GEMI Benchmarking Survey

Supply Chain Management

October 25, 2005
Results

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)

- Pharmaceuticals or healthcare: 38%
- Consumer products: 15%
- Chemicals: 12%
- Technology: 12%
- Other: 23%

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)

- Raw material or utility supplier: 88%
- Contract manufacturer: 73%
- Transportation/distribution supplier: 58%
- Material recovery supplier: 58%
- Joint venture partner (or other partial ownership arrangement): 46%
- Other: 15%

Other includes:
- Raw material sources
- Service providers
- Anyone we "hold paper" with is a supplier regardless of service or commodity
- All appropriate supply chain stakeholders including customers & ultimate customers
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)

- **Raw material or utility supplier**: 100% (Chemicals), 100% (Technology), 100% (Consumer Products), 100% (Pharma/Health Care), 0% (Other)
- **Contract manufacturer**: 100% (Chemicals), 100% (Technology), 50% (Consumer Products), 90% (Pharma/Health Care), 0% (Other)
- **Transportation/distribution supplier**: 100% (Chemicals), 33% (Technology), 33% (Consumer Products), 50% (Pharma/Health Care), 25% (Other)
- **Material recovery supplier**: 100% (Chemicals), 50% (Technology), 67% (Consumer Products), 50% (Pharma/Health Care), 0% (Other)
- **Joint venture partner (or other partial ownership arrangement)**: 100% (Chemicals), 50% (Technology), 50% (Consumer Products), 50% (Pharma/Health Care), 40% (Other)

**Results – Definition – Industry Analysis**

- 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)

- Yes, we have a formal process globally: 65%
- Yes, but the formality of our process varies by region of the world in which we operate: 15%
- Yes, but the formality of the process varies by business unit: 15%
- Yes, we have an informal or ad hoc process: 15%
- A process exists in some business units, but not in others: 12%
- A process exists in some parts of the world, but not in others: 4%
- No, we have no such process: 4%

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)

- Managing EHS Risk: 58%
- Protecting reputation and brand: 58%
- Promoting stability of business operations (continuity): 46%
- Reducing cost: 15%
- Creating competitive opportunity: 15%
- Complying with labeling or other regulatory requirements: 12%
- Other: 4%

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.
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)

- Managing EHS Risk
  - Consumer Products: 75%
  - Pharma/Health Care: 70%
  - Chemicals: 67%
  - Technology: 33%
  - Other: 33%

- Protecting reputation and brand
  - Consumer Products: 100%
  - Pharma/Health Care: 50%
  - Chemicals: 33%
  - Technology: 33%
  - Other: 33%

- Promoting stability of business operations (continuity)
  - Consumer Products: 0%
  - Pharma/Health Care: 50%
  - Chemicals: 33%
  - Technology: 33%
  - Other: 33%

- Reducing cost
  - Consumer Products: 0%
  - Pharma/Health Care: 50%
  - Chemicals: 33%
  - Technology: 33%
  - Other: 33%

- Creating competitive opportunity
  - Consumer Products: 25%
  - Pharma/Health Care: 67%
  - Chemicals: 10%
  - Technology: 25%
  - Other: 25%

- 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.
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

Contract manufacturer (n=21):
- Setting EHS expectations: 90%
- Acquiring EHS information: 90%
- Evaluating EHS information: 86%
- Taking action to address risk or helping to capitalize on opportunities: 81%
- Evaluating effectiveness of process: N/A

Raw material or utility supplier (n=20):
- Setting EHS expectations: 65%
- Acquiring EHS information: 55%
- Evaluating EHS information: 55%
- Taking action to address risk or helping to capitalize on opportunities: 70%
- Evaluating effectiveness of process: N/A

Transportation or distribution supplier (n=17):
- Setting EHS expectations: 100%
- Acquiring EHS information: 59%
- Evaluating EHS information: 59%
- Taking action to address risk or helping to capitalize on opportunities: 47%
- Evaluating effectiveness of process: N/A

Material recovery supplier (n=15):
- Setting EHS expectations: 77%
- Acquiring EHS information: 59%
- Evaluating EHS information: 59%
- Taking action to address risk or helping to capitalize on opportunities: 67%
- Evaluating effectiveness of process: N/A

JV partner (n=12):
- Setting EHS expectations: 92%
- Acquiring EHS information: 92%
- Evaluating EHS information: 87%
- Taking action to address risk or helping to capitalize on opportunities: 92%
- Evaluating effectiveness of process: 93%

- Companies tend to apply the broadest supply chain management processes to contract manufacturers and JV partners.
Q7. For each of your company's supply chain partners, indicate the aspects of the supply chain management process that your company employs.

