

**GEMI Benchmarking Survey**

# **Supply Chain Management**

October 25, 2005

# Results

## Participant Overview

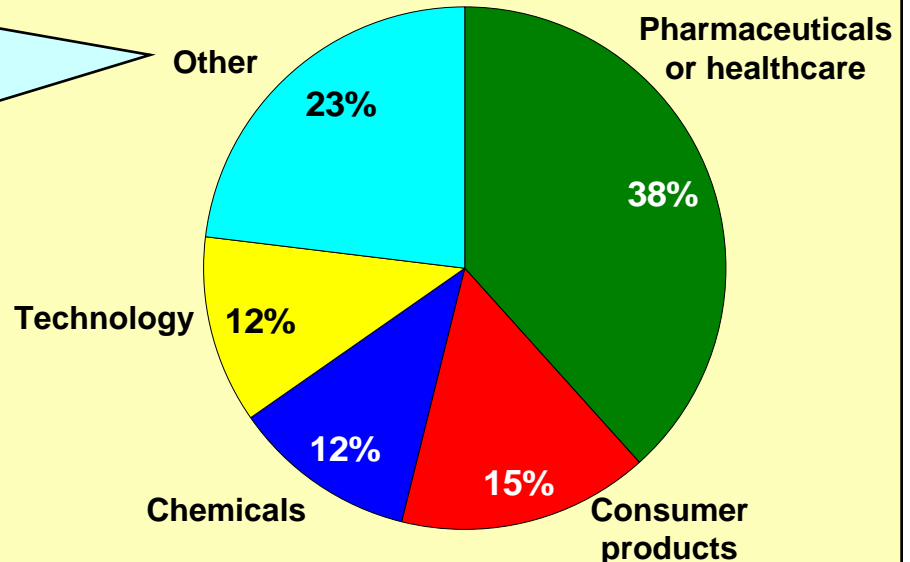
This survey addressed how GEMI members identify and manage EHS issues within their supply chain.

- Survey response rate was 62%
  - 26 out of 42 member companies responded to the survey
  - Not all companies completed all questions.
- Broad industry coverage

Q3. What is the predominant nature of your company's business? (n=26)

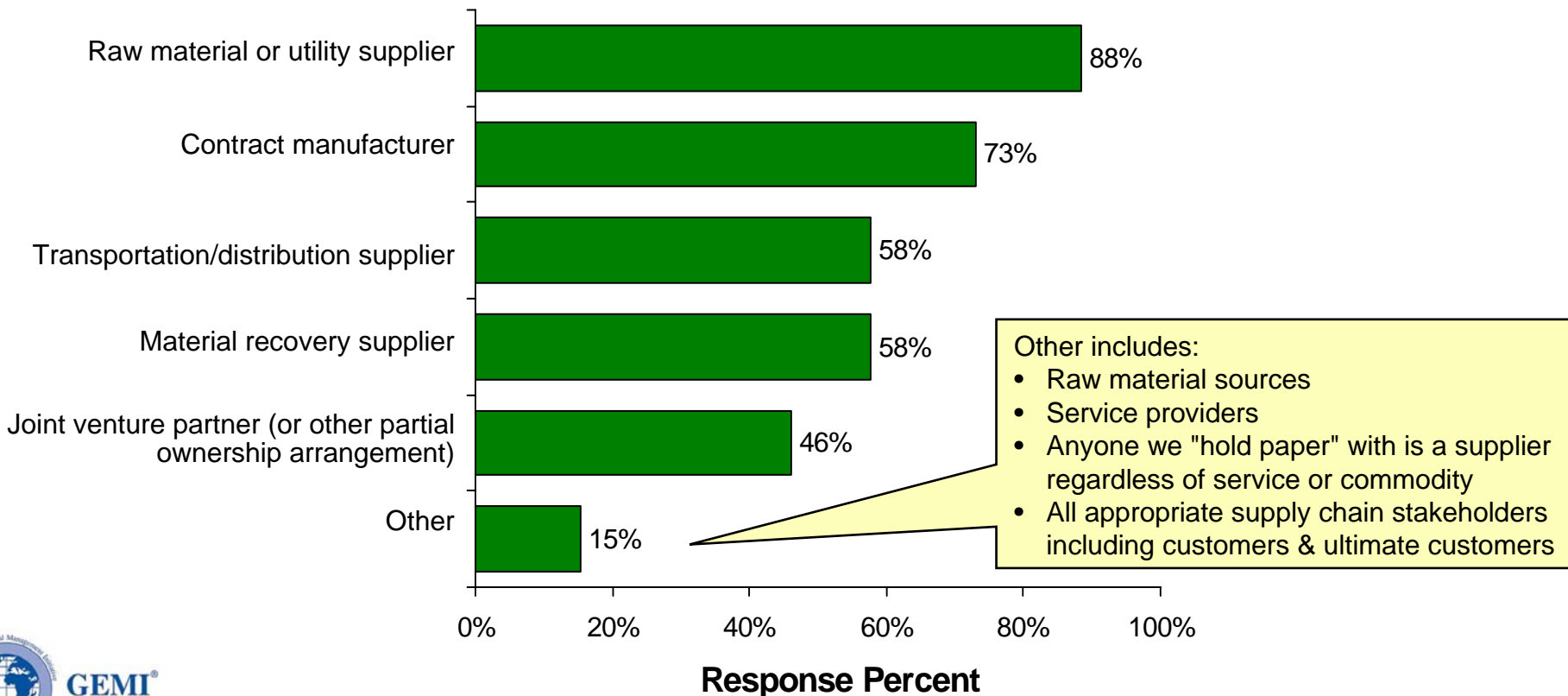
Other includes:

- Energy (1)
- Diversified industrial manufacturing (1)
- Transportation (2)
- Leisure travel (1)
- Energy, textiles, chemicals, chemical equipment, and technology (1)



For most companies, supply chain partners include a wide range of suppliers along the product life cycle.

**Q4. Which of the following entities comes within your company's definition of "supply chain partner"? (n=26)**

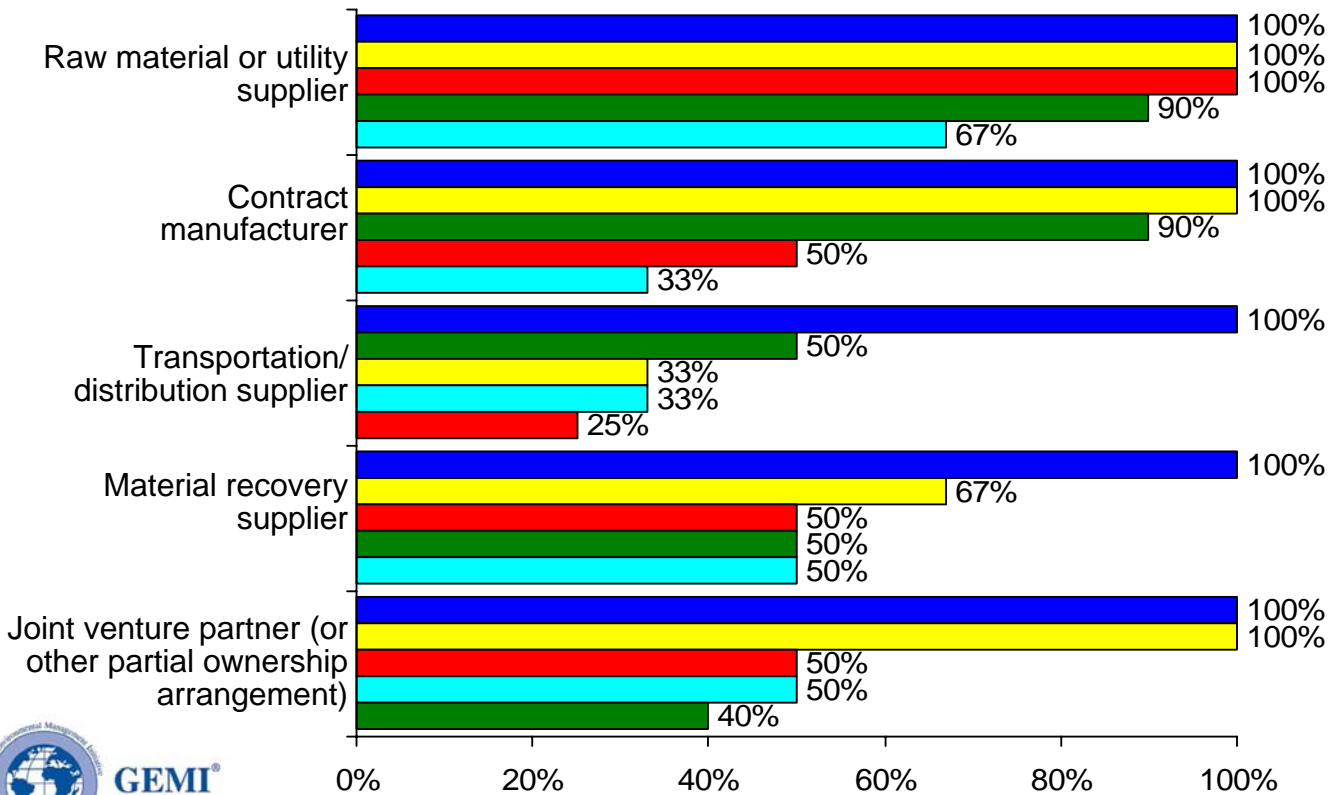
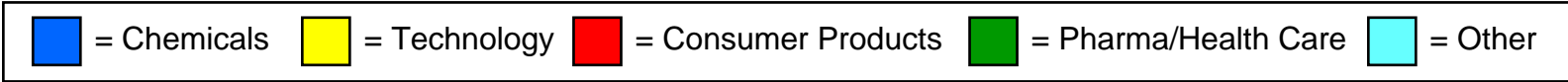


# Results

## Definition – Industry Analysis

There are some differences in how each industry defines “supply chain partner.”

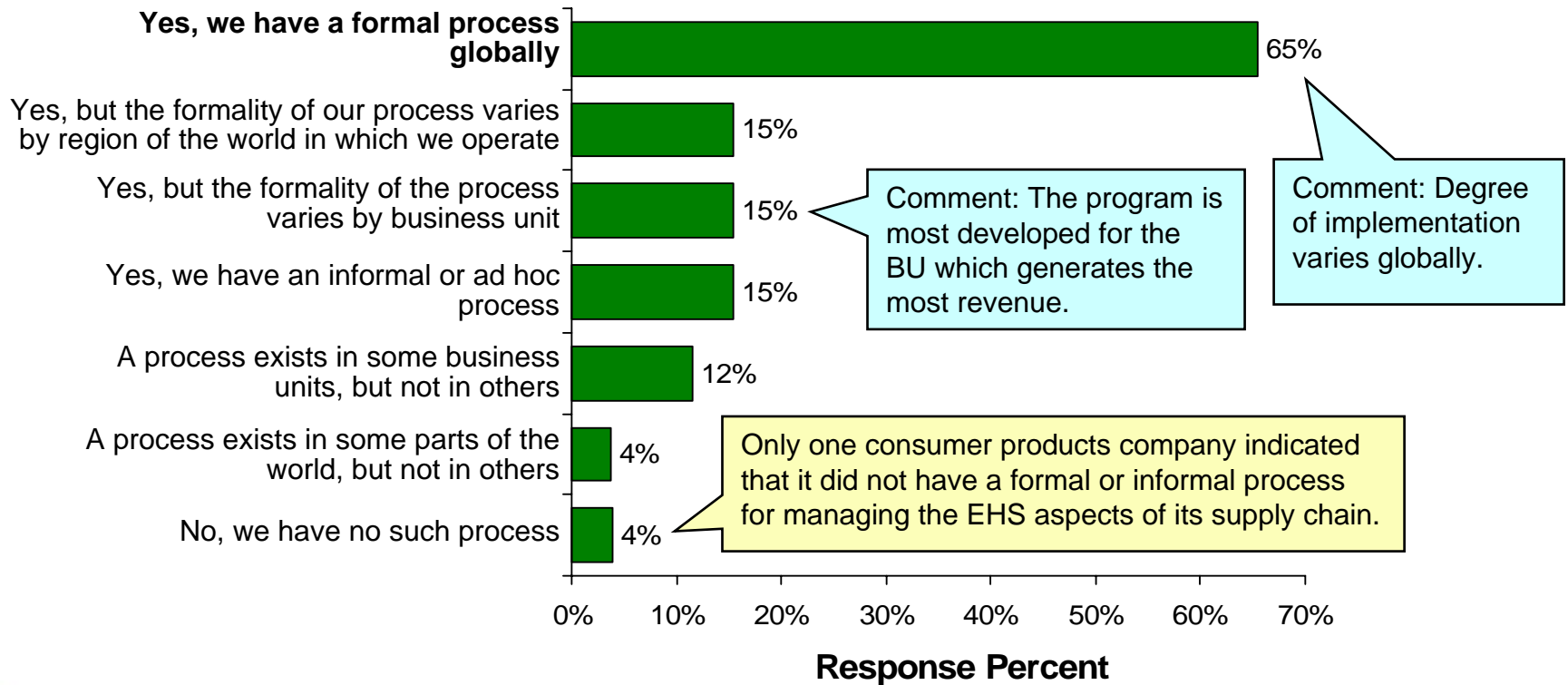
Q4. Which of the following entities comes within your company’s definition of “supply chain partner”? (n=26)



- Consumer product companies tend to focus on their raw material or utility suppliers to a greater degree than other potential partners.
- The chemical industry was the only industry in which the majority of companies considered transportation/distribution suppliers as supply chain partners.
- The chemical industry had the most inclusive definition of “supply chain partner.”
- Chemical and technology companies are more likely to include joint venture partners in their supply chain management process than companies in other industries.

**Most companies (62%) have a formal process or program to manage the EHS aspects of their supply chain globally.**

**Q5. Does your company have a process or program to manage the EHS aspects of its supply chain? (n=26)**



Comment: The program is most developed for the BU which generates the most revenue.

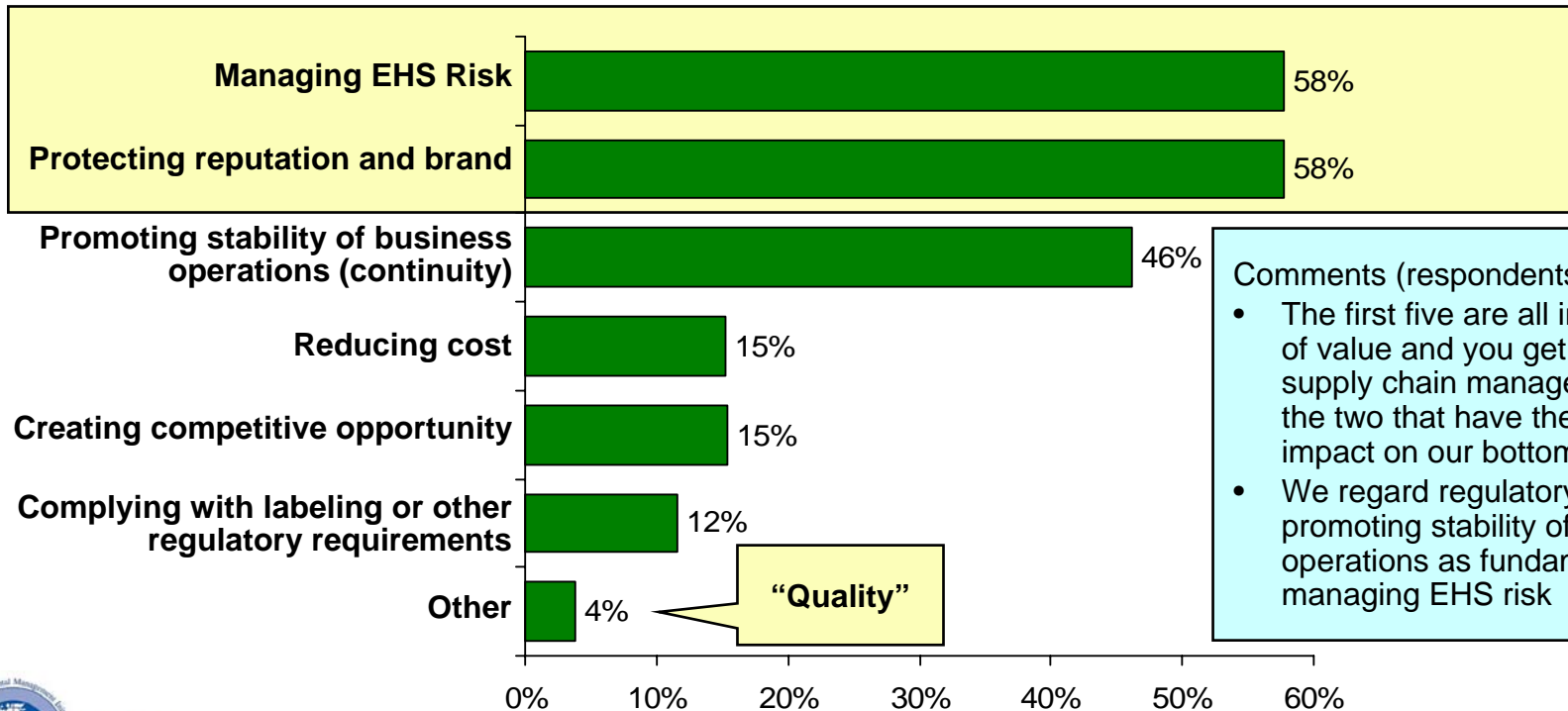
Comment: Degree of implementation varies globally.

Only one consumer products company indicated that it did not have a formal or informal process for managing the EHS aspects of its supply chain.

There were few differences noted when comparing industry responses.

Over half of the companies (58%) indicated that managing EHS risk and protecting reputation and brand were the most important sources of business value to be gained through supply chain management.

**Q6. Indicate the top two potential sources of business value to be gained through supply chain management (n=26)**



Comments (respondents):

- The first five are all important sources of value and you get them all through supply chain management. I selected the two that have the most direct impact on our bottom line.
- We regard regulatory compliance and promoting stability of business operations as fundamental to managing EHS risk

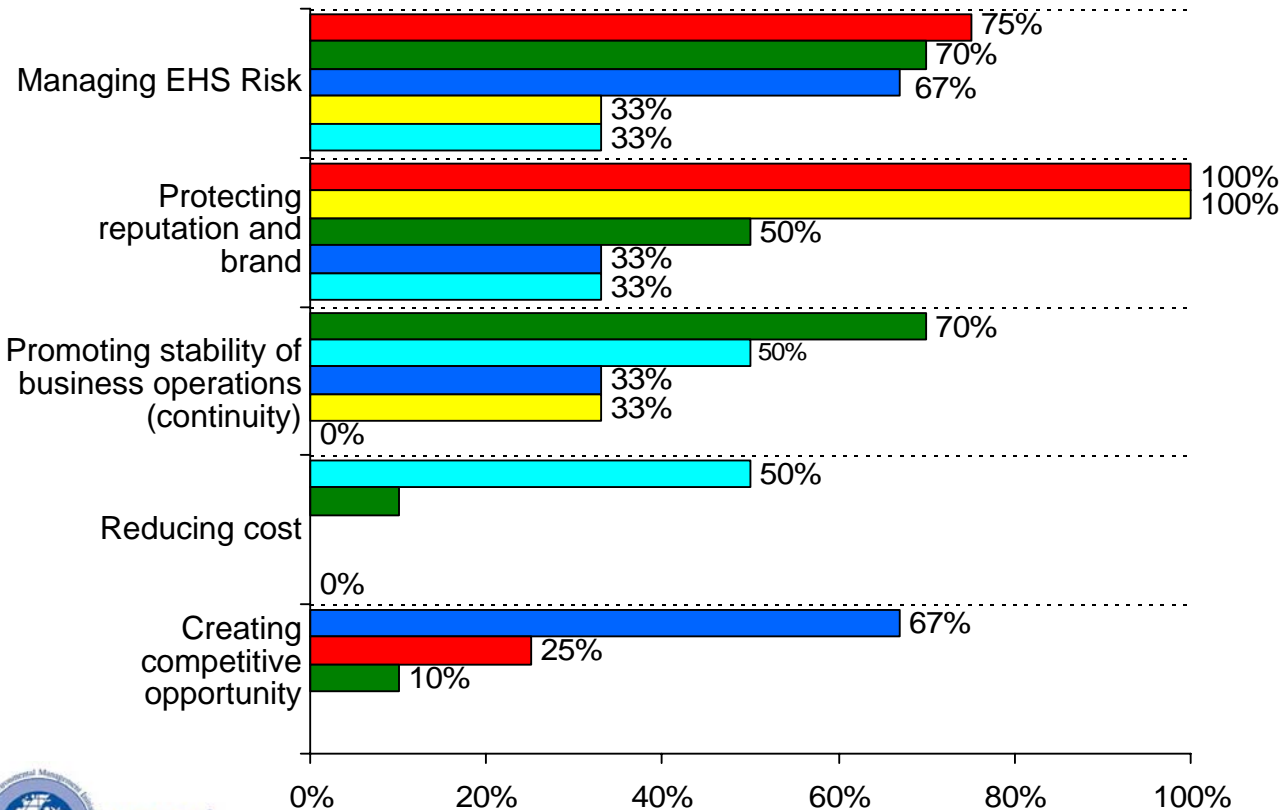
# Results

## Business Value – Industry Analysis

However, there were some industry differences noted.

