions. By being aware that perceptions may be flawed, SH&E professionals can attempt to correct them.

While responses to the multiple-choice questions are interesting, responses to the open-ended questions are perhaps more telling. In reviewing these, several things stand out. First, many respondents believe that the attention/emphasis a company places on safety is critical. Attention/emphasis was one of the most frequent responses to the questions about safety performance and safety programs. Based on this, an SH&E professional may conclude that increasing a company's attention/emphasis on safety might improve safety performance and pro-

grams. This finding also suggests that corporate financial decision makers recognize the importance of attention/emphasis in better safety performance and programs. Knowing this may help an SH&E professional better negotiate with these individuals.

The importance that those surveyed place on personnel is also notable. This was evident in the frequency with which respondents mentioned personnel as a factor in safety performance. It can also be seen in responses to the question about safety personnel. Survey respondents claimed that the specific background and training of these personnel were crucial. This seems to indicate that selecting and training of safety personnel are areas that companies could address to improve safety outcomes. Furthermore, this finding seems to indicate that corporate financial decision makers may be responsive to a request for funds to attract, select or train better safety personnel.

One last theme of note is the respondents' reliance on statistics. Many mentioned that they base their opinions of safety performance, programs and personnel on statistics (e.g., workers' compensation claims/costs, injury rates). This is probably not a new idea to many, but it warrants mention. If an SH&E professional is going to negotiate for resources, s/he likely will be more successful if s/he knows and use statistics to his/her advantage. If the company's

## Results: Major Themes

- Top-level managers may have inaccurate perceptions of their companies' safety performance, safety programs or safety personnel.
- Corporate financial decision makers believe that a company's attention/emphasis on safety plays an important role in that company's safety performance and safety programs.
- Corporate financial decision makers believe that a company's safety personnel are important to that company's safety. In particular, they suggest that that the background and training of safety personnel are critical.
- Corporate financial decision makers base their perceptions of their companies' safety performance, safety programs and safety personnel heavily on statistics such as workers' compensation claims/costs and injury rates.

"numbers" do not adequately reflect its safety performance, programs or personnel, the SH&E professional should be prepared to explain why this is the case. The SH&E professional should also know to which statistics top-level managers give the most attention, then either emphasize those statistics in negotiations or highlight alternative data that are more reflective/indicative of actual performance.

### Limitations & Directions for Future Research

While the results of this survey provide insight into corporate financial decision makers' perceptions of their companies' safety performance, several limitations should be noted, as they can point to areas for future research.

One strength and limitation was that three questions were open-ended. While such questions provide an opportunity to collect richer information than might be collected via multiple-choice questions, there are some limitations on the conclusions that can be drawn from the responses.

For example, 13% of respondents felt that the quality of their safety programs was related to resources. The remaining participants did not mention resources in connection to safety programs. One cannot necessarily conclude that 87% of the participants felt resources did not impact the quality of their safety programs. The survey has identified some factors that corporate financial decision makers believe contribute to safety. To address this issue, future researchers might ask respondents to rank or rate the importance of these factors.

Another limitation is that one cannot draw conclusions about the accuracy of respondents' perceptions. For example, it is not possible to know definitively whether the respondents who said their companies' safety performance is better than that of other companies in their industry are correct. Little research has investigated top-level managers' perceptions of safety. This survey was an important first step toward a better understanding of these perceptions; however, additional research is needed to investigate the accuracy of these perceptions.

Finally, this survey offers information on the

opinions of corporate financial decision makers only. It does not offer information on the opinions of other top-level managers nor those of middle managers, line supervisors or employees. The researchers believe that it would be interesting to know whether the opinions of corporate financial decision makers are similar to those of other top-level managers, middle managers, line supervisors and employees. Future research might be conducted to make such comparisons.

### Conclusion

The results from this survey provide insight into top-level managers' perceptions of their companies' safety performance, safety programs and safety personnel. SH&E practitioners and researchers alike could benefit from greater knowledge of these managers' perceptions and how these views impact organizational-level safety outcomes. It is hoped that future research will continue this effort to better understand this important group. ■

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