Results

- 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**

- 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.
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 – Consumer Products**

- **Contract manufacturer**: 67%
- **Raw material or utility supplier**: 33%
- **Transportation or distribution supplier**: 67%
- **Material recovery supplier**: 33%
- **JV partner**: 33%

- 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.
Results

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

### Process – Chemical

- **Contract manufacturer**: 100% for all aspects.
- **Raw material or utility supplier**: 67% for setting EHS expectations, 67% for acquiring EHS information, 33% for evaluating EHS information, 67% for taking action.
- **Transportation or distribution supplier**: 100% for all aspects.
- **Material recovery supplier**: 100% for all aspects.
- **JV partner**: 100% for all aspects.

#### Chemicals (n=3)

- • Generally, the chemical companies have a very robust process that includes all aspects of supply chain management.
- • Chemical companies apply 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.
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

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**Results**

### Process – Technology

#### 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.
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 – Other Industries**

- **Contract manufacturer**: 60% Setting EHS expectations, 40% Acquiring EHS information, 60% Evaluating EHS information, 40% Taking action to address risk or helping to capitalize on opportunities, 60% Evaluating effectiveness of process.
- **Raw material or utility supplier**: 40% Setting EHS expectations, 20% Acquiring EHS information, 20% Evaluating EHS information, 20% Taking action to address risk or helping to capitalize on opportunities, 40% Evaluating effectiveness of process.
- **Transportation or distribution supplier**: 80% Setting EHS expectations, 40% Acquiring EHS information, 40% Evaluating EHS information, 40% Taking action to address risk or helping to capitalize on opportunities, 40% Evaluating effectiveness of process.
- **Material recovery supplier**: 0% Setting EHS expectations, 40% Acquiring EHS information, 40% Evaluating EHS information, 40% Taking action to address risk or helping to capitalize on opportunities, 40% Evaluating effectiveness of process.
- **JV partner**: 0% Setting EHS expectations, 20% Acquiring EHS information, 20% Evaluating EHS information, 20% Taking action to address risk or helping to capitalize on opportunities, 20% 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.
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)

- Compliance with EHS regulations: 92%
- Existence of EHS policy: 54%
- Adherence to a code of conduct supplied by your company or industry: 42%
- Reporting of EHS information to your company: 42%
- Adherence to EHS performance standards: 38%
- Implementation of formal EHS management systems: 27%
- Certification to an EHS management system: 4%

Comments: Other
- Regular performance reviews
- Determination of risks

Comments: This is not strong. We review their programs mainly for management system elements and it's part of an overall supplier rating.

Comments: Only one company expects supply chain partners to have a certified EHS management system.
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
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)

- EHS expectations as part of contractual requirements with supply chain partners: 92%
- EHS performance and management criteria in evaluation of potential suppliers: 68%
- EHS criteria in product or service specifications: 40%
- Other: Varies by site and location (4%)

Results: Communicating Expectations

There were few differences noted when comparing industry responses.
Results

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)

- EHS compliance status: 88%
- Existence of basic EHS management program elements: 68%
- Existence of EHS policy: 64%
- Emergency management plans: 64%
- Basic EHS risk profile: 52%
- Nature of production or manufacturing process: 48%
- Existence of formal EHS management systems: 40%
- EHS performance data: 28%
- Source of raw materials: 20%
- Other: 4%

Over 60% also obtain information relating to EHS management program elements, EHS policy, and emergency management plans.

Comment: only requested for specific products and materials.

Other: No formal EHS information gathered.
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)

- **EHS compliance status**: 100% (Pharma/Health Care), 100% (Chemicals), 100% (Technology), 100% (Other)
- **Existence of basic EHS management program elements**: 67% (Pharma/Health Care), 67% (Chemicals), 67% (Technology), 67% (Other)
- **Existence of EHS policy**: 80% (Pharma/Health Care), 80% (Chemicals), 80% (Technology), 80% (Other)
- **Emergency management plans**: 80% (Pharma/Health Care), 80% (Chemicals), 80% (Technology), 80% (Other)
- **Basic EHS risk profile**: 60% (Pharma/Health Care), 67% (Chemicals), 67% (Technology), 67% (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.
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)

- Company site audit or review: 72%
- Questionnaire: 64%
- Interview: 60%
- Certification or attestation by supply chain partner: 36%
- Independent audit, review or certification: 32%
- Desk compliance review: 28%
- Periodic performance report from supply chain partner: 16%

Additional explanations are provided in Appendix A of this report.