**Q6. Indicate the top two potential sources of business value to be gained through supply chain management (n=26)**

■ = Consumer Products   
 ■ = Pharma/Health Care   
 ■ = Chemicals   
 ■ = Technology   
 ■ = Other



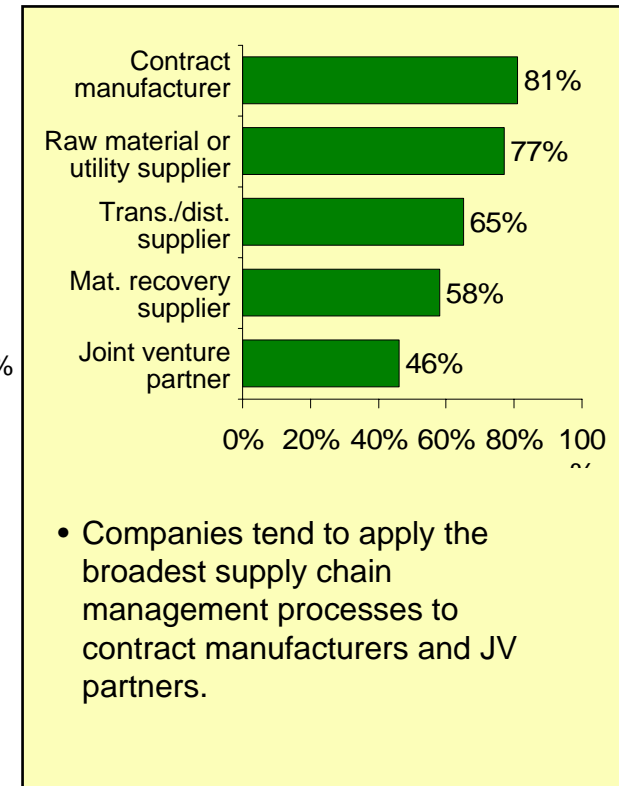
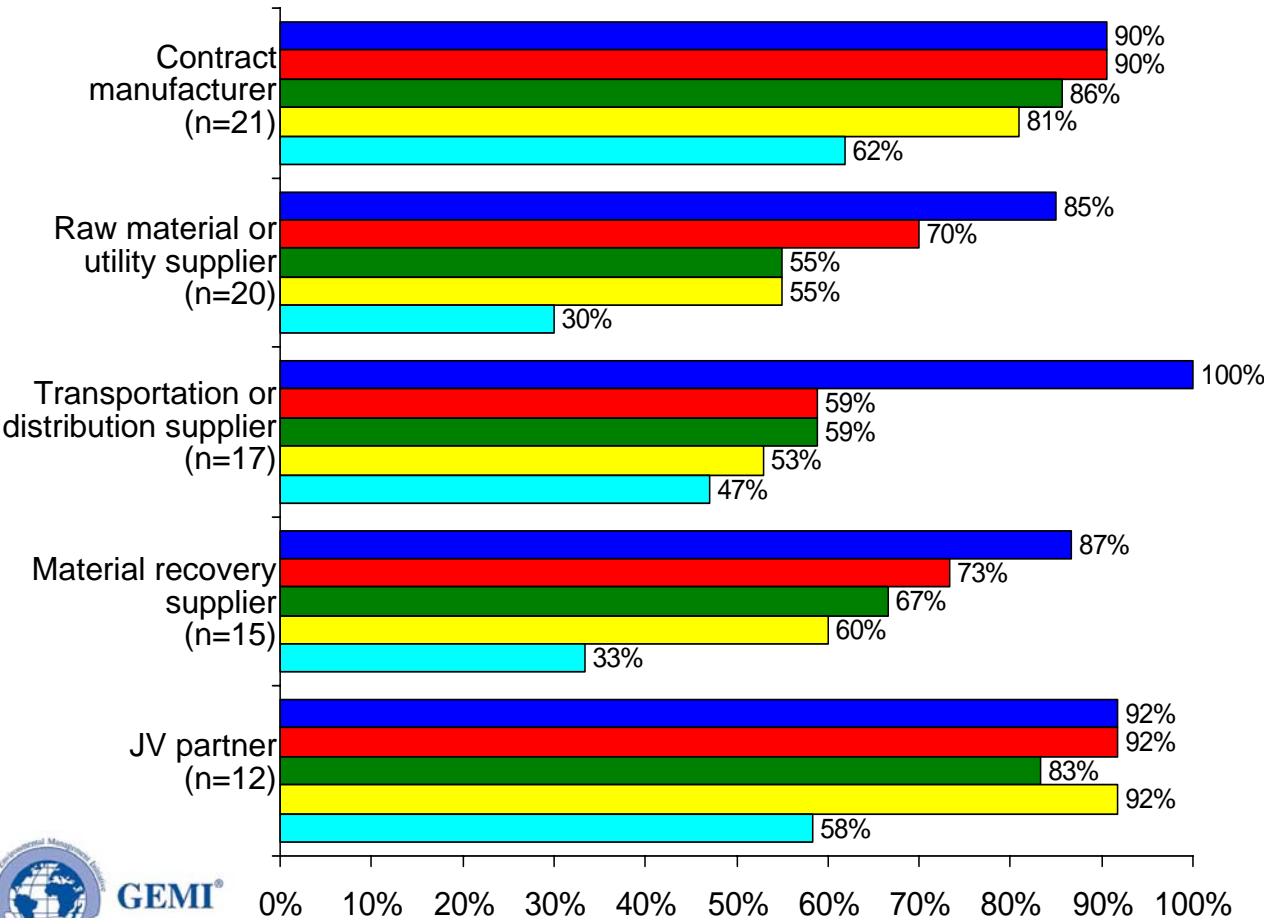
- Only 33% of technology companies thought that managing EHS risk was a potential source of business value.
- All consumer product and chemical companies thought that effective supply chain management could help protect reputation and brand.
- Pharmaceuticals was the only industry in which greater than 50% of the companies thought that supply chain management could help promote stability of business operations.
- Chemical companies are more likely to consider effective supply chain management as a way to create competitive opportunity than companies in other industries.

# Results

# Process

**Q7. For each of your company's supply chain partners, indicate the aspects of the supply chain management process that your company employs.**

■ = Setting EHS expectations    
 ■ = Acquiring EHS information    
 ■ = Evaluating EHS information    
 ■ = Taking action to address risk or helping to capitalize on opportunities    
 ■ = Evaluating effectiveness of process

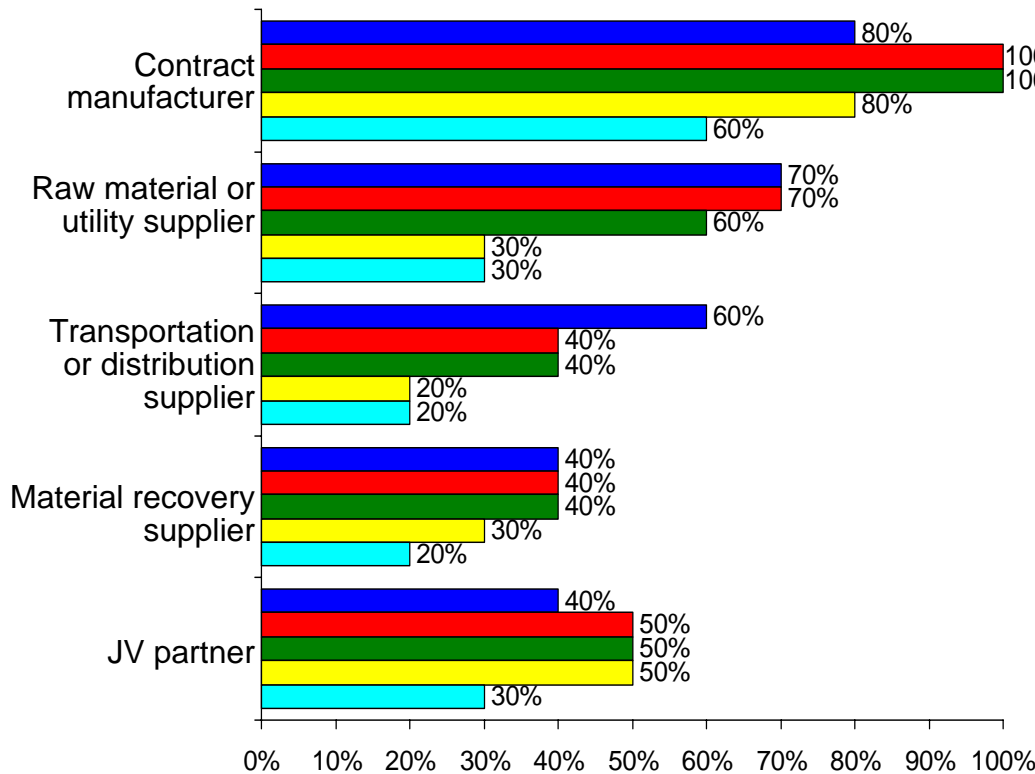


# Results

## Process - Pharmaceutical

**Q7. For each of your company's supply chain partners, indicate the aspects of the supply chain management process that your company employs.**

■ = Setting EHS expectations     
 ■ = Acquiring EHS information     
 ■ = Evaluating EHS information     
 ■ = Taking action to address risk or helping to capitalize on opportunities     
 ■ = Evaluating effectiveness of process



- Pharmaceutical companies appear to apply a broader supply chain management process for contract manufacturers and raw material suppliers than for other partners.
- Only 30% of pharmaceutical companies take actions to address risk or evaluate the effectiveness of the process for raw material or utility suppliers. The percentage is even lower for transportation and distribution suppliers.
- For transportation and distribution partners, most pharmaceutical companies focus on setting EHS expectations.

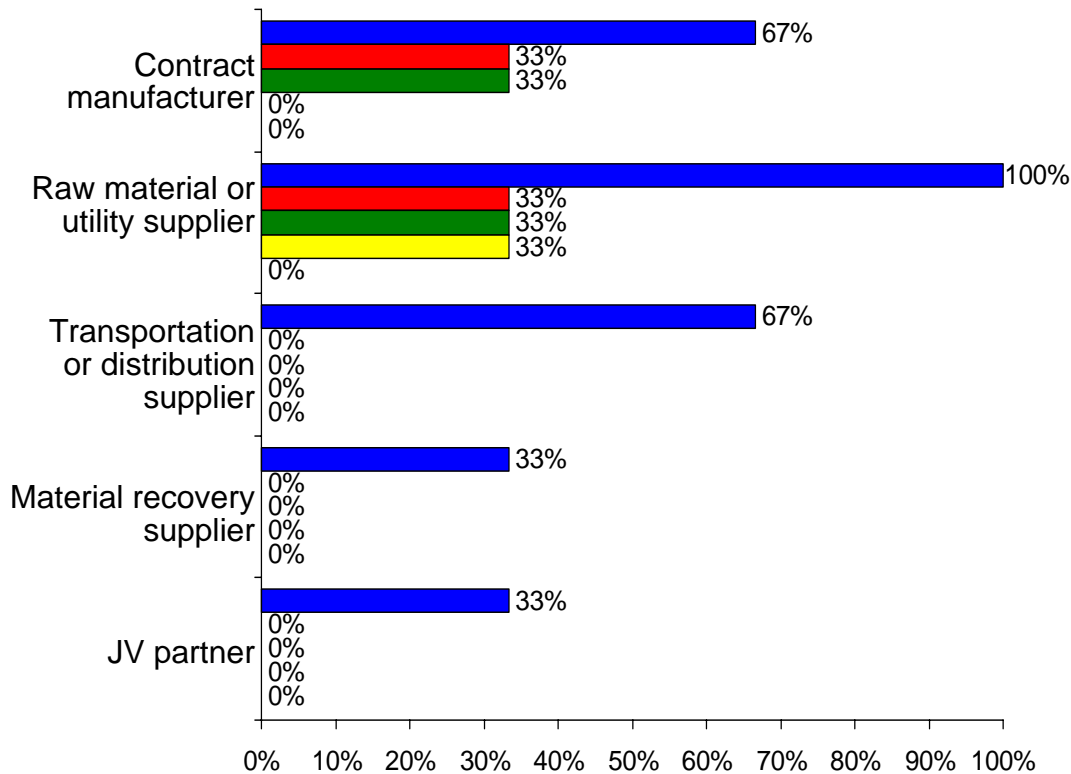
**Pharmaceutical/Health Care (n=10)**

# Results

## Process – Consumer Products

**Q7. For each of your company’s supply chain partners, indicate the aspects of the supply chain management process that your company employs.**

■ = Setting EHS expectations     
 ■ = Acquiring EHS information     
 ■ = Evaluating EHS information     
 ■ = Taking action to address risk or helping to capitalize on opportunities     
 ■ = Evaluating effectiveness of process



- Consumer products companies typically have a limited supply chain management process that focuses on setting EHS expectations for its supply chain partners.
- Consumer products companies employ their supply chain management process more with contract manufacturers, raw material suppliers and transportation/distribution suppliers than with material recovery suppliers or JV partners.

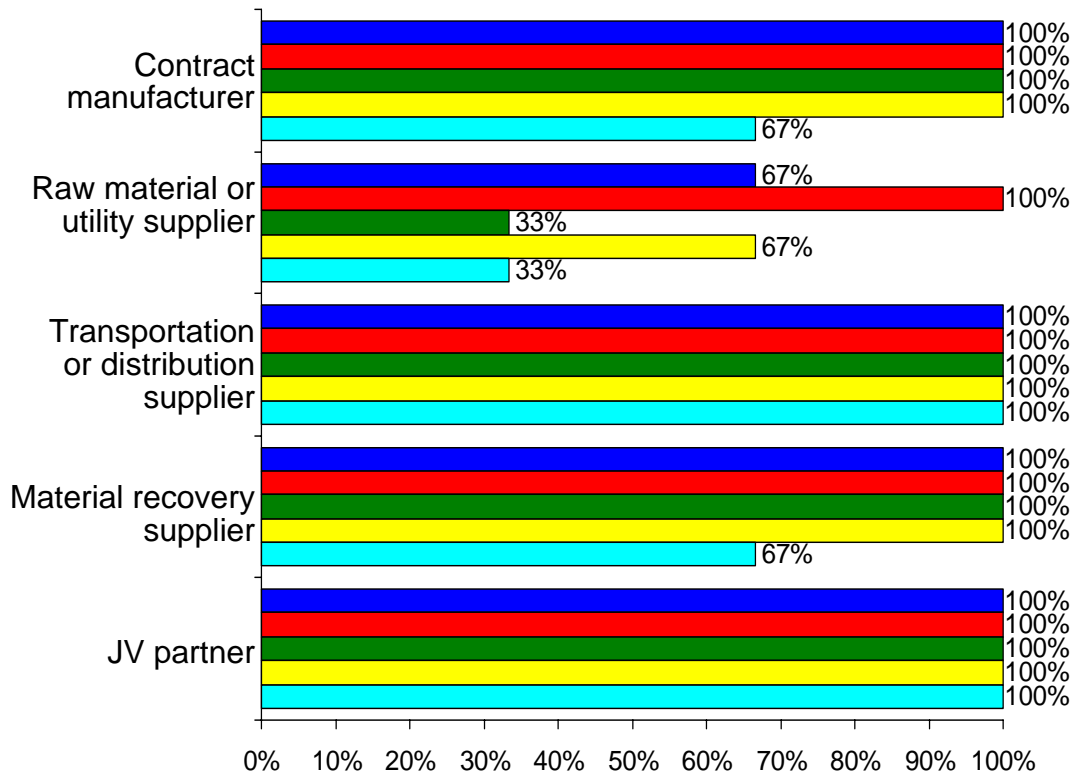
**Consumer Products (n=3)**

# Results

## Process – Chemical

**Q7. For each of your company's supply chain partners, indicate the aspects of the supply chain management process that your company employs.**

■ = Setting EHS expectations    
 ■ = Acquiring EHS information    
 ■ = Evaluating EHS information    
 ■ = Taking action to address risk or helping to capitalize on opportunities    
 ■ = Evaluating effectiveness of process



- Generally, the chemical companies have a very robust process that includes all aspects of supply chain management.
- Chemical companies apply their their supply chain management process to all types of partners.
- If there is one aspect of the supply chain management process that is not consistently implemented, it is evaluating the effectiveness of the process.
- Chemical companies appear to do less with raw material suppliers than with other supply chain partners.

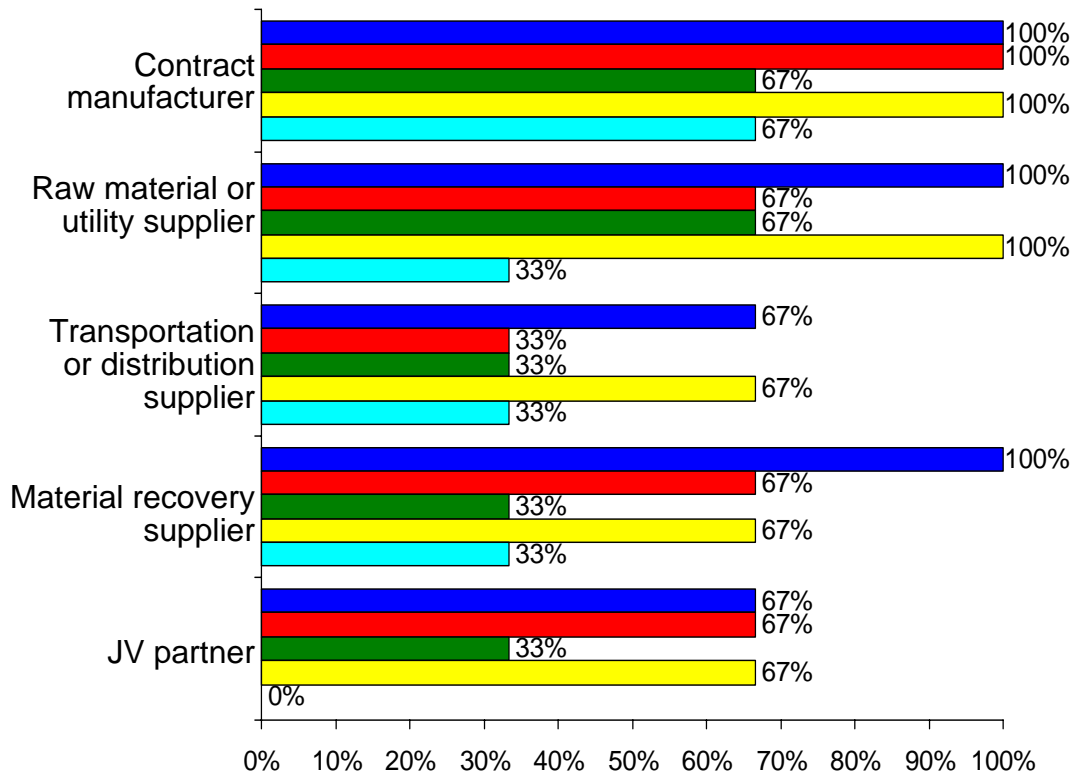
**Chemicals (n=3)**

# Results

## Process – Technology

**Q7. For each of your company's supply chain partners, indicate the aspects of the supply chain management process that your company employs?**

■ = Setting EHS expectations     
 ■ = Acquiring EHS information     
 ■ = Evaluating EHS information     
 ■ = Taking action to address risk or helping to capitalize on opportunities     
 ■ = Evaluating effectiveness of process



**Technology (n=3)**

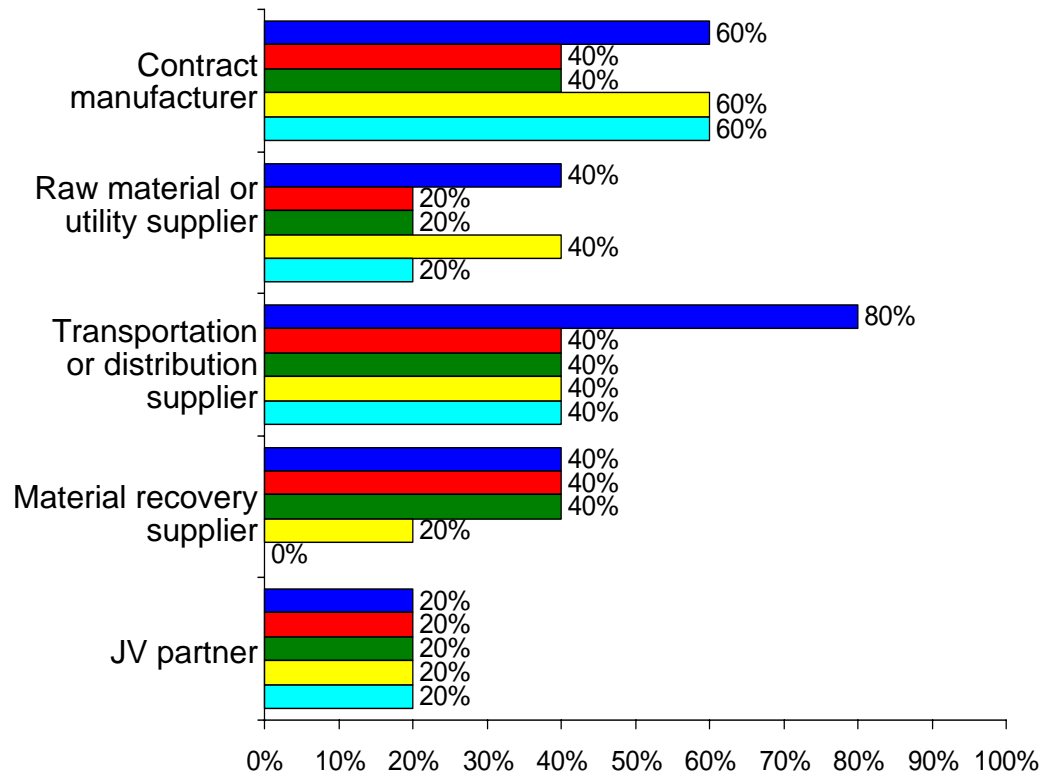
- Generally, technology companies apply their supply chain management process to all types of partners, although they seem to do more with contract manufacturers and raw material suppliers.
- For transportation and distribution suppliers, most technology companies focus on setting EHS expectations and taking actions to address risk
- As with other industries, technology companies do not consistently evaluate the effectiveness of the supply chain management process.

# Results

## Process – Other Industries

**Q7. For each of your company’s supply chain partners, indicate the aspects of the supply chain management process that your company employs.**

■ = Setting EHS expectations    
 ■ = Acquiring EHS information    
 ■ = Evaluating EHS information    
 ■ = Taking action to address risk or helping to capitalize on opportunities    
 ■ = Evaluating effectiveness of process



- Companies in ‘Other’ industries appear to focus their supply chain management activities on contract manufacturers and transportation and distribution suppliers.
- Less than 50% of companies in ‘Other’ industries apply their supply chain management process to raw material suppliers, material recovery suppliers or JV partners.
- Generally, companies in ‘Other’ industries focus more on setting EHS expectations than on other steps in the process.