A significant percentage of companies also use questionnaires and/or interviews to acquire EHS information.

Only 16% of companies (n=4) require partners to supply periodic performance reports.
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)

- 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.
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)

- **EHS staff**: 74%
- **Procurement or purchasing staff**: 52%
- **QA staff**: 39%
- **Consultants**: 39%
- **Combinations of these (specify)**: 35%
- **Internal (financial) audit staff**: 13%
- **Other (specify)**: 9%

**Combinations:**
- Procurement does most of the reviews as part of their supplier certification reviews. EHS does special reviews of certain business partnerships.
- EHS staff, but mostly consultants.
- EHS auditing by EHS staff. If its a broad assessment it could be done by someone else.
- EHS staff only conduct EHS audits.
- Depending on the type of product or service that they supply may have some or all types of staff involved.

**Results Evaluating Information**
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)

- **EHS staff**: Pharma/Health Care - 90%, Consumer Products - 75%, Chemicals - 67%, Technology - 67%, Other - 0%
- **Procurement or purchasing staff**: Pharma/Health Care - 100%, Consumer Products - 100%, Chemicals - 100%, Technology - 100%, Other - 0%
- **QA staff**: Pharma/Health Care - 0%, Consumer Products - 33%, Chemicals - 30%, Technology - 0%, Other - 0%
- **Consultants**: Pharma/Health Care - 50%, Consumer Products - 50%, Chemicals - 33%, Technology - 33%, Other - 0%
- **Internal audit staff**: Pharma/Health Care - 0%, Consumer Products - 25%, Chemicals - 33%, Technology - 33%, Other - 0%

- 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 of 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)

- Non-selection of potential supply chain partner: 79%
- Closer scrutiny of supply chain partner EHS activities: 79%
- Downgrading or termination of supply chain partner relationship: 63%
- Helping build supply chain partner EHS capacity: 33%
- Involving EHS staff on design teams: 29%
- Engaging supply chain partners on design teams: 29%
- Other: 4%

Other includes: Six Sigma methodology
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)**

- **Non-selection of potential supply chain partner**
  - Pharma/Health Care: 100%
  - Consumer Products: 67%
  - Chemicals: 100%
  - Technology: 90%
  - Other: 67%

- **Closer scrutiny of supply chain partner EHS activities**
  - Pharma/Health Care: 100%
  - Consumer Products: 67%
  - Chemicals: 100%
  - Technology: 67%
  - Other: 67%

- **Downgrading or termination of supply chain partner relationship**
  - Pharma/Health Care: 100%
  - Consumer Products: 50%
  - Chemicals: 67%
  - Technology: 67%
  - Other: 50%

- **Helping build supply chain partner EHS capacity**
  - Pharma/Health Care: 33%
  - Consumer Products: 50%
  - Chemicals: 67%
  - Technology: 0%
  - Other: 0%

**Results**

- 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.
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)

- We have not yet taken steps to evaluate the effectiveness of our supply chain management process (54%)
- We conduct a periodic formal review of our supply chain management process (31%)
- We look to see if the risk profile of our supply chain partners improves over time (31%)
- We look to see if supply chain partner conformity with EHS expectations improves over time (27%)
- Other (8%)

Other includes:
- Through the Responsible Care certification process
- Through a high level internal risk assessment process

• We have only implemented our process fully in 2005 and have not evaluated effectiveness.
• We plan to evaluate process through review on partner conformity over time and a formal review of EHS management process.
• The company is "Responsible Care Management System" certified (ACC requirement) in 2005.
• The evaluation of partners is usually reviewed on a periodic basis in the Product Stewardship review for the product associated with those supply chain elements.
• We have implemented a process to ensure that products delivered by suppliers are compliant with EHS requirements.
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)

- We have not yet taken steps to evaluate the effectiveness of our supply chain management process.
- We conduct a periodic formal review of our supply chain management process.
- We look to see if supply chain partner conformity with EHS expectations improves over time.
- We conduct a periodic formal review of our supply chain management process.
- We look to see if the risk profile of our supply chain partners improves over time.

Results

Evaluating Effectiveness – Industry Analysis

- 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

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

Q15. Please evaluate the overall effectiveness of your company’s supply chain management process (n=26)

![Bar chart showing evaluation results]

- **Average Score** = 3.13
- 73% believe their 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.”

Q15. Please evaluate the overall effectiveness of your company’s supply chain management process (n=24)

*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.
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)**

- **Insufficient resources**: 58%
- **EHS factors given insufficient weight in purchasing decisions**: 38%
- **Inability to make a convincing business case for supply chain management**: 25%
- **Lack of cooperation by supply chain partners**: 25%
- **No systematic process for supply chain management across the company**: 25%
- **Lack of full cooperation by procurement staff**: 25%
- **Other includes:**
  - The complexity of the purchasing system within the company and the variety of products and services sourced from different business units.
  - We have a good process and engagement of our senior procurement managers

**Other**: 8%
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)

<table>
<thead>
<tr>
<th>Obstacle</th>
<th>Pharma/Health Care</th>
<th>Consumer Products</th>
<th>Chemicals</th>
<th>Technology</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insufficient resources</td>
<td>67%</td>
<td>33%</td>
<td>20%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>EHS factors given insufficient weight in purchasing decisions</td>
<td>40%</td>
<td>33%</td>
<td>33%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Inability to make a convincing business case</td>
<td>67%</td>
<td>67%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of full cooperation by procurement staff</td>
<td>40%</td>
<td>33%</td>
<td>33%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>No systematic process for supply chain management across the company</td>
<td>40%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

- 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.

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>23%</td>
<td>77%</td>
</tr>
</tbody>
</table>

**Q17. Does your company have any significant supply chain activities in the developing world? (n=26)**

When broken down by industry, ‘No’ responses include:
- 3 Pharmaceutical/health care companies
- 1 Consumer products company
- 2 companies in the ‘Other’ category (2 transportation companies)

When broken down by industry, ‘Yes’ responses include:
- 7 Pharmaceutical/health care
- 3 Consumer products
- 3 Chemical
- 3 Technology
- 4 Other
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.

Q18. Please indicate your level of concern regarding the EHS risk posed by your company’s supply chain partners in the following regions of the developing world (n=23)

<table>
<thead>
<tr>
<th>Region</th>
<th>Average Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>3.6</td>
</tr>
<tr>
<td>Other parts of Asia</td>
<td>3.1</td>
</tr>
<tr>
<td>India</td>
<td>3.0</td>
</tr>
<tr>
<td>Brazil</td>
<td>2.6</td>
</tr>
<tr>
<td>Other parts of S. America</td>
<td>2.4</td>
</tr>
<tr>
<td>Africa</td>
<td>2.4</td>
</tr>
<tr>
<td>Mexico and Central America</td>
<td>2.3</td>
</tr>
</tbody>
</table>

*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)**

- China: 3.6
- Other Asia: 3.1
- India: 3
- Brazil: 2.6
- Other S. America: 2.4
- Africa: 2.4
- Mexico and CA: 2.3

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

- China: 4.0
- Other Asia: 3.5
- India: 3.6
- Brazil: 3.0
- Other S. America: 2.6
- Africa: 2.5
- Mexico and CA: 3.0

**Consumer Products (n=4)**

- China: 2.7
- Other Asia: 2.5
- India: 1
- Brazil: 3
- Other S. America: 3
- Mexico and CA: 2

**Chemicals (n=3)**

- China: 2.3
- Other Asia: 2.3
- Brazil: 2
- Other S. America: 1.3
- Mexico and CA: 2.3

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

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

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 companies report a high level of concern with partners in China and Asia.

Other (n=4)

Companies in ‘Other’ industries report a high level of concern with suppliers in Brazil.
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)

- Lack of EHS legislative/regulatory structure: 68%
- Suppliers not having the EHS capacity/capabilities in providing desired EHS programs: 59%
- Reduced ability to verify information provided by supply chain partners: 55%
- Limited number of supply chain partners capable of meeting EHS expectations: 36%
- Need to maintain legal distance from supply chain partners: 18%
- Other: 18% (includes lack of proper infrastructure; vandalism/theft; lack of management systems; lack of law enforcement; lack of competition - in some areas, there may be only one provider; lack of global resource due scale of operations in third world countries.)