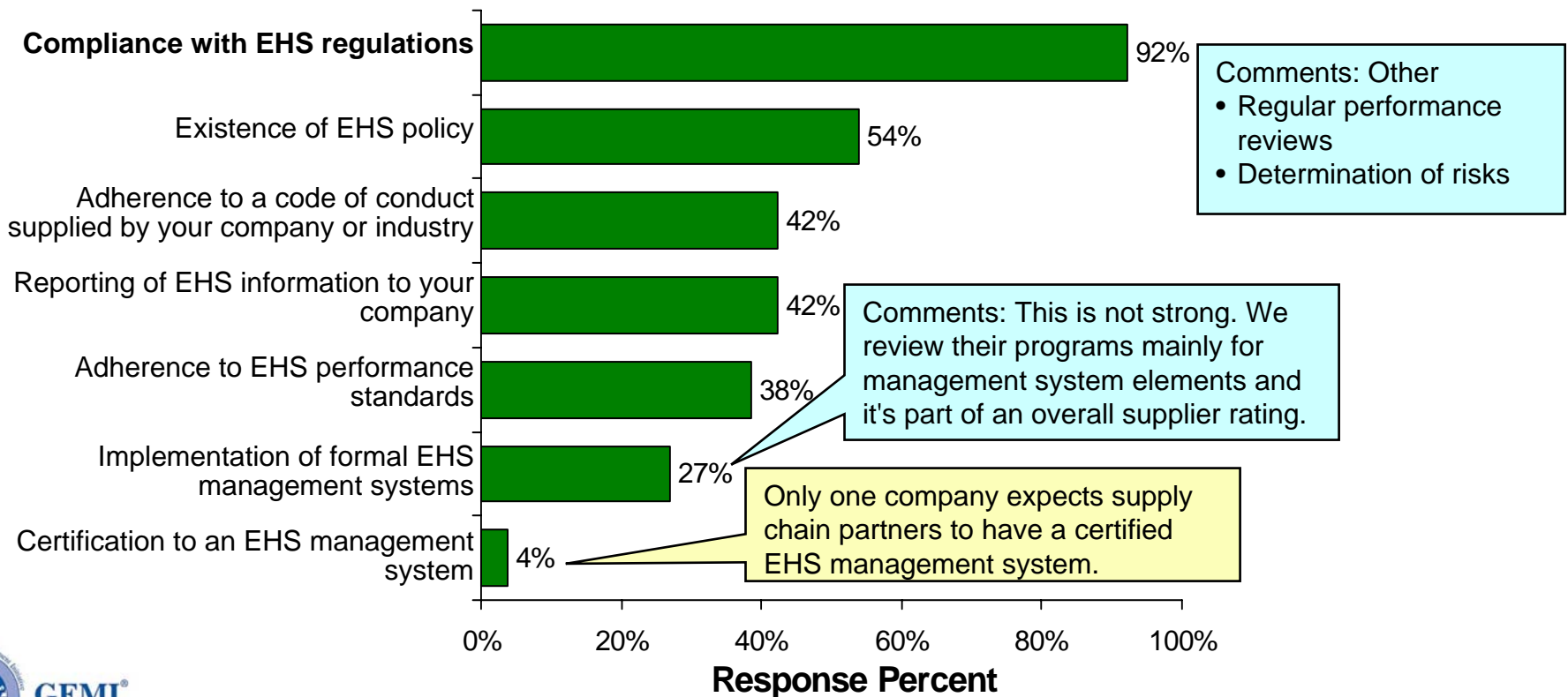
Other (n=5)

# Results

## Setting Expectations

Almost all companies (92%) expect their supply chain partners to comply with EHS regulations. Over half of the companies (54%) also expect their partners to have an EHS policy.

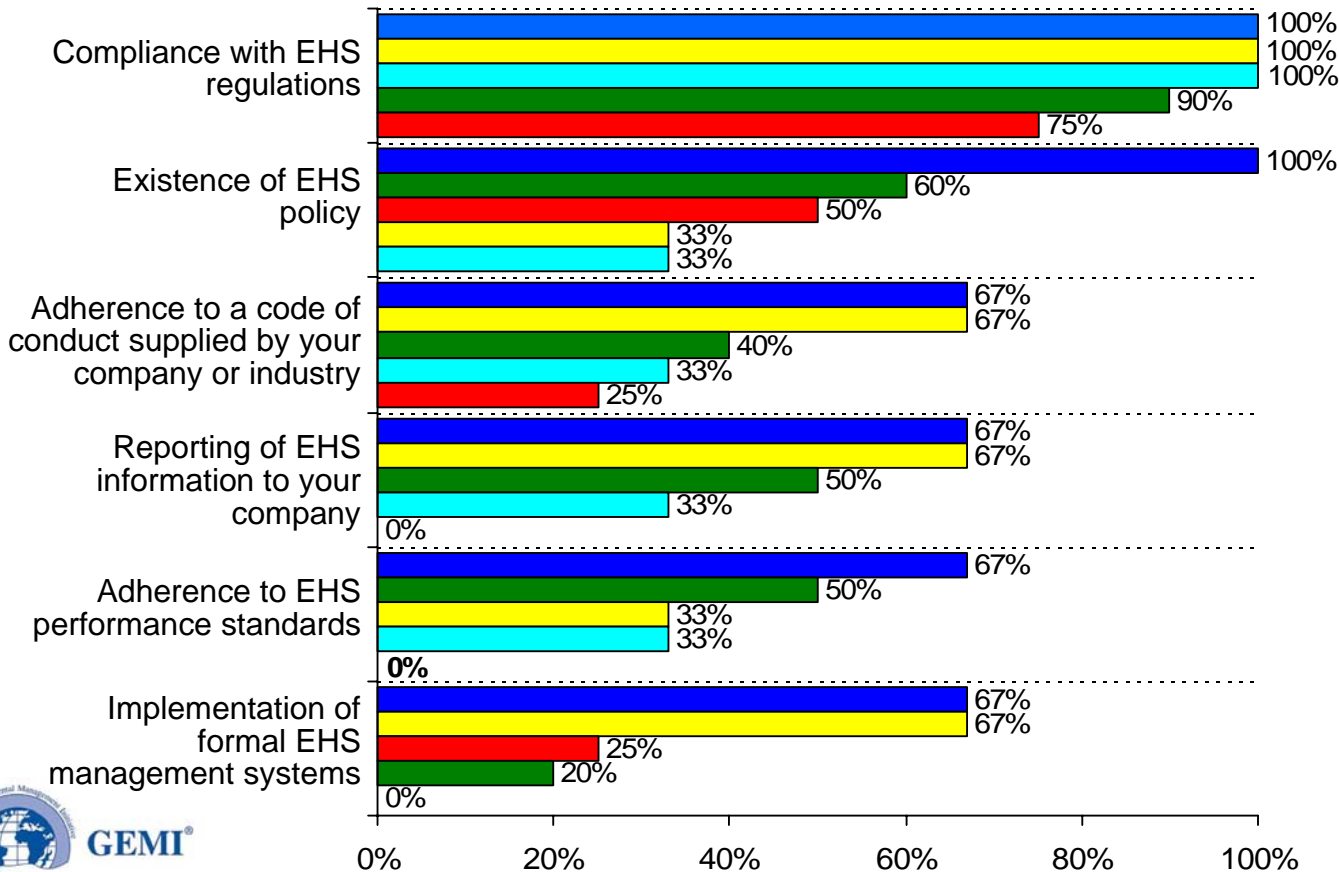
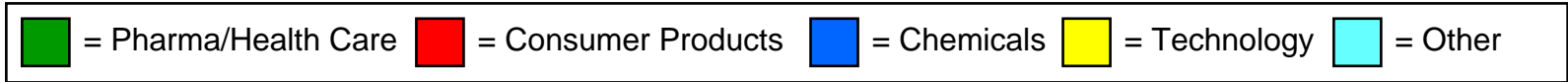
**Q8. What kind of EHS expectations does your company set for its supply chain partners? (n=26)**



# Results

## Setting Expectations – Industry Analysis

Industry-specific results show that chemical and technology companies tend to have a broader range of expectations for their supply chain partners than companies in other industries.



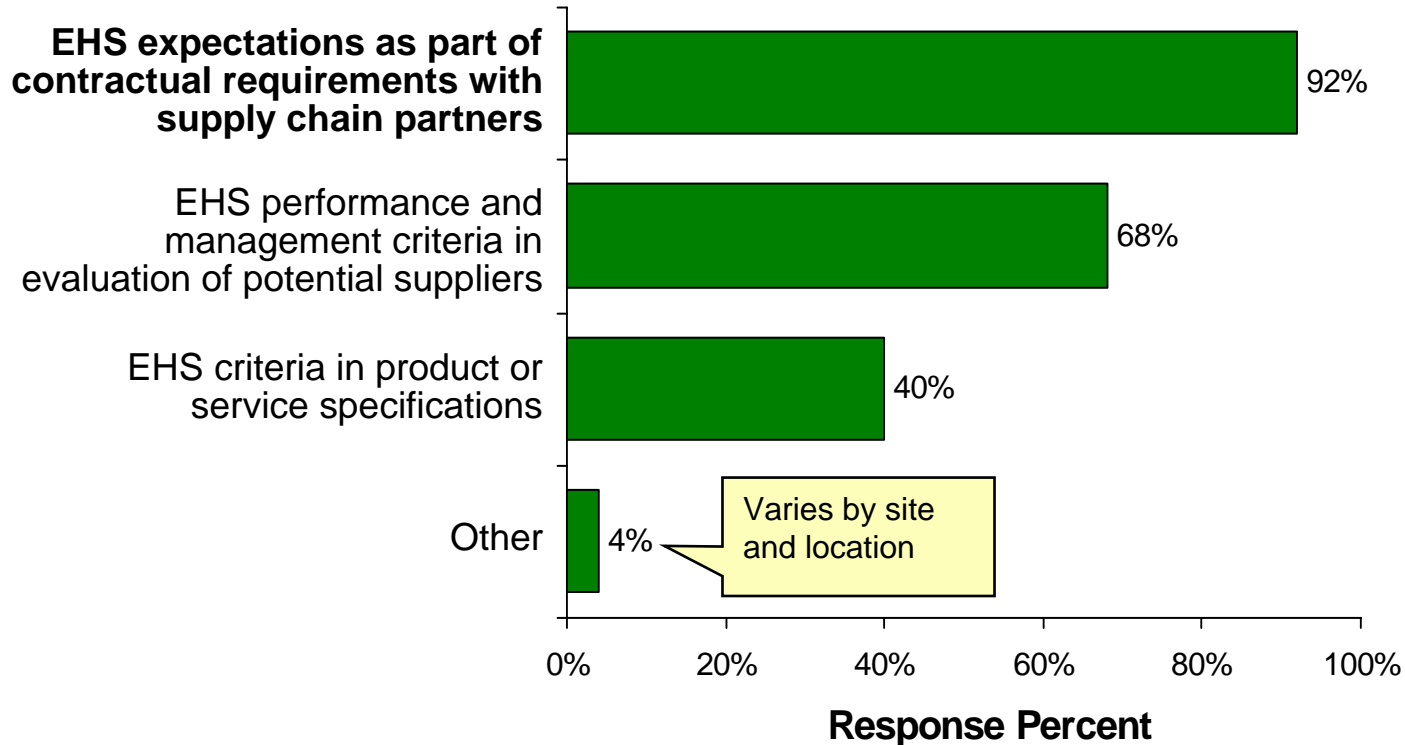
- At least two-thirds of all chemical companies set expectations related to all six of the EHS elements listed on this chart.
- At least two-thirds of all technology companies expect partners to comply with 4/6 EHS elements listed on the chart (EHS regulations, adhere to a code of conduct, report EHS information, and or have a formal EHS management system).
- Only one third of Technology companies expect partners to have an EHS policy

# Results

## Communicating Expectations

Companies typically communicate their expectations as part of contractual requirements.

**Q9. In what manner does your company set EHS expectations upon its supply chain partners? (n=25)**



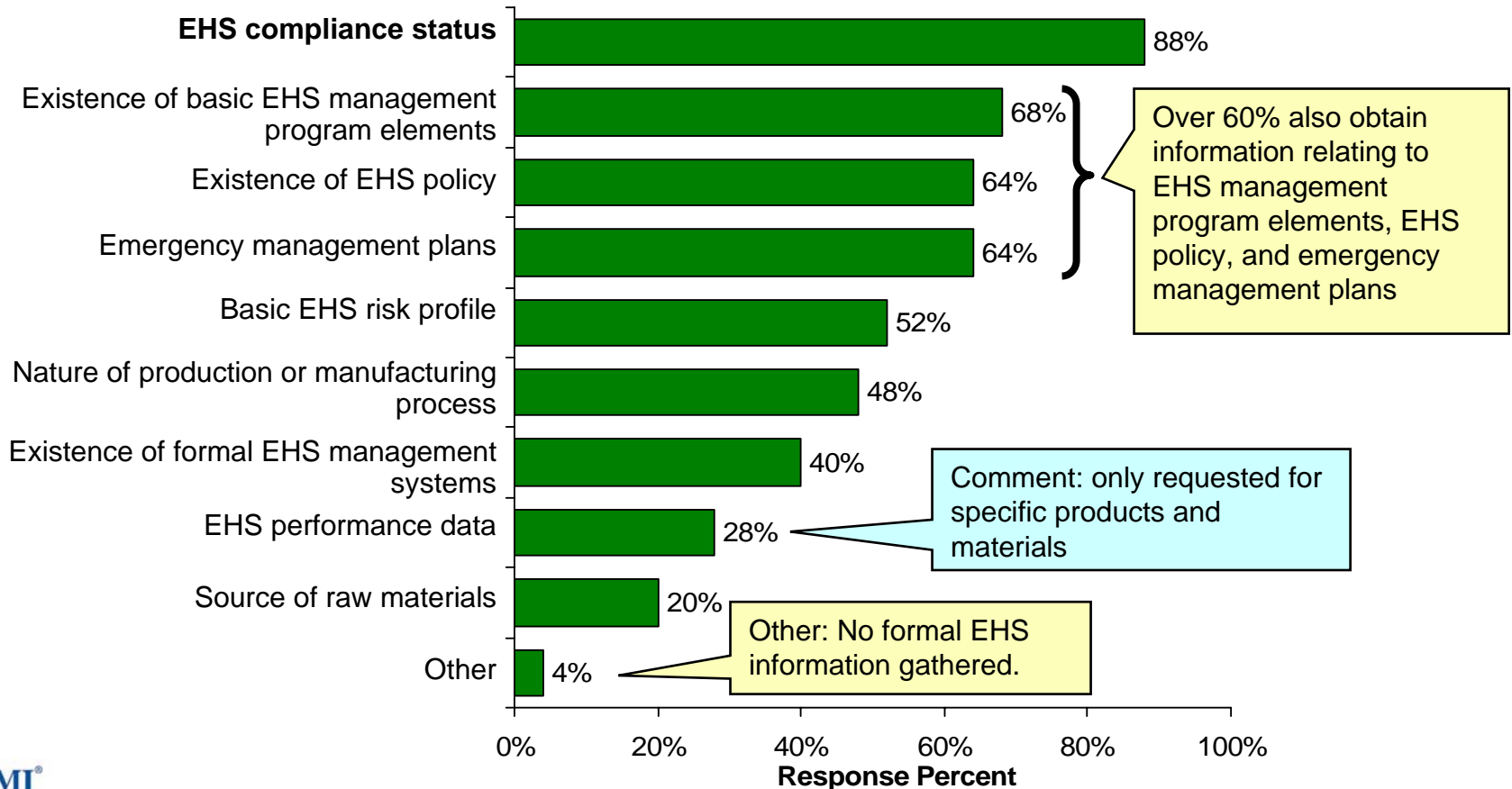
*There were few differences noted when comparing industry responses.*

# Results

## Acquiring Information

**EHS compliance status is the type of information most sought (88%) from supply chain partners.**

**Q10. What type of information does your company seek from its supply chain partners? (n=25)**



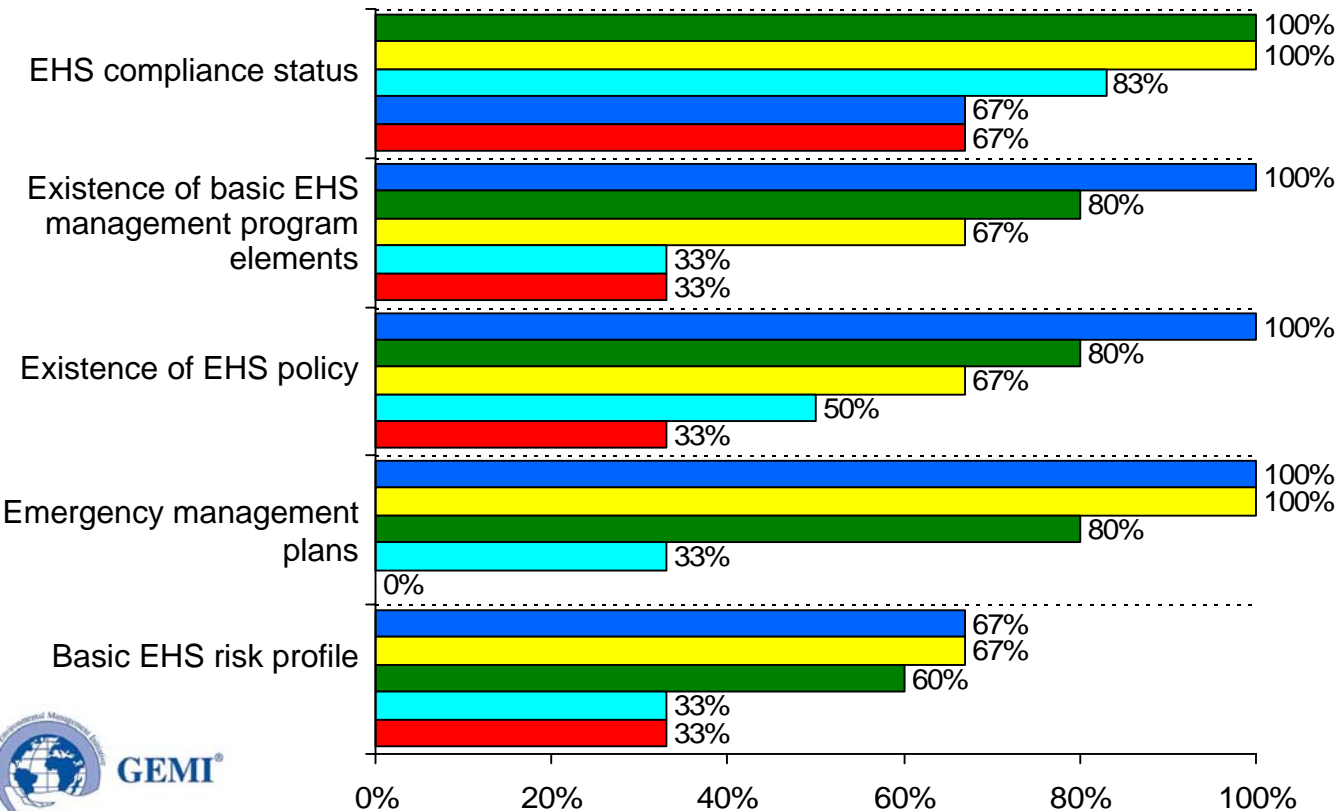
# Results

## Acquiring Information – Industry Analysis

Industry-specific results show that, in general, consumer products companies do not seek out as much EHS information from their supply chain partners as do companies in other industries.

**Q10. What type of information does your company seek from its supply chain partners? (n=25)**

■ = Pharma/Health Care   
 ■ = Consumer Products   
 ■ = Chemicals   
 ■ = Technology   
 ■ = Other



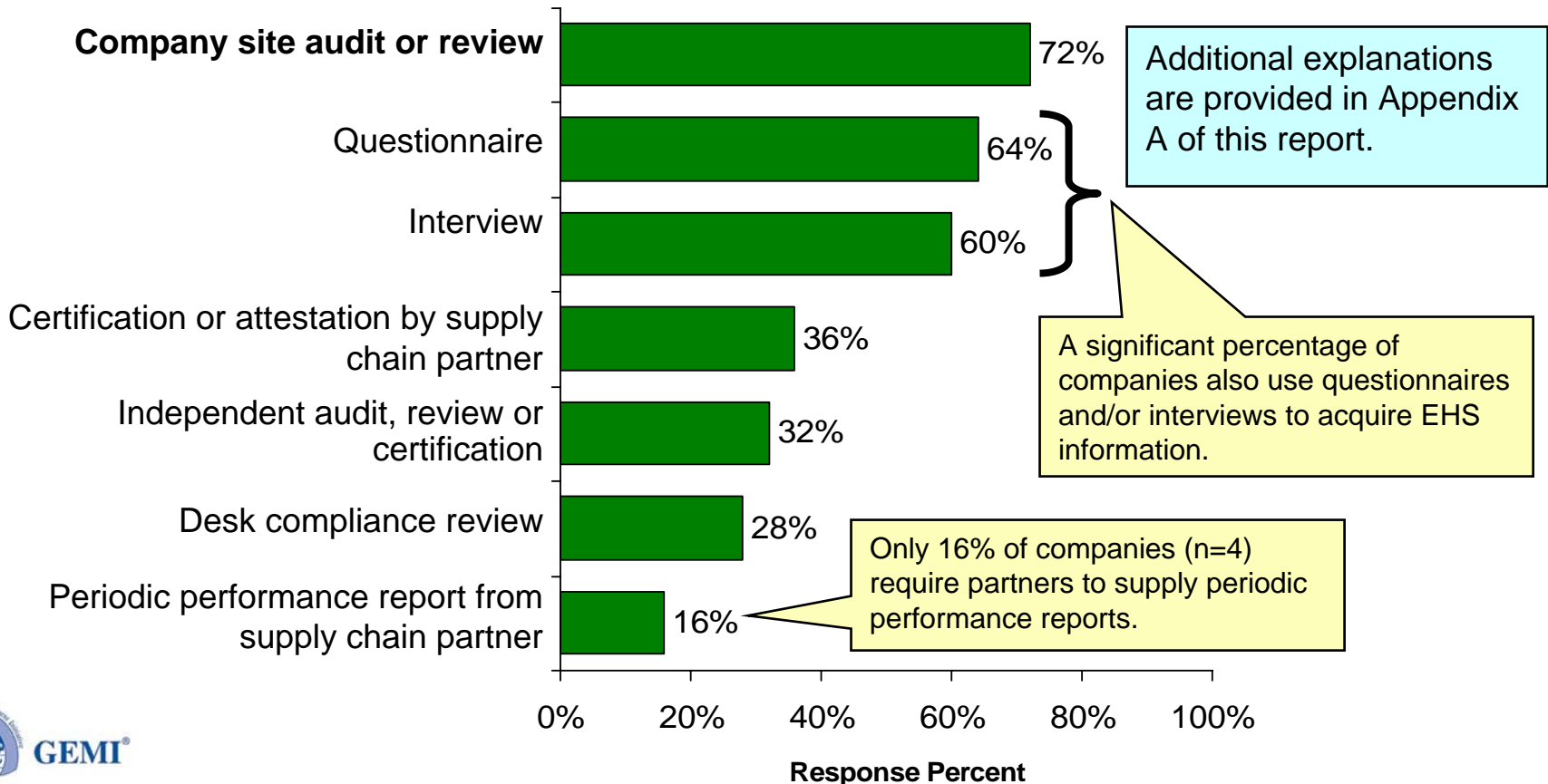
- Only one-third of the consumer products companies seek out information related to the partners' EHS management programs, their EHS policy, and/or their risk profile.
- Consumer products is the only industry in which companies do not seek information related to emergency management plans from supply chain partners.
- In general, the chemical companies seek the broadest types of information.

# Results

## Acquiring Information

Seventy-two percent (72%) of companies use site audits or reviews to acquire EHS information from supply chain partners.

**Q11. How does your company acquire the information from its supply chain partners? (n=25)**



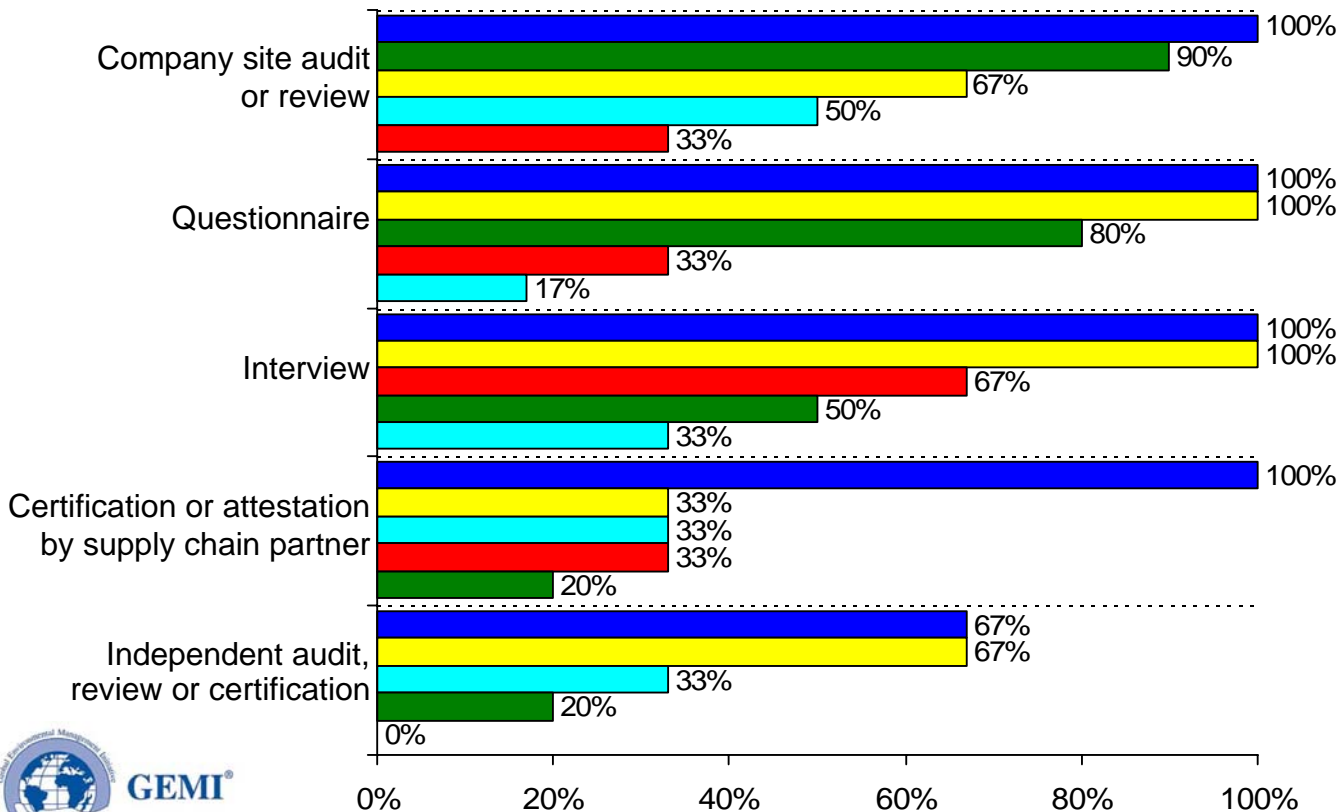
# Results

## Acquiring Information – Industry Analysis

Analysis of industry data shows several differences in how companies obtain EHS information from supply chain partners.

**Q11. How does your company acquire the information from its supply chain partners? (n=25)**

■ = Pharma/Health Care 
 ■ = Consumer Products 
 ■ = Chemicals 
 ■ = Technology 
 ■ = Other



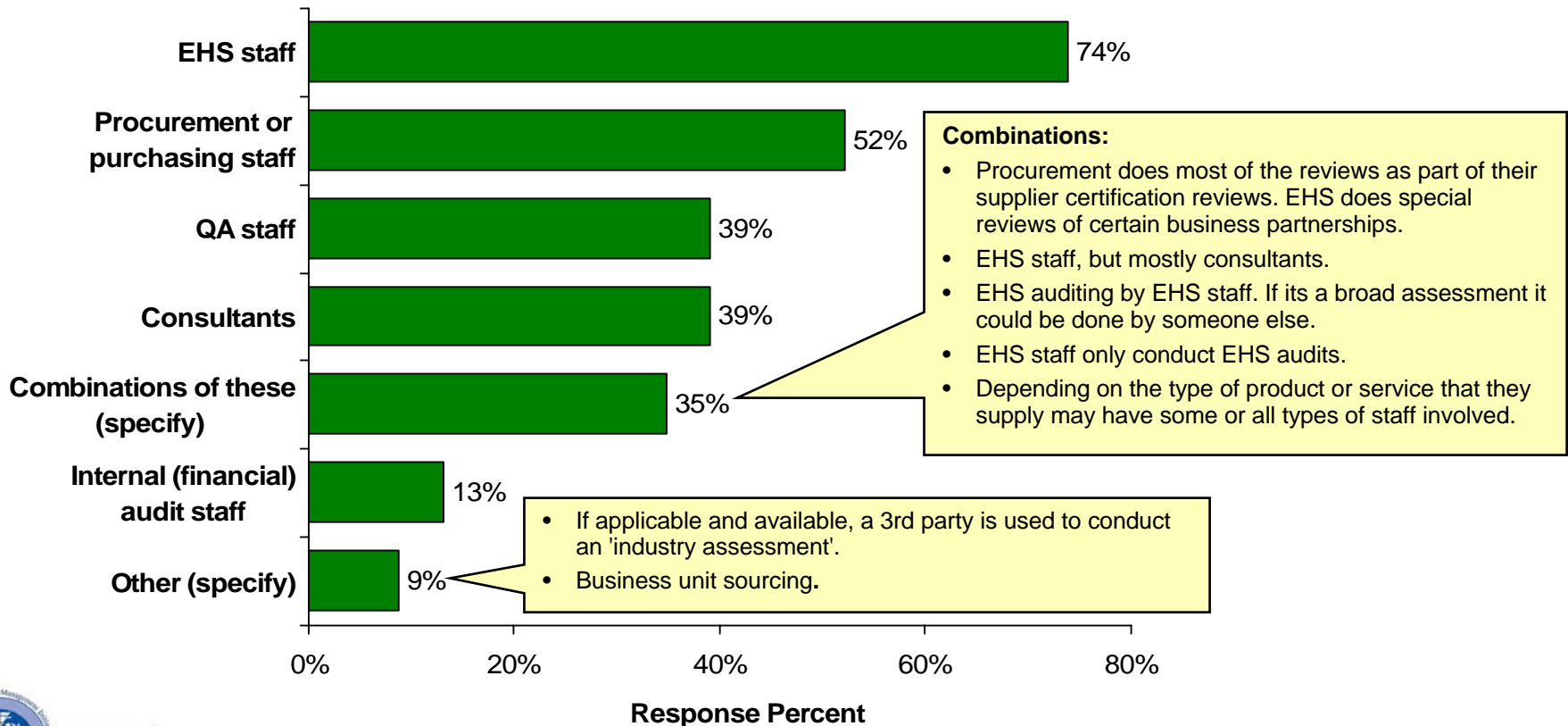
- Consumer products was the only industry in which less than half of the companies conduct company site audits/reviews of their supply chain partners.
- Consumer products companies were also less likely to use questionnaires
- Chemicals and technology were the only industries in which more than two-thirds of the companies use interviews and/or independent audits/certification to obtain EHS Information.
- Chemicals was the only industry in which a significant percentage of companies obtain certification/attestation from supply chain partners.

# Results

## Evaluating Information

Audits or reviews of supply chain partners are mostly done by EHS staff.

**Q12. If your company conducts audits or reviews of supply chain partners, who conducts them? (n=23)**

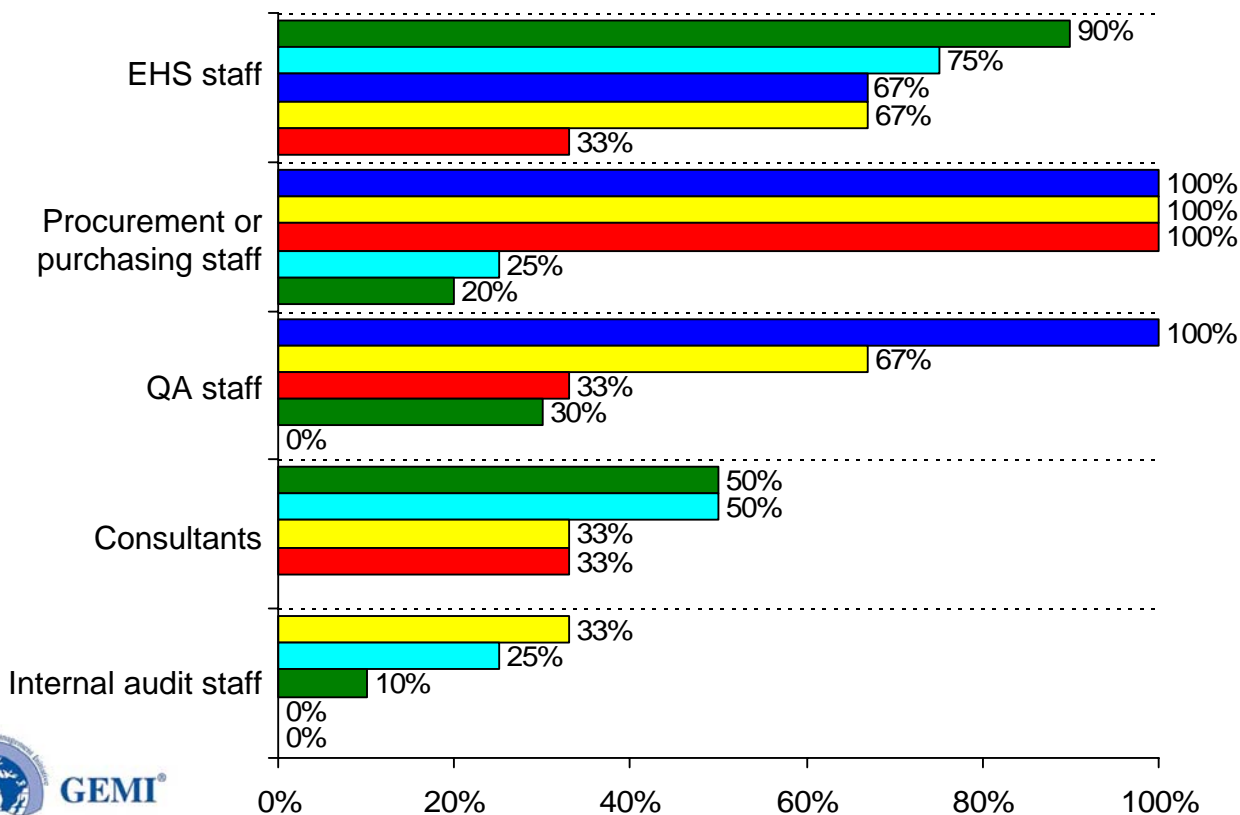


# Results

## Evaluating Information – Industry Analysis

However, when responses are broken down by industry, several differences are noted.

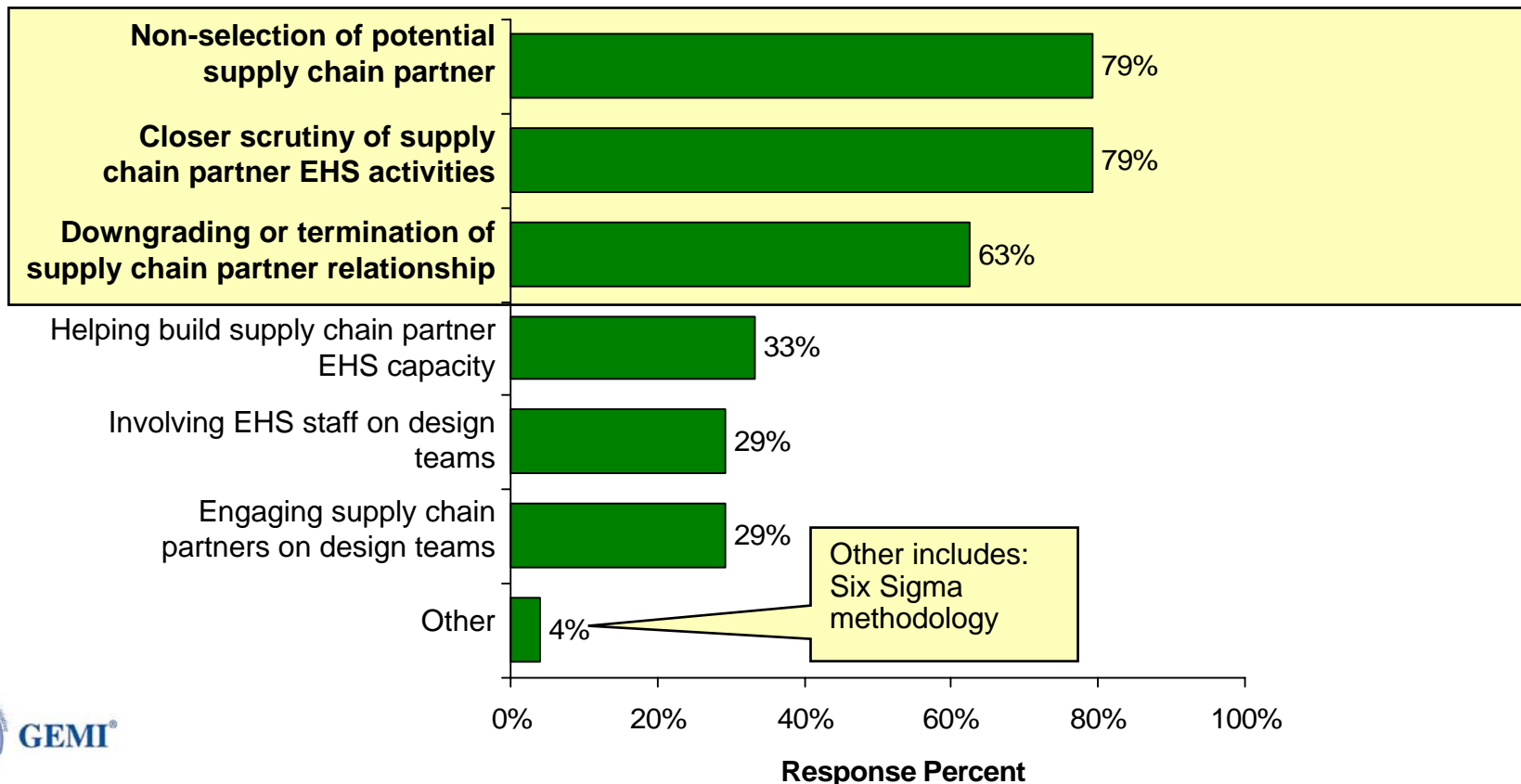
**Q12. If your company conducts audits or reviews of supply chain partners, who conducts them? (n=23)**



- Consumer products was the only industry in which less than 50% of the companies use EHS staff to conduct audits/reviews of partners.
- A significantly smaller percentage pharmaceutical companies use procurement or purchasing staff to conduct reviews than do chemicals, technology, or consumer products companies.
- Chemicals and technology were the only industries in which more than 50% of the companies use QA staff to conduct audits/reviews of supply chain partners.

Managing the EHS risks associated with supply chain relationships often involves some type of negative action.

**Q13. What kinds of actions are taken to manage EHS risk or help capitalize on opportunities arising from supply chain partners? (n=24)**

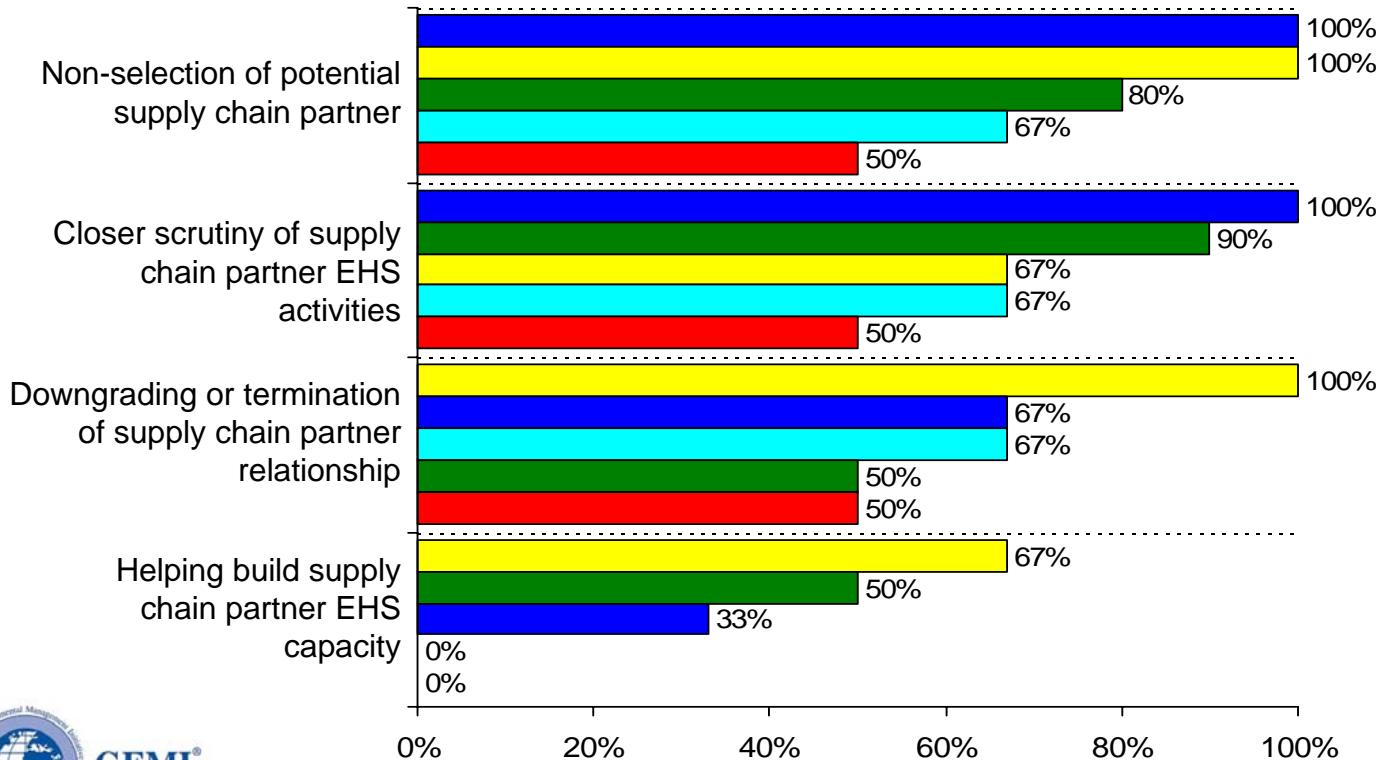
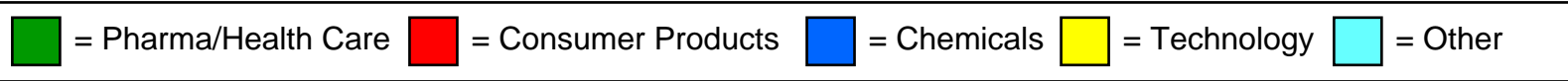


# Results

## Taking Action – Industry Analysis

When some of the responses are broken down by industry, several differences are noted.