Most companies think that lack of EHS legislative/regulatory structure is a significant obstacle. Greater than 50% of companies think that supplier EHS capability and the reduced ability to verify supplier information are obstacles to effective management.
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)

- **Lack of EHS legislative/regulatory structure**
  - Pharma/Health Care: 50%
  - Consumer Products: 67%
  - Chemicals: 67%
  - Technology: 100%
  - Other: 100%
  - Overall: 67%

- **Suppliers not having the EHS capacity/capabilities in providing desired EHS programs**
  - Pharma/Health Care: 33%
  - Consumer Products: 50%
  - Chemicals: 33%
  - Technology: 78%
  - Other: 100%
  - Overall: 50%

- **Reduced ability to verify information provided by supply chain partners**
  - Pharma/Health Care: 25%
  - Consumer Products: 33%
  - Chemicals: 56%
  - Technology: 100%
  - Other: 100%
  - Overall: 56%

- **Limited number of supply chain partners capable of meeting EHS expectations**
  - Pharma/Health Care: 33%
  - Consumer Products: 33%
  - Chemicals: 33%
  - Technology: 50%
  - Other: 100%
  - Overall: 33%

- **Need to maintain legal distance from supply chain partners**
  - Pharma/Health Care: 0%
  - Consumer Products: 33%
  - Chemicals: 0%
  - Technology: 50%
  - Other: 22%
  - Overall: 33%

- **= Pharma/Health Care**
- **= Consumer Products**
- **= Chemicals**
- **= Technology**
- **= Other**

- 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.
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)

- Managing EHS Risk: 68%
- Protecting reputation and brand: 64%
- Promoting stability of business operations (continuity): 45%
- Reducing cost: 9%
- Creating competitive opportunity: 9%
- Complying with labeling or other regulatory requirements: 5%
- Other: 5%
- Quality product: 5%

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.

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.
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)**

- **Managing EHS Risk**
  - Pharma/Health Care: 78%
  - Consumer Products: 75%
  - Chemicals: 67%
  - Technology: 67%
  - Other: 33%

- **Protecting reputation and brand**
  - Pharma/Health Care: 100%
  - Consumer Products: 100%
  - Chemicals: 100%
  - Technology: 100%
  - Other: 44%

- **Promoting stability of business operations**
  - Pharma/Health Care: 67%
  - Consumer Products: 50%
  - Chemicals: 33%
  - Technology: 33%
  - Other: 25%

- 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.
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)

- Acquiring EHS information: 33%
- Evaluating EHS information: 33%
- Taking action to address risk or capitalize on opportunities: 33%
- Setting EHS expectations: 17%
- Evaluating effectiveness of the supply chain management process: 17%
- Taking action to capitalize on opportunity: 8%

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.
Results

Developing World – Process

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.
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)

- Provided technical assistance: 63%
- Provided training: 47%
- Guided the supply chain partner to a consultant: 47%
- Provided benchmarking of EHS programs: 32%
- Funded improvements to partner’s EHS program: 5%

Only one company indicated that they fund improvement to partner’s EHS program.
Results

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)

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

Results

Developing World – NGOs

Total Response

Yes

No, and not considering this for the future

59%

36%

5%

n=22

Pharma/Health Care

Yes

No, but plan to in the future

75%

25%

n=8

Consumer Products

Yes

No, and not considering this for the future

50%

50%

n=4

Chemicals

Yes

No, and not considering this for the future

33%

67%

n=3

Technology

Yes

No, and not considering this for the future

33%

67%

n=3

Other

100%

n=4
Most companies (70%) think that their supply chain management process is at least moderately effective in the developing world.

Q25. Please evaluate the overall effectiveness of your company’s supply chain management process in the developing world (n=23)

*Average Score* represents a response average of 22 respondents; responses of ‘0 were not included in calculating averages.
When these same companies rated the effectiveness of their supply chain management process in general (Question 15), the average score was slightly higher. . . .

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. . . .

Q15 v. Q25. Please evaluate the overall effectiveness of your company’s supply chain management process (n=23)

- Process in Developing World
- Process in General

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Average Score (Developing world) = 2.82
Average Score (General process) = 3.05

. . . 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.

Q25. Please evaluate the overall effectiveness of your company’s supply chain management process in the developing world (n=23)

In the chemical industry, the process for the developing world was seen as less effective than the process in general.

*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

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.
Q. 11

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

1. 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
2. Independent audit in the case of waste vendors
3. The checked items are part of our supplier certification program
4. Depends on the level of spend with supplier and risk factors based on geography and type of material/service provided.
5. The nature and depth of the information query and review depends on the scope of services provided by the contractor
6. Varies depending on the nature of the relationship. For example, key suppliers undergo much more scrutiny than office product vendors.
7. Information collected varies widely for carrier, raw material, indirect services, warehouses, transfer facilities, containers and packaging, toll manufactures, contractors drum recondition, tank wash facilities.
8. 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.
9. Results of questionnaire responses or interviews are usually the basis to decide if an on-site audit is needed.
10. Have a process to rank suppliers - certain ones get a questionnaire other require an audit.
11. 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