**Q13. What kinds of actions are taken to manage EHS risk or help capitalize on opportunities arising from supply chain partners? (n=24)**



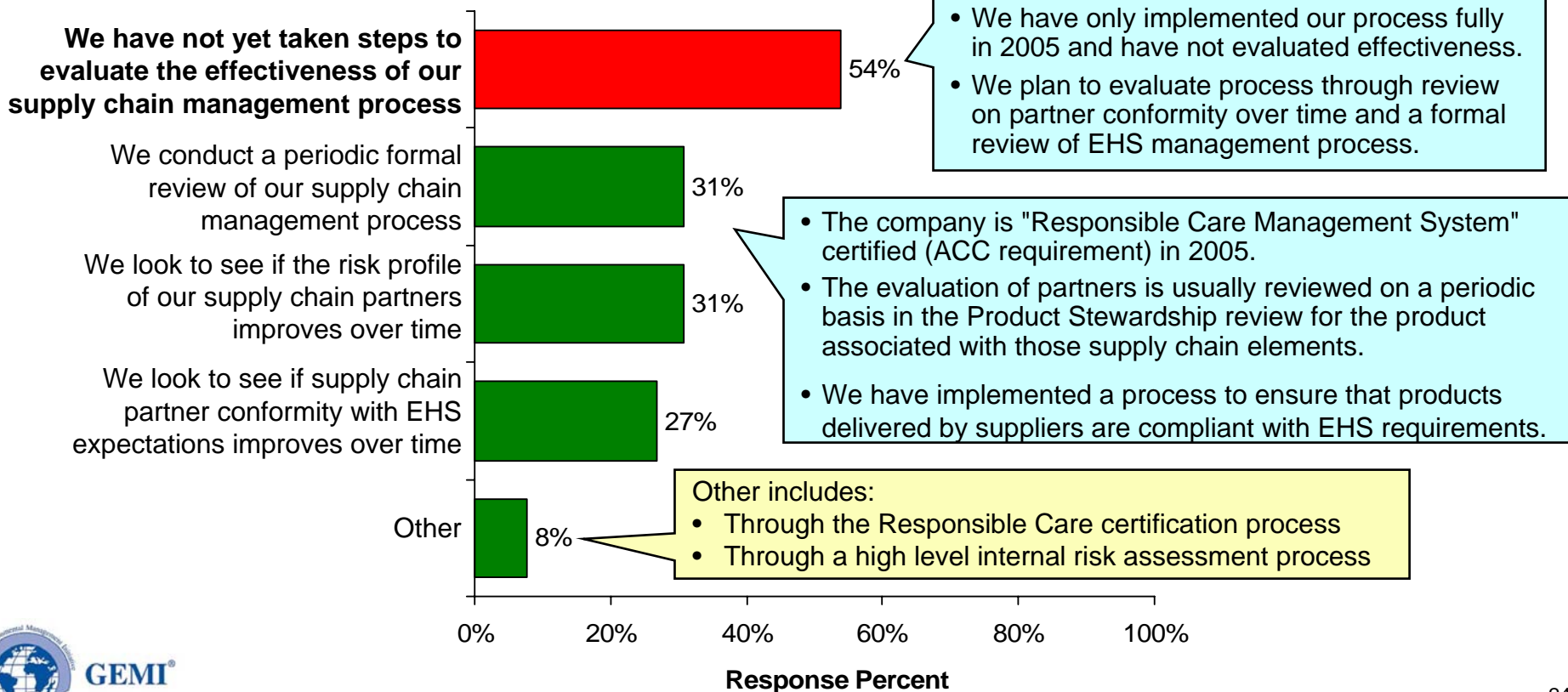
- Only 25% of consumer products companies reported taking any one type of action to manage the EHS risks of their suppliers.
- The technology industry was the only industry in which greater than 50% of companies help build supply chain partner EHS capacity. No consumer product companies or companies in 'Other' industries take this type of action.

# Results

## Evaluating Effectiveness

Over half of the companies surveyed (54%) do not evaluate the effectiveness of their supply chain management process. Only 31% conduct formal reviews.

**Q14. How does your company evaluate the effectiveness of its supply chain management process? (n=26)**

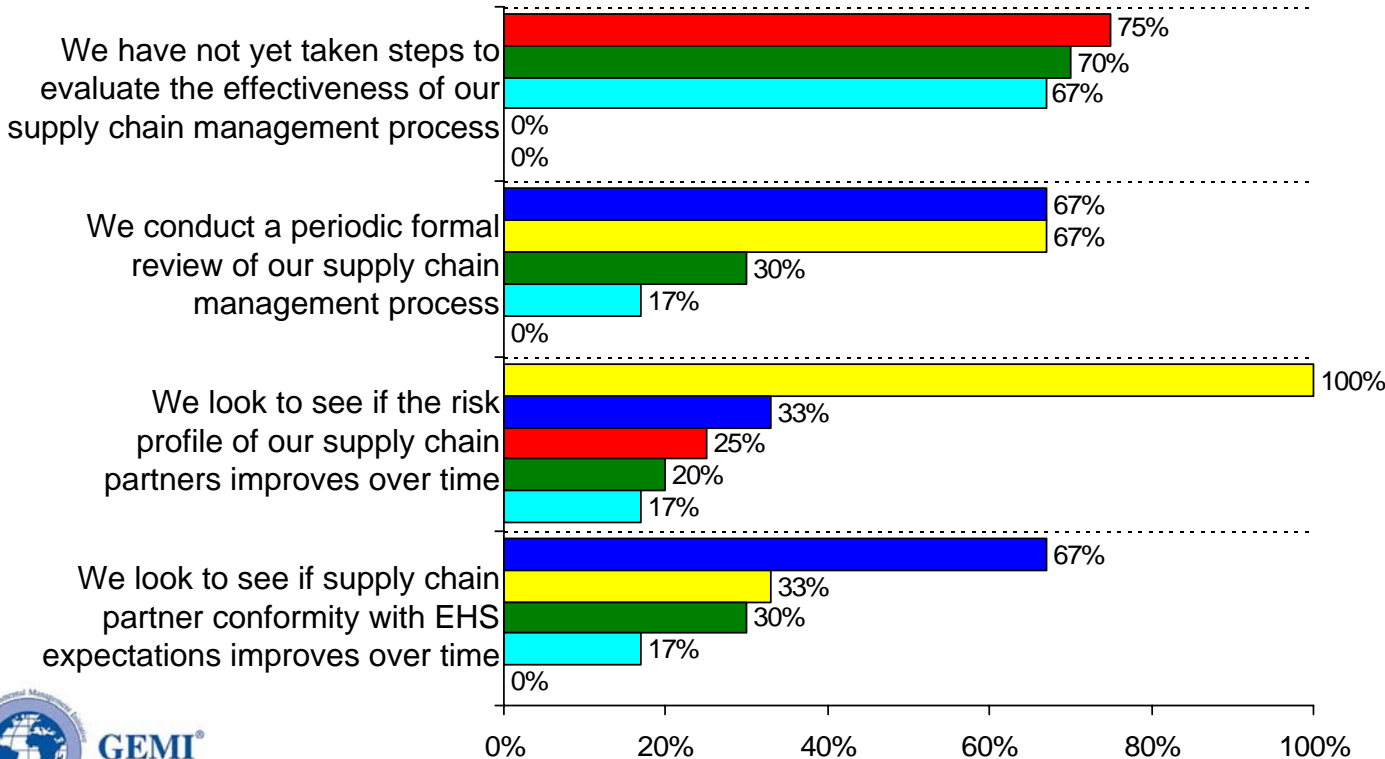


# Results

## Evaluating Effectiveness – Industry Analysis

However, industry-specific data show that all chemical and technology companies evaluate the effectiveness of their process in some manner.

**Q14. How does your company evaluate the effectiveness of its supply chain management process? (n=26)**

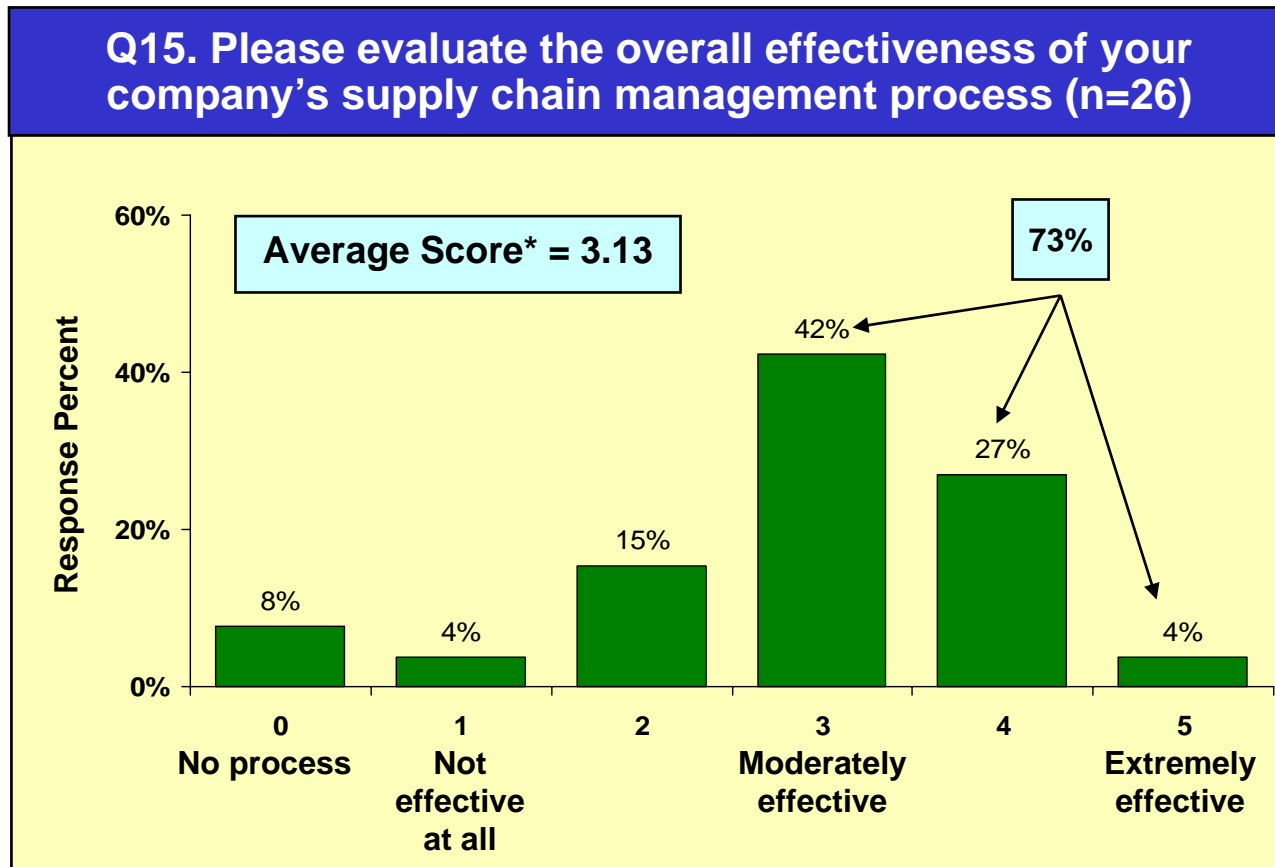


- Two-thirds of all chemical and technology companies conduct a periodic review of their supply chain management process.
- All technology companies assess the risk profile of their supply chain partners as a measurement of effectiveness.
- Two thirds of all chemical companies assess whether conformity to EHS expectations improve over time.

# Results

## Evaluating Effectiveness

Most companies (73%) believe that their supply chain management process is at least moderately effective.

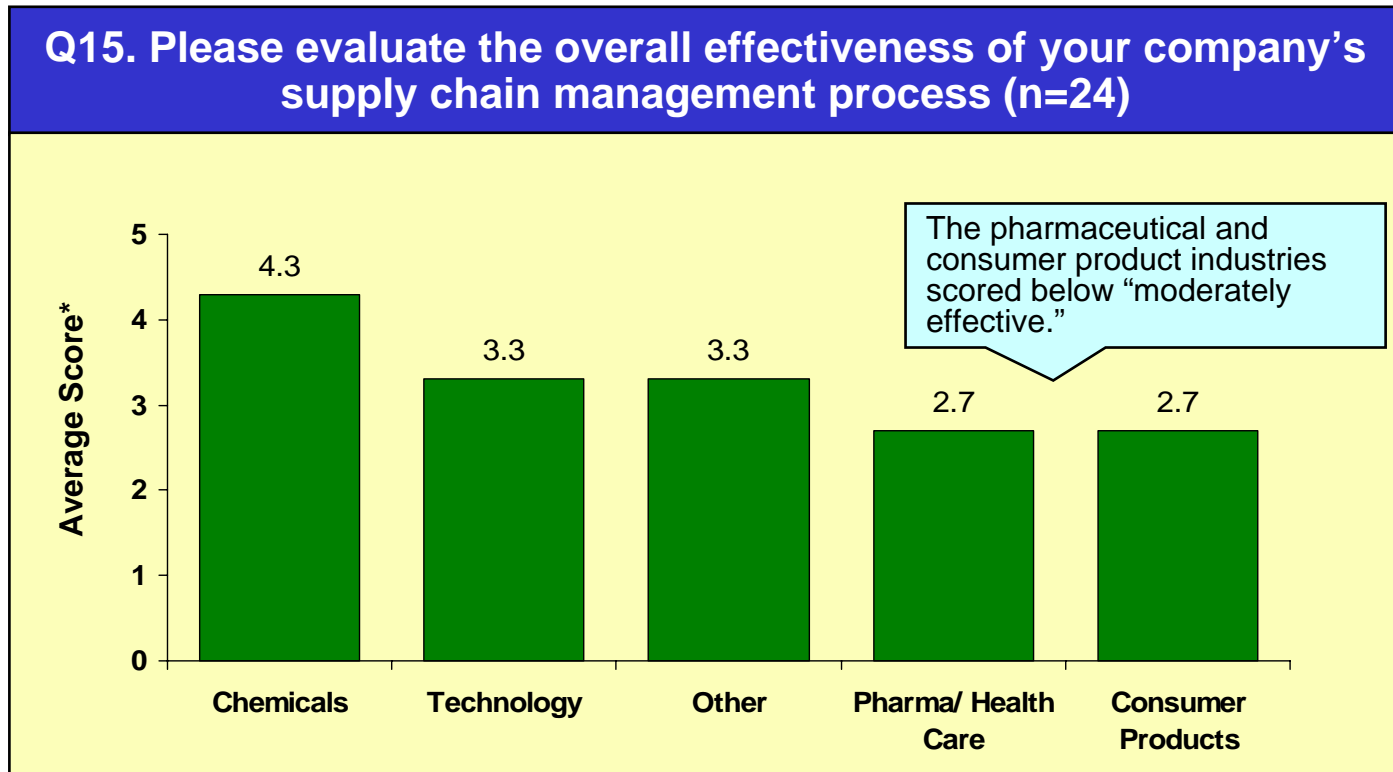


\*Average Score represents a response average of 24 respondents; responses of '0' (no process) were not included in calculating averages.

# Results

## Evaluating Effectiveness – Industry Analysis

When an average effectiveness score was calculated for each industry, the chemical industry was the only industry that scored well above “moderately effective.”



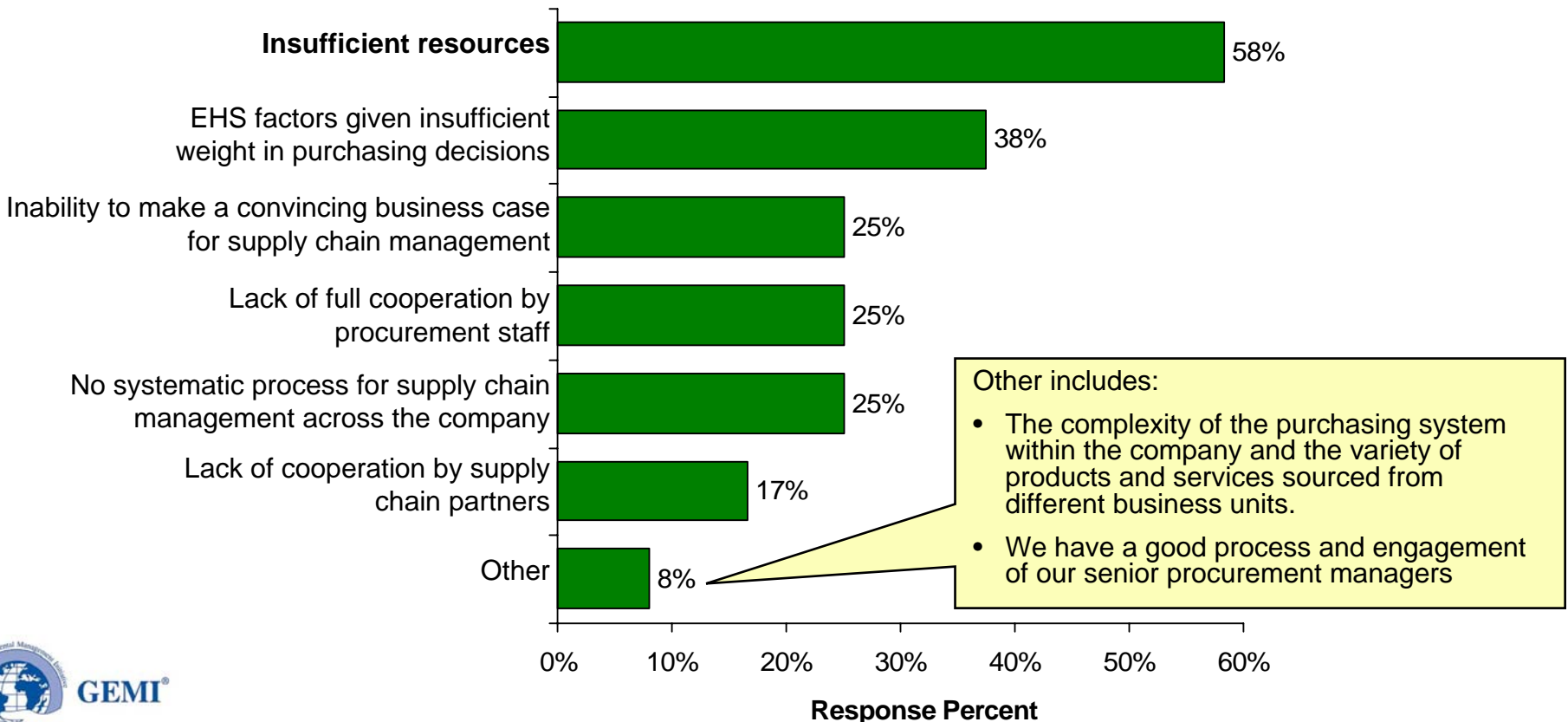
\*Average Score represents a response average based on the following definitions:  
1 = Not effective at all; 3 = Moderately effective; 5 = Extremely effective.  
Responses of '0' (we have no process) were not included in calculating averages.

# Results

## Obstacles to Effectiveness

The majority of companies surveyed (58%) cite resources as the most significant obstacle to effective supply chain management.

**Q16. What have been the most significant obstacles to realizing an effective supply chain management process in your company? (n=24)**

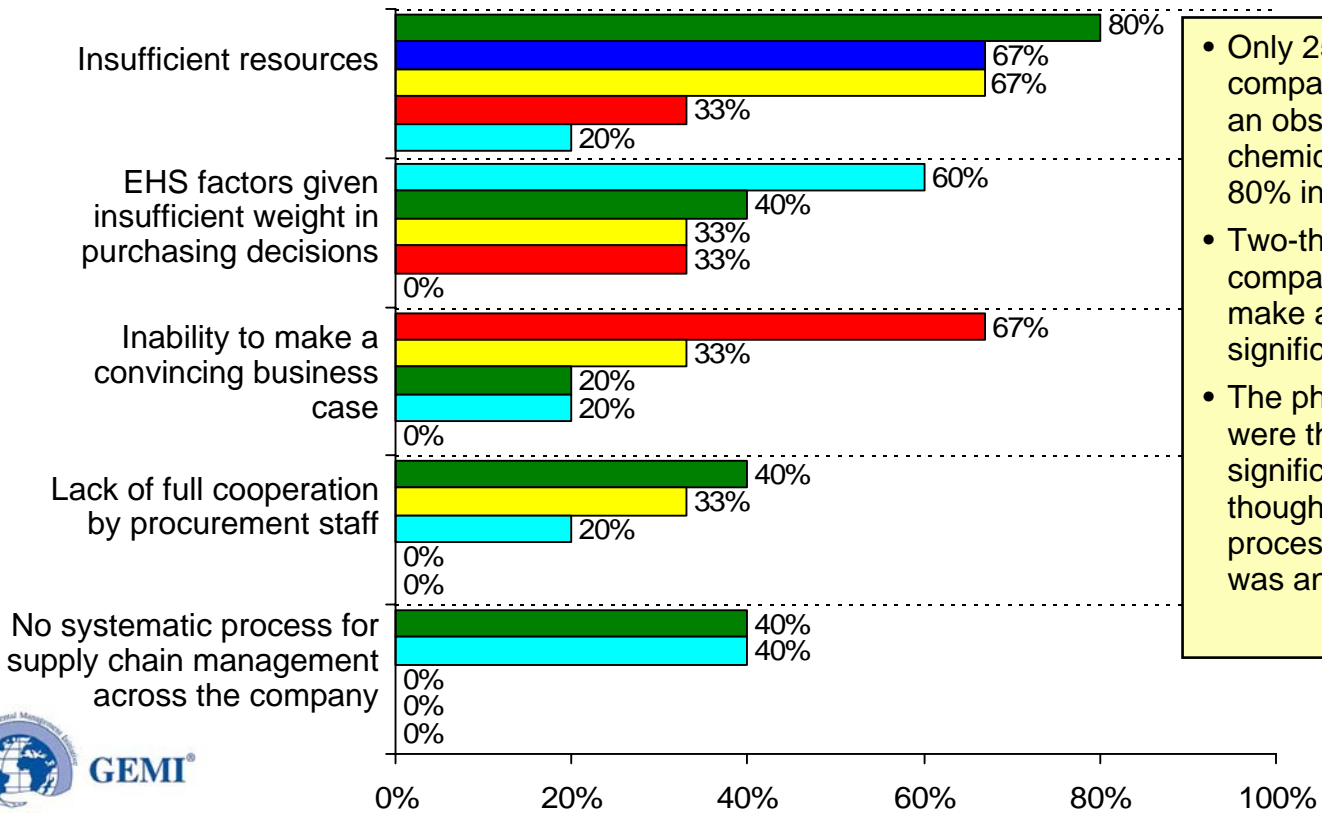


# Results

## Obstacles to Effectiveness – Industry Analysis

However, in the consumer products industry, companies report that the inability to make the business case is the most significant obstacle.

**Q16. What have been the most significant obstacles to realizing an effective supply chain management process in your company? (n=24)**

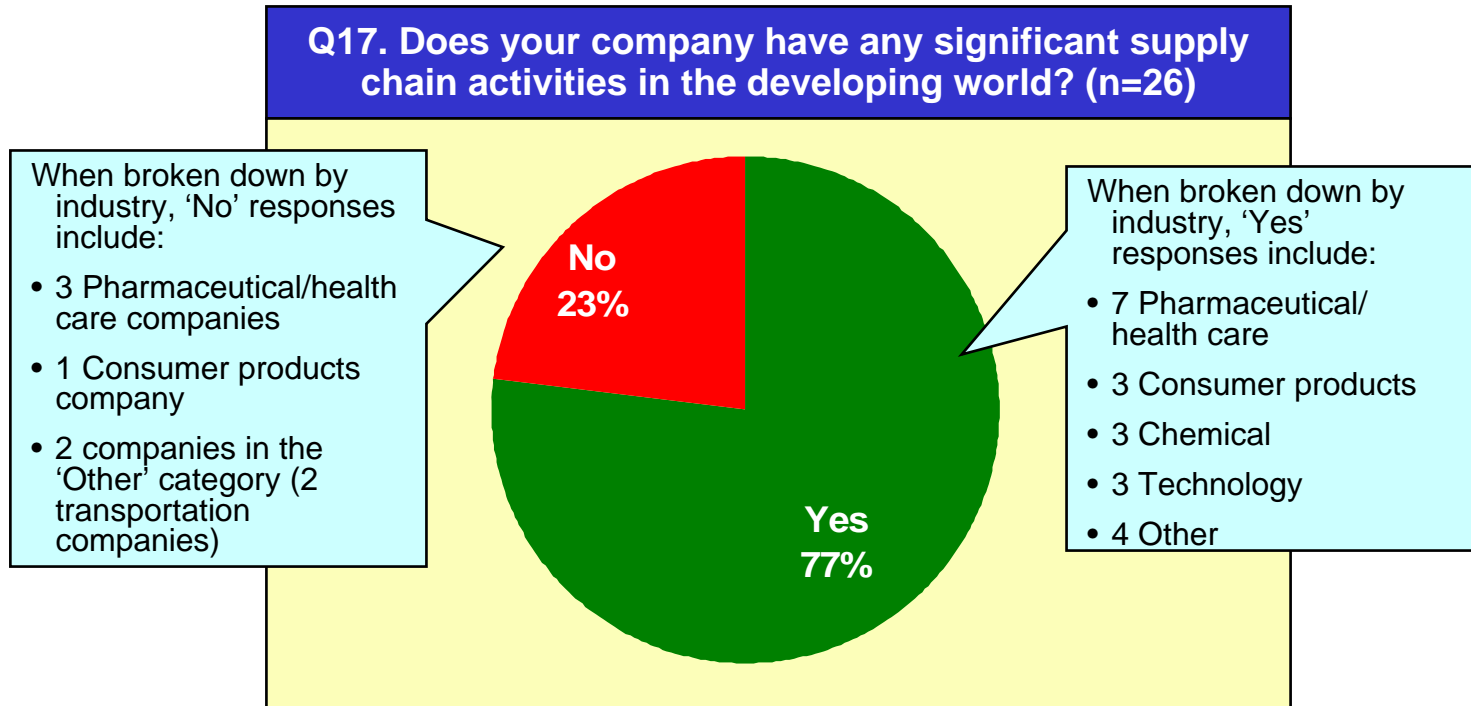


- Only 25% of consumer products companies cite insufficient resources as an obstacle, compared to 67% in the chemicals and technology industries and 80% in the pharmaceutical industry.
- Two-thirds of consumer products companies reported that the inability to make a convincing business case was a significant obstacle.
- The pharmaceutical and 'Other' industries were the only industries in which a significant percentage of companies thought that the lack of a systematic process for supply chain management was an obstacle.

# Results

## *Supply Chain Management in the Developing World*

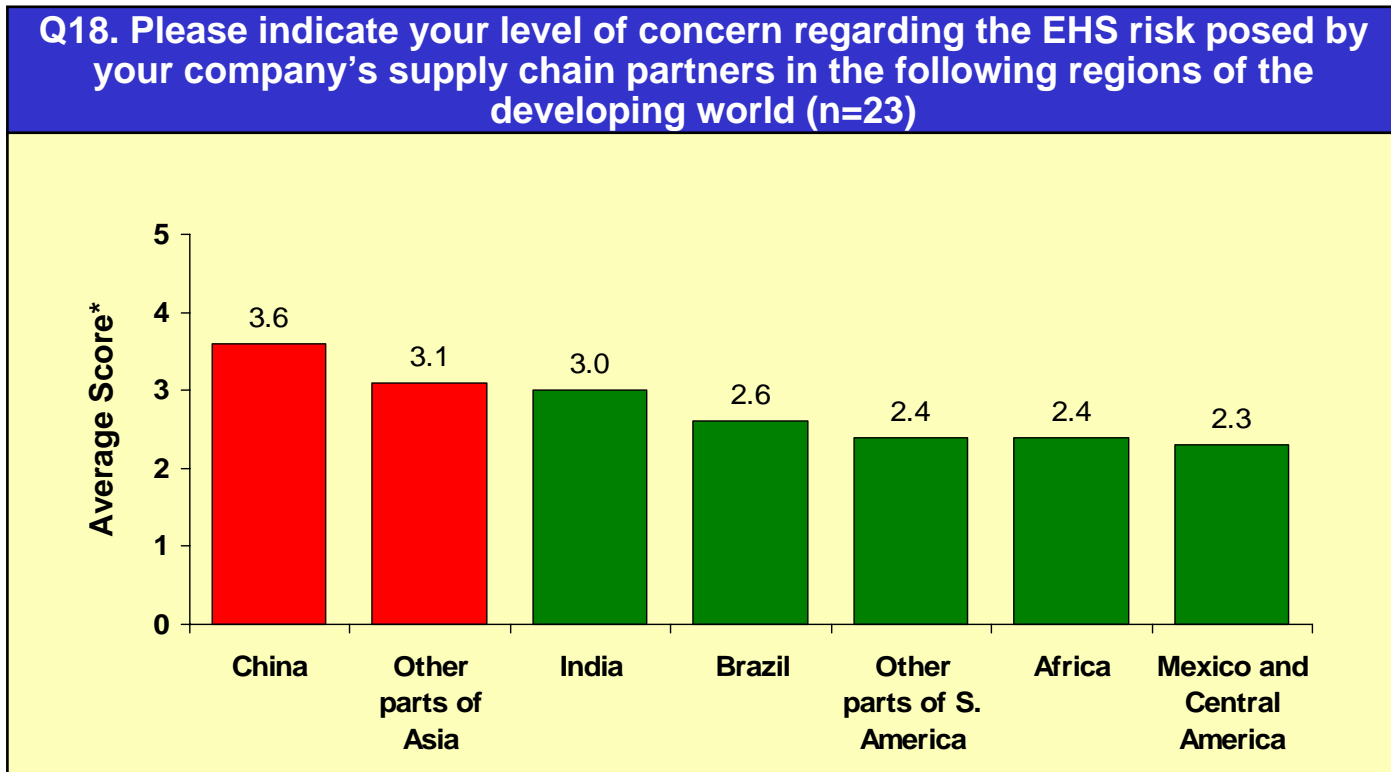
**Seventy-seven percent (77%) of companies have significant supply chain activities in the developing world.**



# Results

## *Developing World – Level of Concern*

Companies report more than a moderate level of concern regarding the EHS risks posed by supply chain partners in China and other parts of Asia.

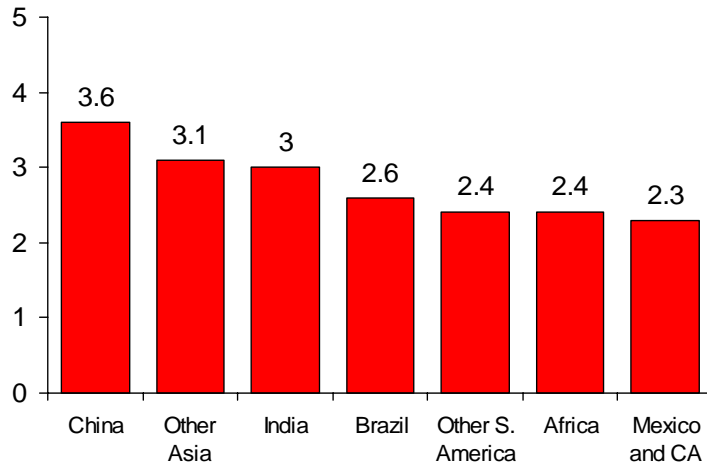


\*Average Score represents a response average based on the following definitions:  
1 = Very low level of concern; 3 = Moderate level of concern; 5 = Extremely high level of concern  
Responses of '0' (we have no significant activities in this part of the world) were not included in calculating averages.

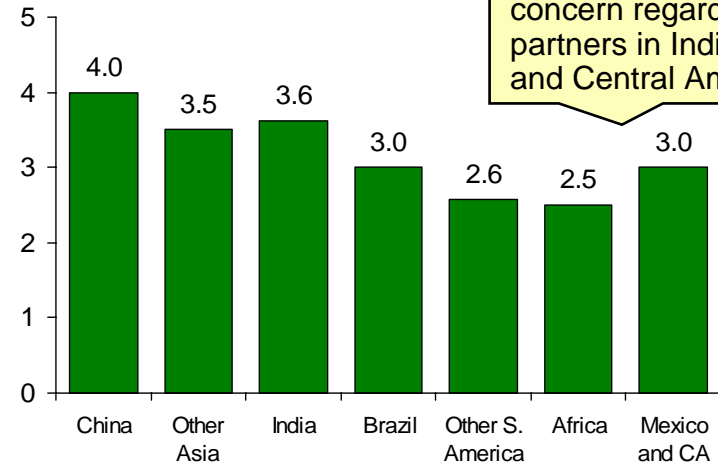
# Results

## Developing World – Level of Concern by Industry

**Total Response (n=23)**

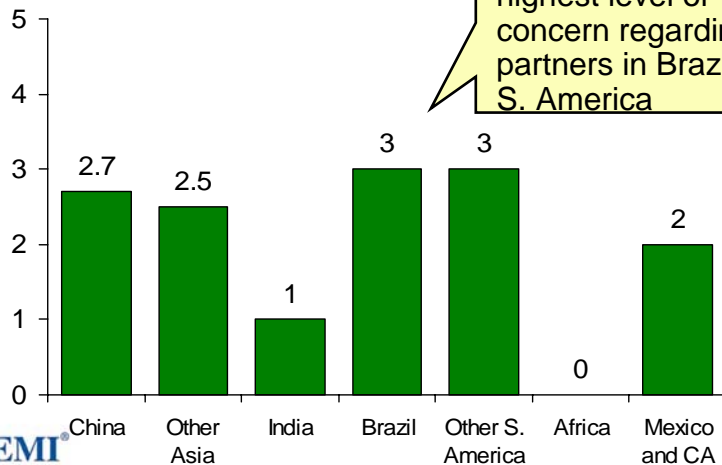


**Pharma/Health Care (n=9)**



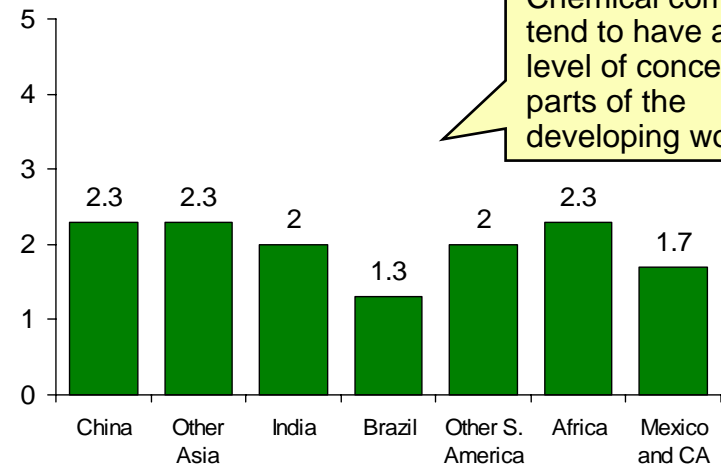
Pharma companies also have a moderate level of concern regarding their partners in India, Mexico, and Central America.

**Consumer Products (n=4)**



Consumer products companies have the highest level of concern regarding partners in Brazil and S. America

**Chemicals (n=3)**



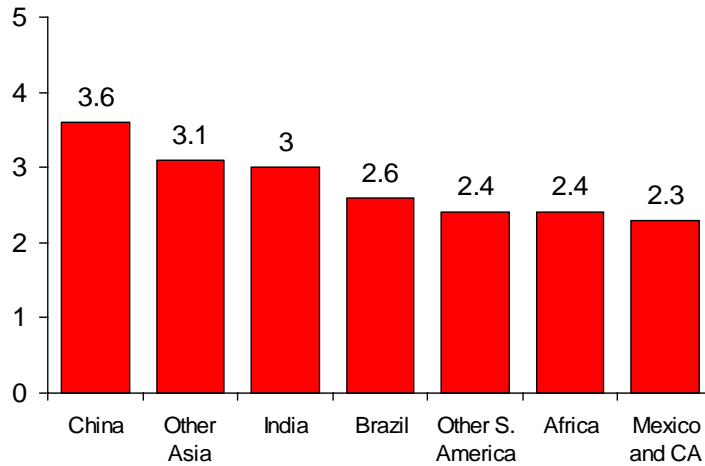
Chemical companies tend to have a lower level of concern in all parts of the developing world.



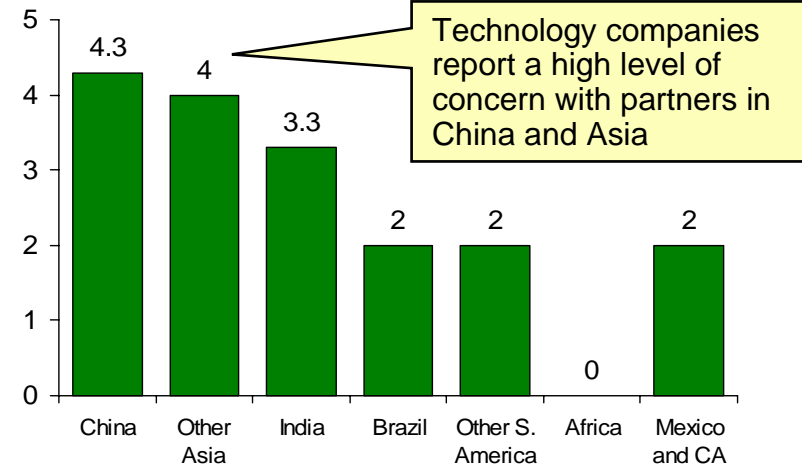
# Results

## Developing World – Level of Concern by Industry

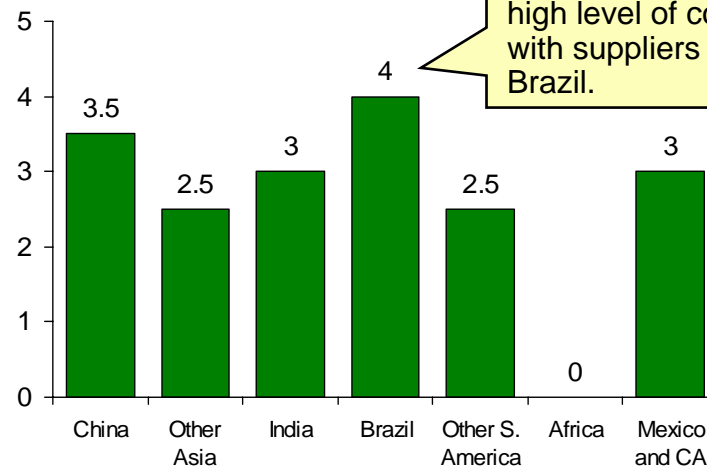
**Total Response (n=23)**



**Technology (n=3)**



**Other (n=4)**

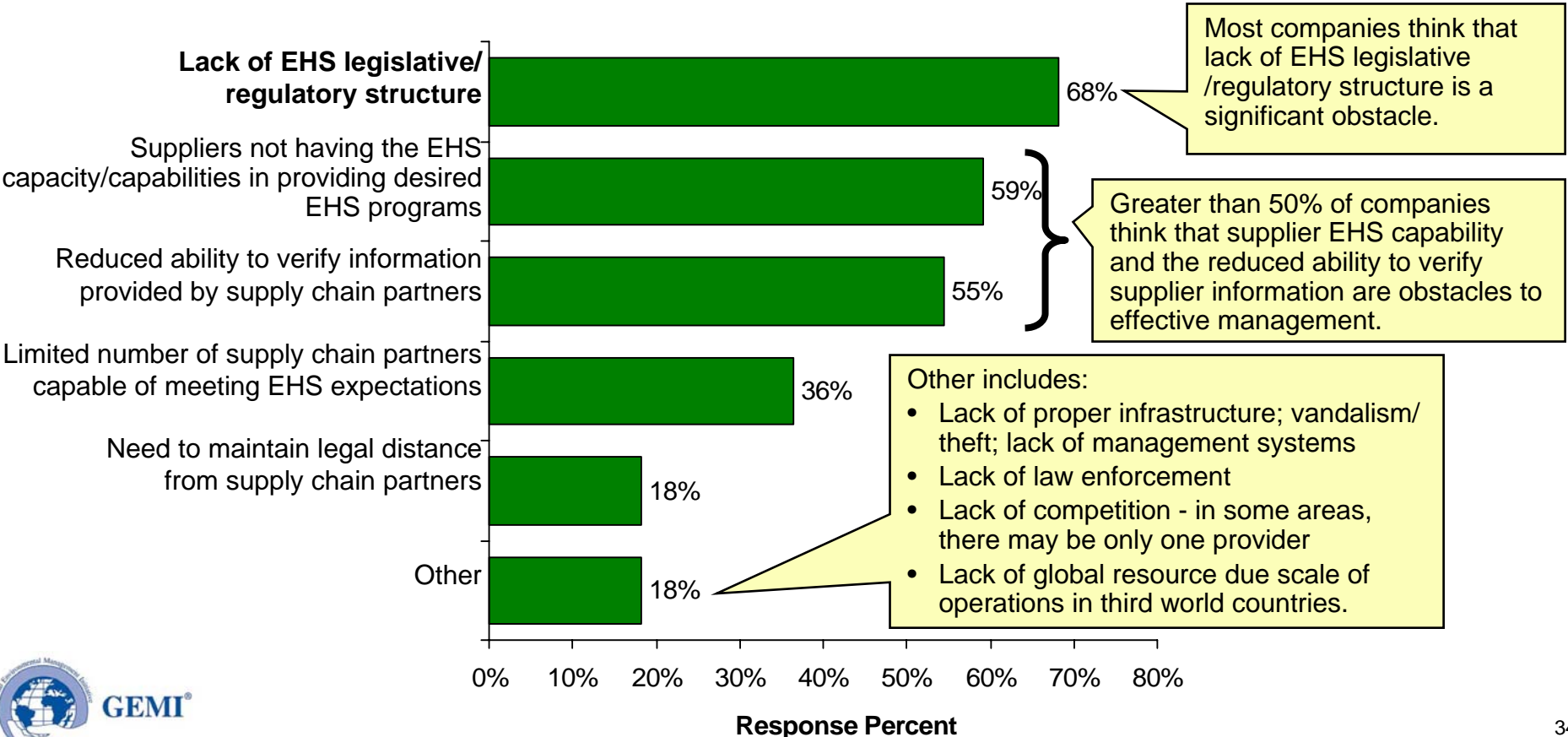


# Results

## Developing World – Challenges

According to respondents, there are many significant challenges to effective supply chain management in the developing world.

**Q19. Which of the following has your company found to be particularly challenging aspects of its supply chain efforts in the developing world? (n=22)**

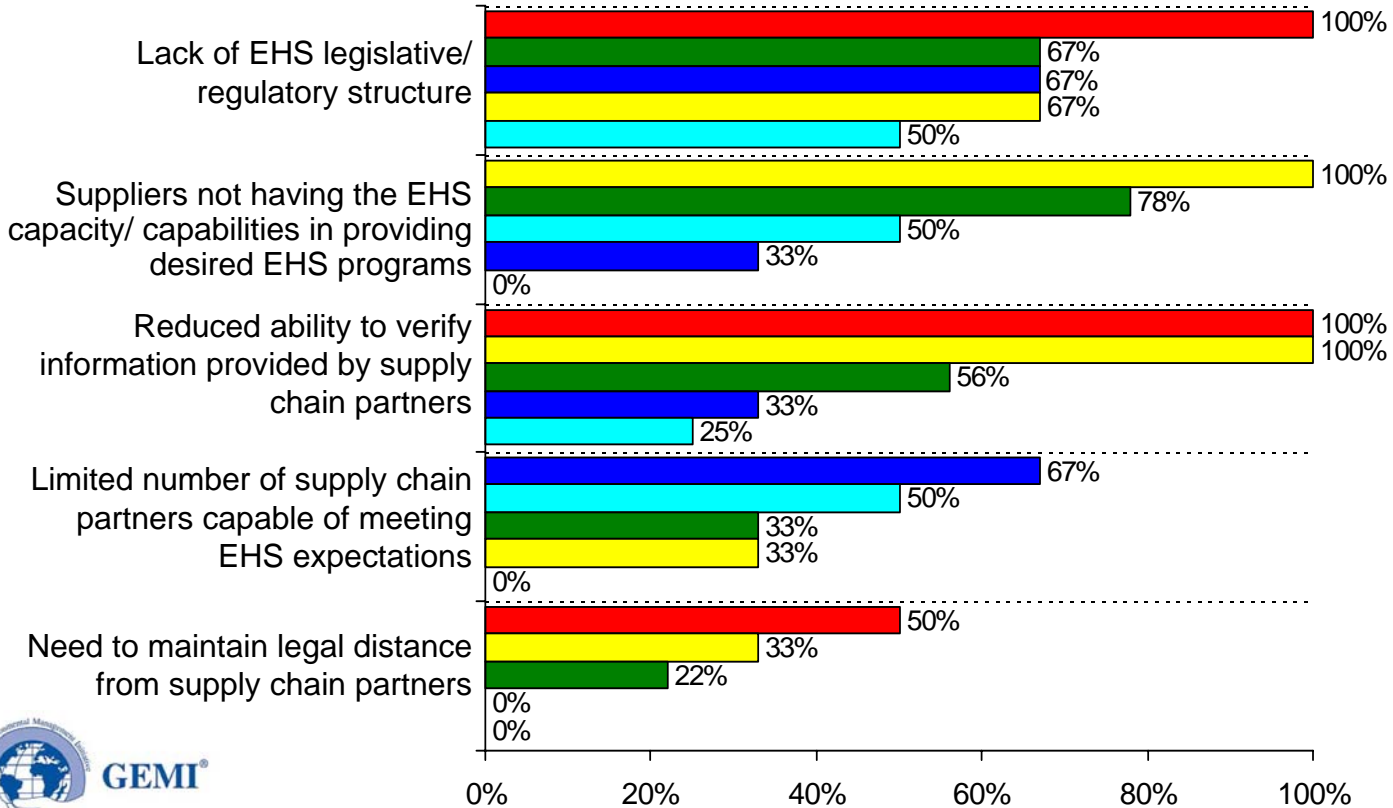
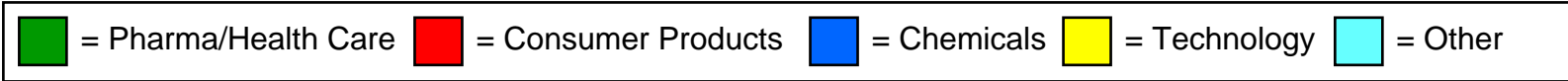


# Results

## Developing World – Challenges by Industry

Industry-specific data indicate that the technology industry may be facing slightly more challenges than other industries.

**Q19. Which of the following has your company found to be particularly challenging aspects of its supply chain efforts in the developing world? (n=22)**



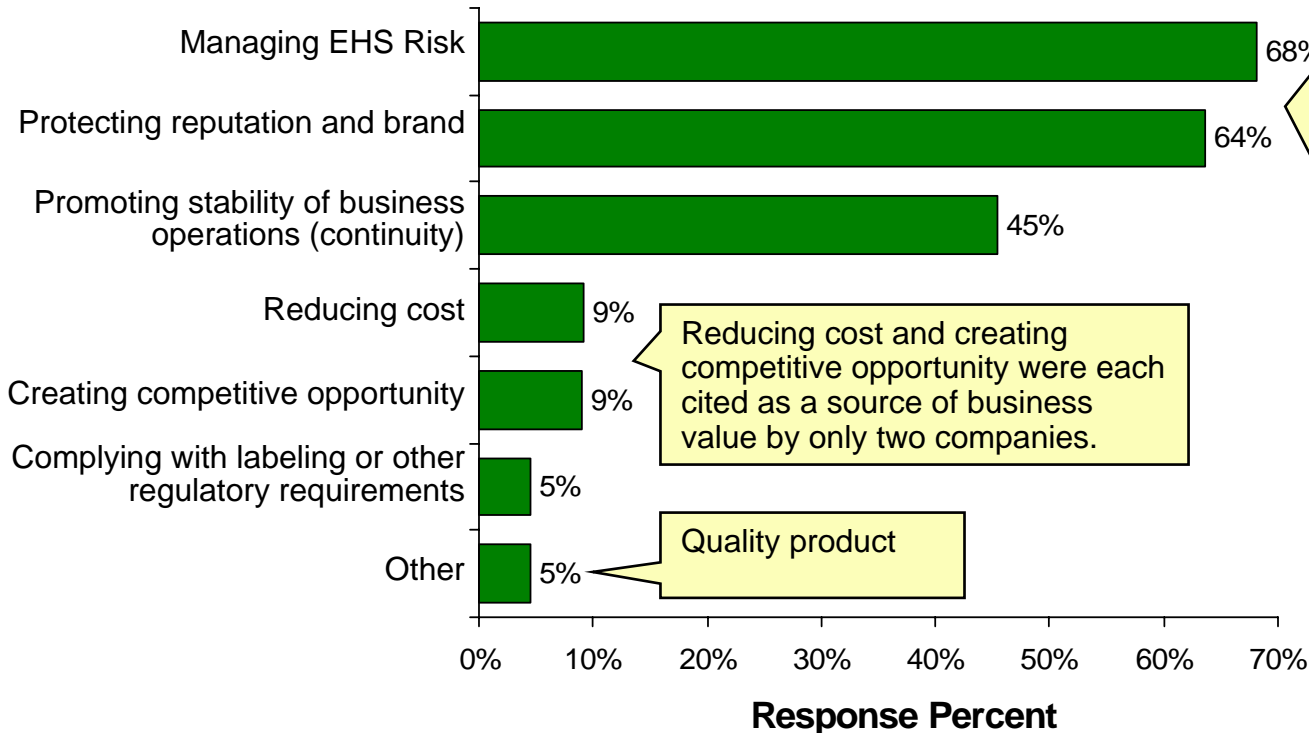
- The technology industry was the only industry in which all of the companies had concerns with suppliers' EHS capabilities.
- The technology and the consumer products industries were the only industries in which all of the companies had concerns with the reduced ability to verify supplier information.
- The chemical industry was the only industry in which more than half of the companies reported a problem with the limited number of capable suppliers.

# Results

## Developing World – Business Value

**Managing EHS risk (68%) and protecting reputation and brand (64%) were the two most important sources of business value to be gained through supply chain management in the developing world.**

**Q20. Indicate the top two potential sources of business value to be gained through supply chain management in the developing world (n=22)**



Companies ranked the sources of business value from supply chain management in the developing world much as they did for supply chain management in general (Question 6). In both cases, managing EHS risks and protecting reputation and brand were the two most important sources of business value..

Reducing cost and creating competitive opportunity were each cited as a source of business value by only two companies.

Quality product

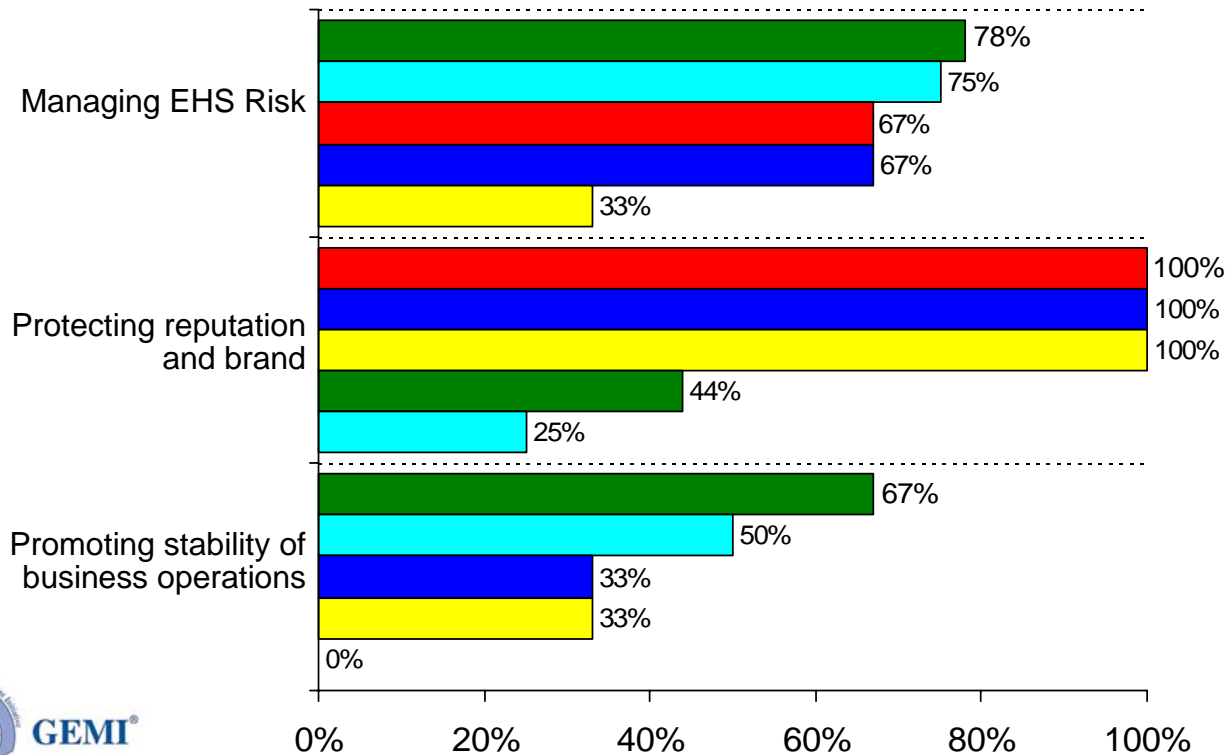
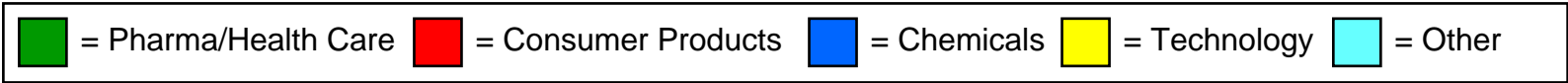
- Comments (respondents)
- These sources are supporting to create a competitive opportunity.
  - As in the question before, brand and reputation are a result of the first two I checked.
  - We consider promoting stability of business operations as core to managing EHS risk.

# Results

## Developing World – Business Value by Industry

When the responses for the most significant sources of business value are broken down by industry, some differences are noted.

**Q20. Indicate the top two potential sources of business value to be gained through supply chain management in the developing world (n=22)**



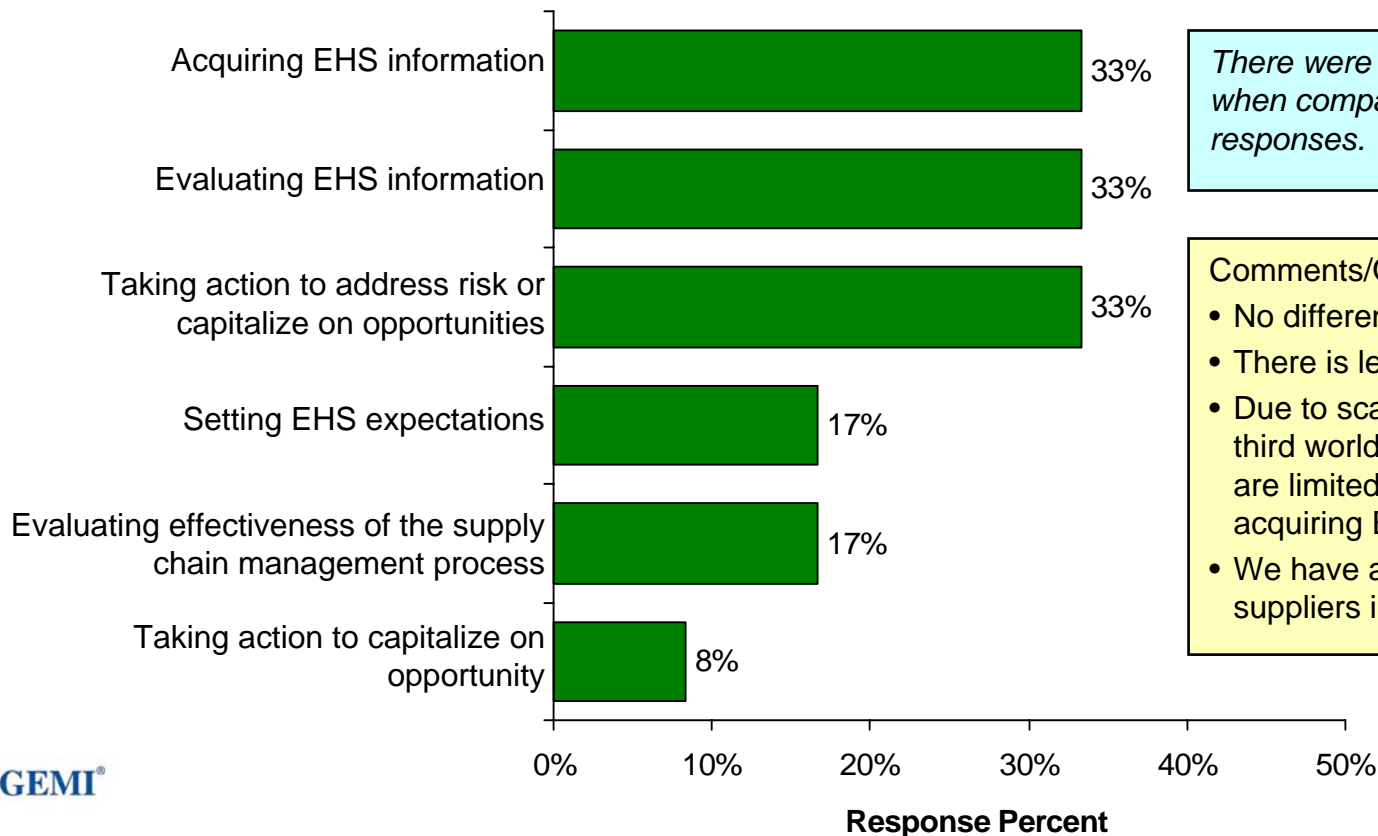
- Only 33% of technology companies thought that 'managing EHS Risks' was a potential source of business value to be gained through supply chain management.
- All consumer products, chemical and technology companies saw the protection of reputation and brand as a potential source of business value.
- The pharmaceutical industry was the only industry in which greater than 50% of the companies thought supply chain management could help promote stability of business operations.

# Results

## Developing World – Process

In general, implementation of a company’s supply chain management process is not significantly different in the developing world.

**Q21. Which aspects of your company’s supply chain management process are performed differently in the developing world than in the developed world? (n=12)**



*There were few differences noted when comparing industry responses.*

**Comments/Other (respondents):**

- No difference
- There is less emphasis
- Due to scale of operations in third world countries resources are limited with regard to acquiring EH&S information.
- We have a requirement to audit suppliers in China & India.

**The differences that do exist often relate to resources and the different capabilities and standards of suppliers.**

**Q22. Please explain the reason(s) why some supply chain management processes are performed differently in the developing world than in the developed world (n=9)**

### Comments

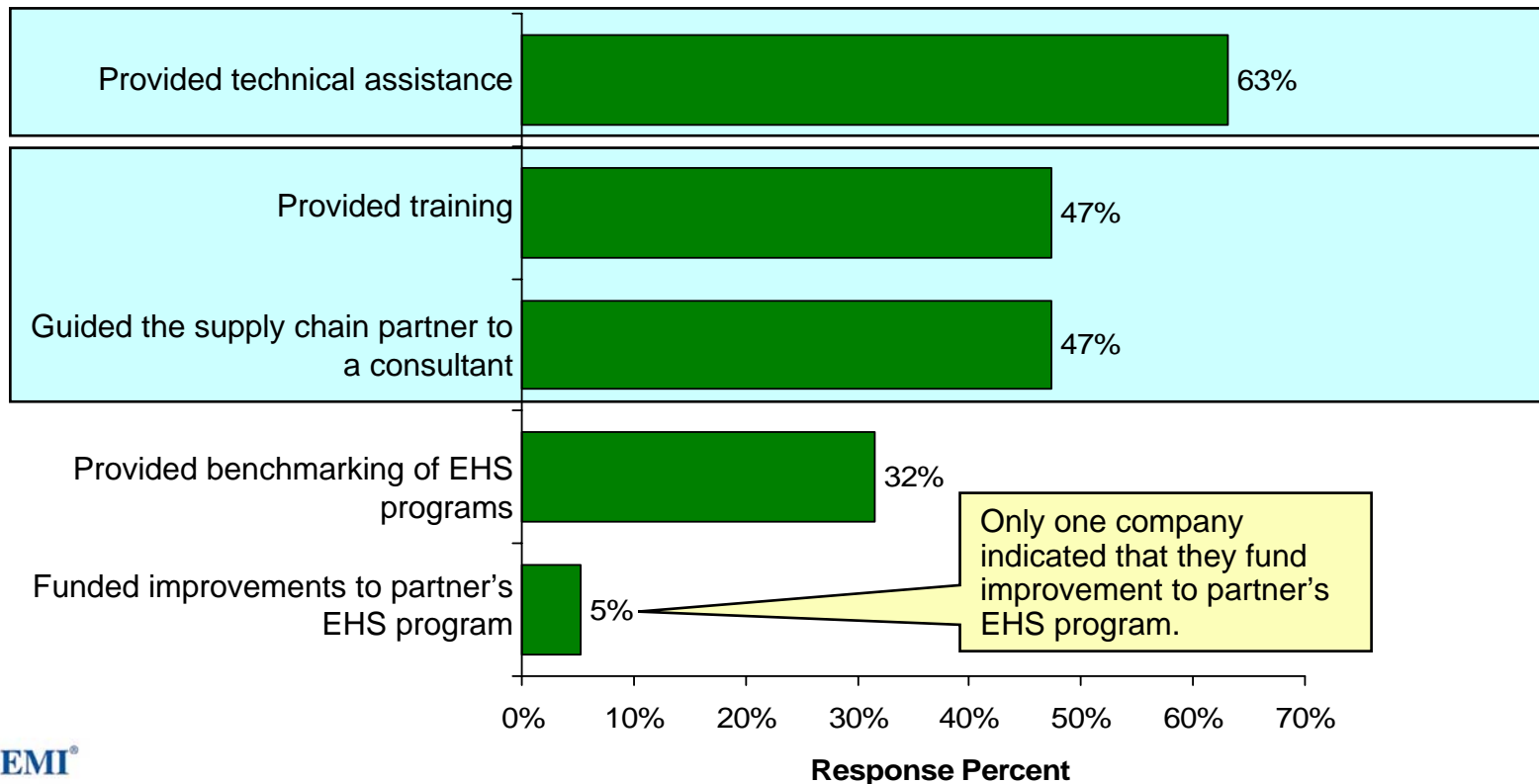
- **Resources**
- **Resources** and overall less emphasis compared to the larger issue of being profitable.
- Due to scale of operations in third world countries **resources** are limited with regard to acquiring EH&S information.
- The **capacity** of supply chain partners is not at the level expected and there is a challenge to bring them to the level of desired capability without prescribing what they should do.
- Must do much more education/**capacity building** in the developing world.
- Because the **level of information available** from suppliers in the developing world is usually less than that available from those in the developed world.
- Because of **different standards** you have to look/evaluate with different set of eyes (and expertise). A higher level leadership is involved in the evaluation. Actions are more discussed, evaluated and agreed upon by a broader team, including business and procurement.
- **Suppliers may not see the same value** in managing EHS risks since they are not required by law and/or the reputational risks are not as significant.
- Believe the **risk is higher**.

# Results

## Developing World – Actions Taken

**Most companies (63%) provide technical assistance to enhance the EHS capabilities of its supply chain partners. Almost half (47%) provide training or direct the supplier to a consultant.**

**Q23. What actions has your company taken to enhance the EHS capabilities of its supply chain partners in the developing world? (n=19)**



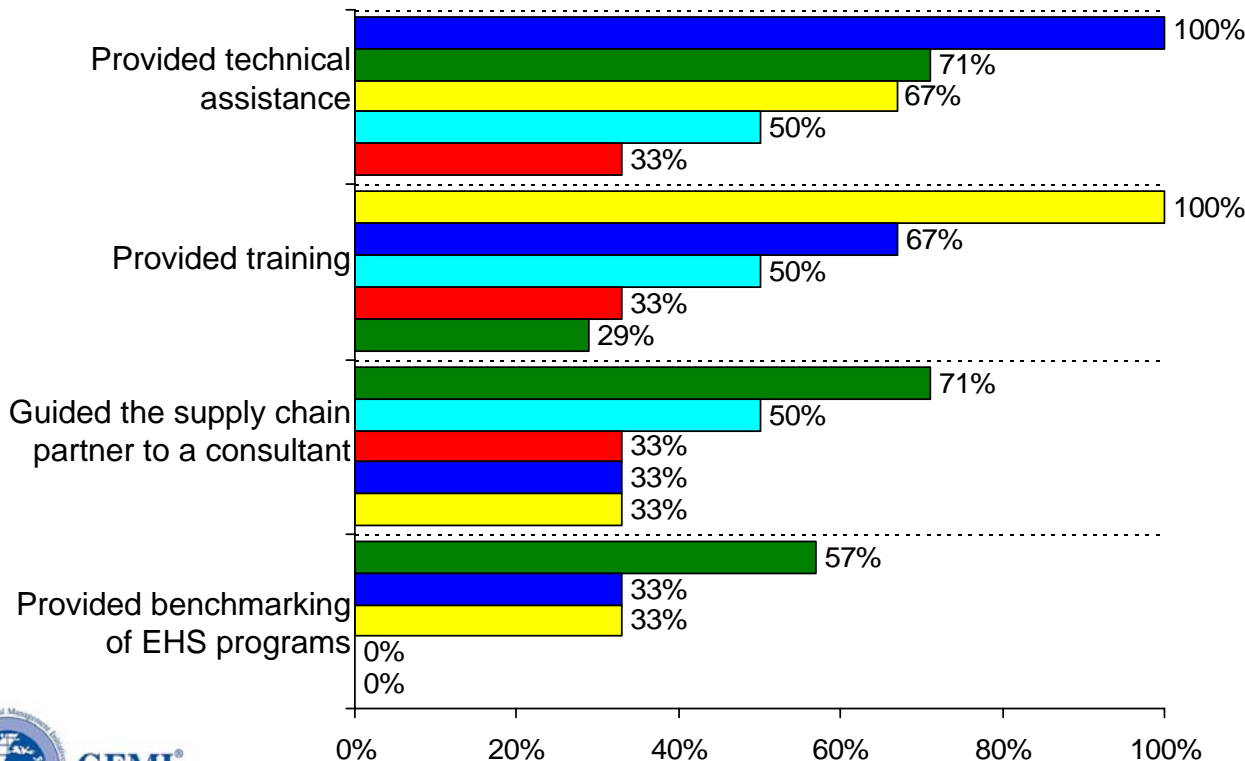
# Results

## Developing World – Actions Taken by Industry

When results are sorted by industry, some minor differences are noted.

**Q23. What actions has your company taken to enhance the EHS capabilities of its supply chain partners in the developing world? (n=19)**

■ = Pharma/Health Care 
 ■ = Consumer Products 
 ■ = Chemicals 
 ■ = Technology 
 ■ = Other

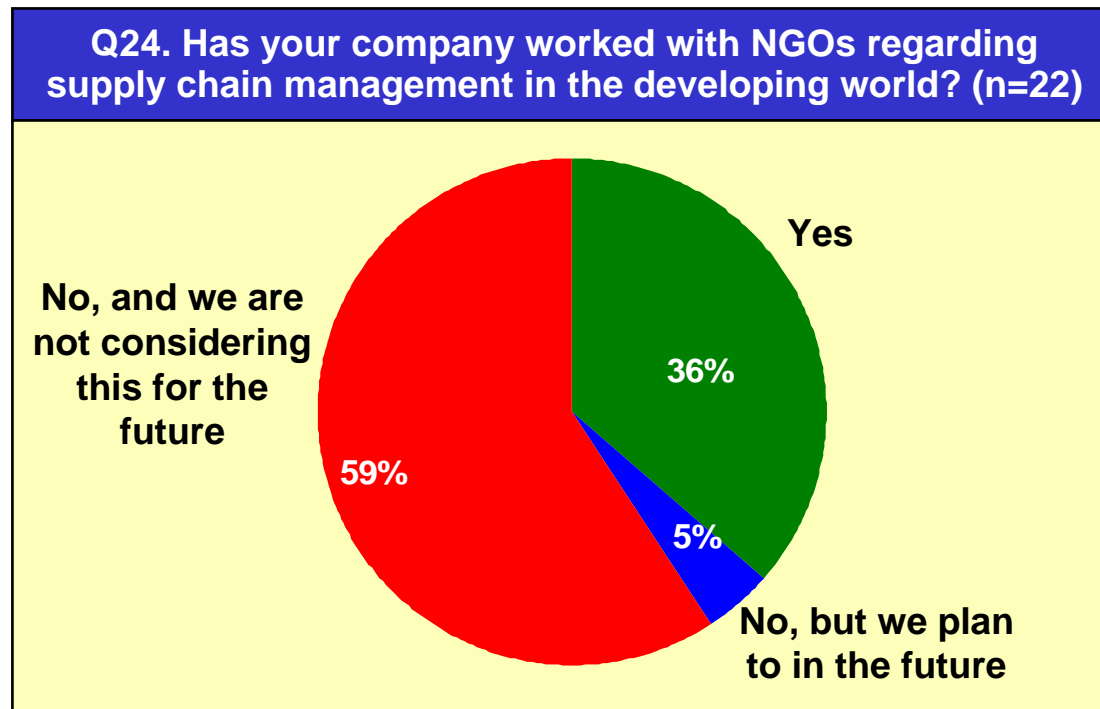


- All chemical companies indicated that they provide technical assistance to enhance the EHS capabilities of their supply chain partners.
- All technology companies provide training to their supply chain partners.
- Only 29% of pharmaceutical companies provide training to supply chain partners.
- No consumer products companies or companies in 'Other' industries reported providing benchmarking services to supply chain partners.

# Results

## Developing World – NGOs

**Sixty four percent (64%) of companies do not currently work with NGOs as part of their supply chain management process in the developing world . . .**



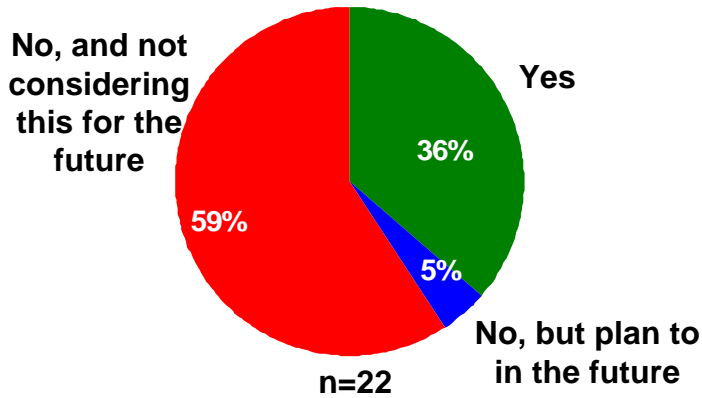
**. . . and most (59%) have no plans to do this in the future.**

# Results

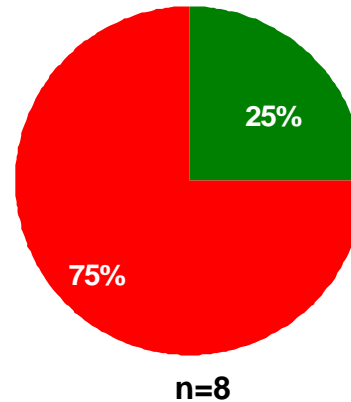
## Developing World – NGOs

Industry-specific data show that the chemicals and technology industries are the only industries where a majority of companies have worked with NGOs.

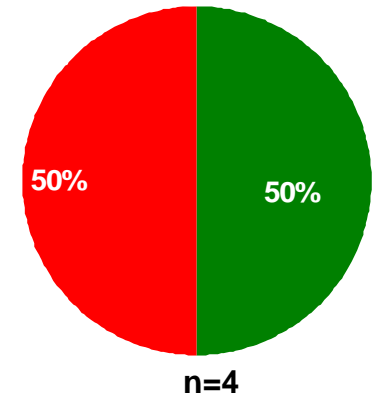
Total Response



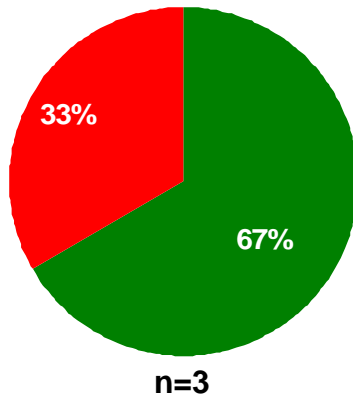
Pharma/Health Care



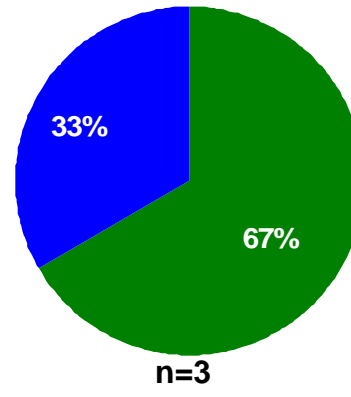
Consumer Products



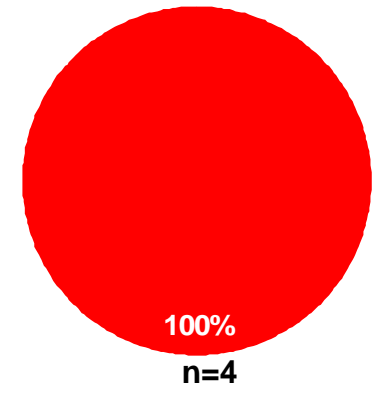
Chemicals



Technology



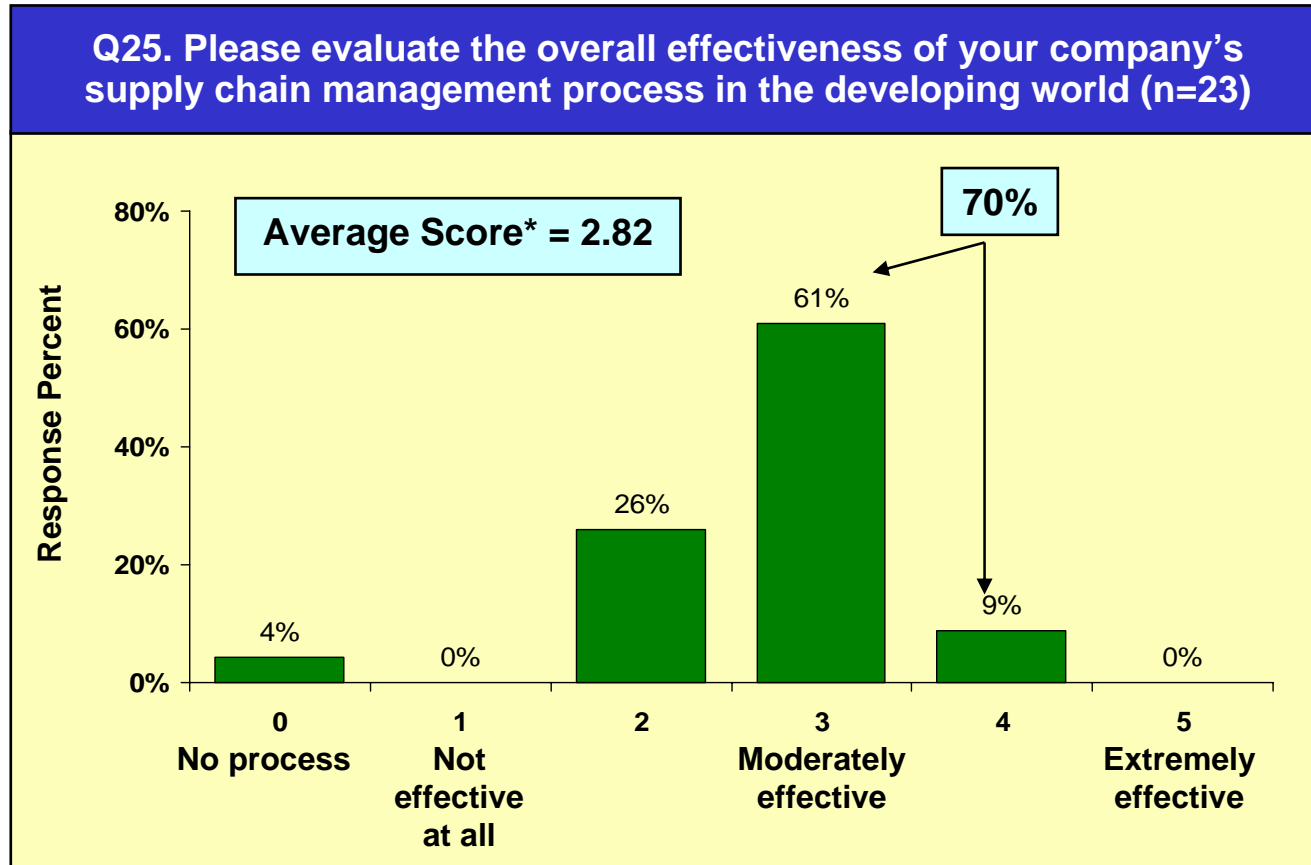
Other



# Results

## Developing World – Effectiveness

Most companies (70%) think that their supply chain management process is at least moderately effective in the developing world.

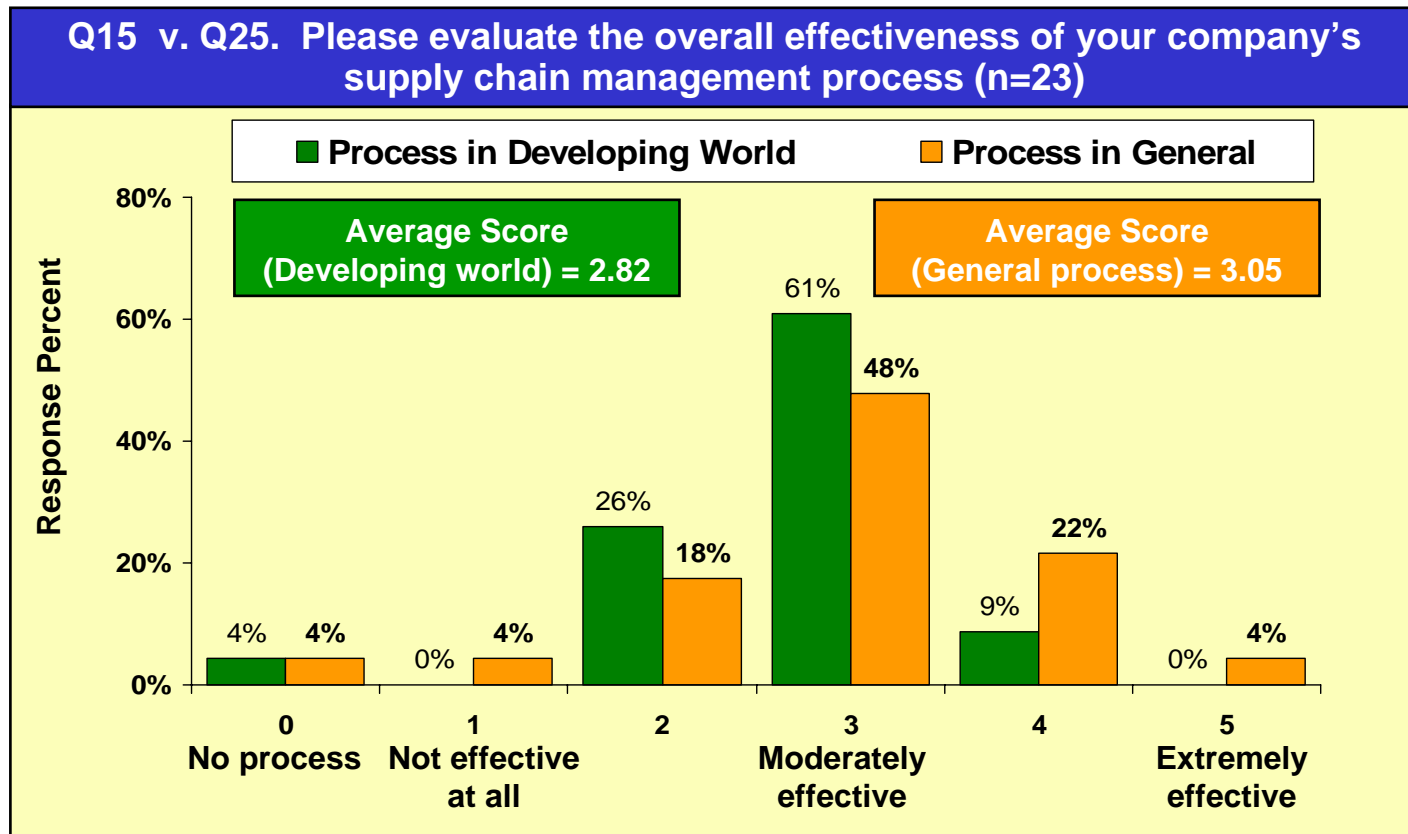


\*Average Score represents a response average of 22 respondents; responses of '0 were not included in calculating averages.

# Results

## Developing World – Effectiveness

When these same companies rated the effectiveness of their supply chain management process in general (Question 15), the average score was slightly higher. . . .

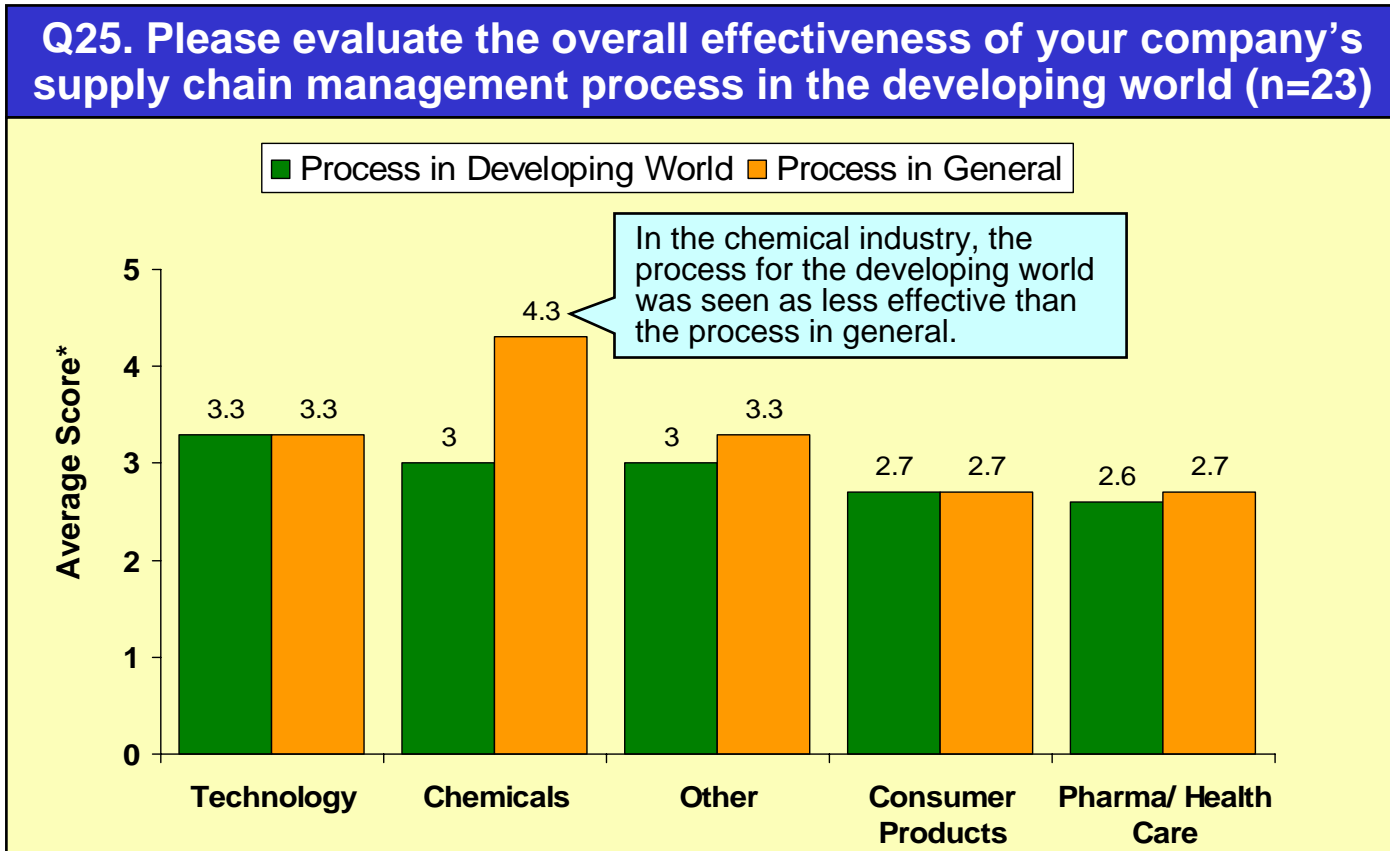


. . . but generally the results were similar.

# Results

## Developing World – Effectiveness by Industry

When an average effectiveness score was calculated for each industry, no significance differences were seen.



\*Average Score represents a response average based on the following definitions: 1 = Not effective at all; 3 = Moderately effective; 5 = Extremely effective. Responses of '0' (we have no process) were not included in calculating averages.

### Q26. Is there any aspect of supply chain management not covered by this survey that you like to explore?

- Benchmark costs based for different activities. Provide tools for evaluating risk reduction.
- Security! (Security levels and needs are different in different areas and modes of transport).
- More detail about which requirements apply to which kinds of suppliers. I think many companies do more oversight and assistance work with certain contract manufacturers and less with other types of suppliers.
- Yes - Should address Corporate Social Responsibility (CSR) rather than be directed at only the EHS part of CSR. EHS only a small part of Supply Chain requirements.
- We (GEMI) should consider creating a tool to calculate/estimate environmental impacts of outsourced production.
- Resource requirements for supply chain activities. Also Corporate citizenship aspects of supply chain review.

### Q27. Please provide suggestions for future GEMI benchmarking surveys

- A question like 25 might need some explanation (provide possibility). The process in the developing world is not established as sound as in the developed world. It means that more resources and time is needed for the process application.
- It would be easier to get all of the context to these answers, and the necessary clarification on these questions, if it were done in person. And people might learn more in the process.

# Summary

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## **This key learnings from this survey include:**

- Most companies have a formal process to manage the EHS aspects of the supply chain.
- Most companies view their supply chain management process as only moderately effective.
- Three quarters of companies have significant supply chain activities in the developing world, with China posing the greatest level of concern regarding EHS risk.
- There are many significant challenges to effective supply chain management in the developing world, including the lack of an effective EHS legislative/regulatory structure.
- Most companies provide technical assistance to enhance the EHS capabilities of their supply chain partners in the developing world.
- Companies view the effectiveness of their supply chain efforts in the developing world as slightly less than overall.



### **Q11. How does your company acquire the information from its supply chain partners? If the process has several stages, or depends on the nature of the supplier, please explain**

- 1st a questionnaire is sent, an audit is scheduled based on risks including spend with company, hazards of materials, hazards of process, other info on company
- Independent audit in the case of waste vendors
- The checked items are part of our supplier certification program
- Depends on the level of spend with supplier and risk factors based on geography and type of material/service provided.
- The nature and depth of the information query and review depends on the scope of services provided by the contractor
- Varies depending on the nature of the relationship. For example, key suppliers undergo much more scrutiny than office product vendors.
- Information collected varies widely for carrier, raw material, indirect services, warehouses, transfer facilities, containers and packaging, toll manufactures, contractors drum recondition, tank wash facilities.
- Suppliers are given a rating depending on the level of their SHE management systems. Depending on the type of material or service they supply they may receive an interview, questionnaire or audit.
- Results of questionnaire responses or interviews are usually the basis to decide if an on-site audit is needed
- Have a process to rank suppliers - certain ones get a questionnaire other require an audit.
- The cycle Plan-Do-Check-Act is used : 1. Selection Criteria (Pre-assessment); 2. Assessment (direct or 3rd party); 3. Evaluation; 4. Follow up/Performance Review