Benchmarking and Safety Indicators on Occupational Safety and Health

Evaluating where you are, determining where you are going
In business today, it is vital that we compare ourselves to others

• Am I making more safer than competitors
• How does my safety performance compare to the rest within the same industry?
• Are there others out there that have similar problems?
  – Have they solved them already?
  – If yes, then what worked for them?
• Am I at the top or the bottom of the class?
Definition of Benchmarking

• A measurement of the quality of an organization's policies, products, programs, strategies, etc., and their comparison with standard measurements, or similar measurements of its peers.

• The objectives of benchmarking are (1) to determine what and where improvements are called for, (2) to analyze how other organizations achieve their high performance levels, and (3) to use this information to improve performance.
Introduction

• Health and safety benchmarking (hereafter called safety benchmarking) is a structure and documented process by which an organization assesses the difference between the organisation and local or world class performers in respect of safety management processes and performance.

• It involves the evaluation of the method, processes, procedures, risk control measures and performance of an organisation against those of enterprises that consistently rank as the best performers.

• Safety benchmarking will afford the knowledge and capability of an organisation needed to make itself within the top league table. In essence, through the due process of safety benchmarking, an organisation learn how to:
  – Reduce accident and ill-health;
  – Loss prevention;
  – Enhancement of compliance of statutory and contractual obligations; and
  – Inculcating a safety culture.
Important Points

Safety benchmarking is not simply comparing results or copying one’s business competitors. Rather, it points to continuous learning best practices and bitter experience from others, understanding more about his organisation’s strength and weakness and rooms for breakthrough improvement and then staging enhancement programmes.

How to Use Benchmarking
• Who's best?
• How good are they?
• How do we get that good?
Benchmarking can be considered as spying on the competition (Boxwell, 1994)

Instead of spying, benchmarking is a tool for an organisation to keep abreast of the outside world and current development. In Japan, benchmarking is a part of their manager's job descriptions (Boxwell, 1994). This is one of the strategic approaches that the Japanese are able to keep up with and surpass others in industries such as automobiles, motorcycles, electronics, etc.
Benchmarking is a copycatting exercise

Copycatting and Benchmarking are not one and the same. Copycatting leads to lessened creativity and stale ideas. Benchmarking is not intended to substitute the managers’ integrity and obligation of instilling insight and original strategies into their organisations. Albeit copycatting is an easy trap for them to fall into, benchmarking process is not an excuse for the managers to stop being creative and innovative.
Using statistics with caution

• Benchmarking OSH can involve comparisons of outcome measures such as lost time injury frequency rates (LTIFRs). However, using statistics of accidents and injuries as performance indicators for benchmarking has problems, as your team leader can outline.

• Numerical benchmarking did not show them what they needed to do to improve.

• LTIFRs were also not faithful guides to benchmarking partners. Enterprises with low LTIFRs may not necessarily exhibit best practice in the OSH management system that you wish to benchmark.

• In fact, because of the ease with which LTIFRs can be manipulated, LTIFRs may actually lead you to enterprises with ‘worst’ practice in key areas.

Use statistics such as LTIFRs with caution. When benchmarking, do not just compare statistics with your benchmarking partners. Instead, analyse the management systems that lead to these statistics so that you can identify and implement best practice back in your own enterprise.
Benchmarking is a process not an outcome

• Benchmarking is a process that you can use to help translate the strategy of your enterprise into action. Other processes that may be used include leadership, customer focus, good people management, quality management, and the use of technology.

• Use of these processes leads to the achievement of outcomes like lower cost, improved quality, flexibility, timeliness, innovation and competitiveness. It also makes your enterprise a better place to work.
The Occupational Safety & Health Council (OSHC) strongly advocated that “knowing the OSH performance of the organization is the key to success. Benchmarking is undeniably an effective tool for continuous improvement that allows an individual organisation to adopt the best practice from outstanding corporate, so as to enhance their own occupational safety and health performance.

The course will help you to:
• instil an understanding of benchmarking and how safety can be benchmarked;
• understand the hesitation and objection of the senior management to benchmark safety with others though they accept benchmarking other business aspect and provide ammunitions for convincing them;
• design and implement a process for safety benchmarking that suits your organisation;
• select partners that are helpful;
• understand the code and protect your organisation’s interest during benchmarking with outsiders in particular competitors;
• train up your benchmarking team members and ensure that they all share a basic understanding about benchmarking and how OSH can be included;
• implement improvement opportunities and programmes identified through the exercise that will enhance your organisation’s safety performance.
Methodology

The most prominent methodology is the 12 stage methodology by Robert Camp (author of the first book on benchmarking in 1989). The 12 stage methodology consisted of

– Select subject ahead
– Define the process
– Identify potential partners
– Identify data sources
– Collect data and select partners
– Determine the gap
– Establish process differences
– Target future performance
– Communicate
– Adjust goal
– Implement
– Review/recalibrate
Leadership position attained
Practices fully integrated into processes

Recalibrate benchmark
Implement plan and monitor
Develop action plan
Establish functional goal
Communicate results of analysis
Project future performance levels
Determine current competitive gap
Plan and execute data collection
Identify best partners
Identify benchmark topic
Benchmarking Safety and Health

Types of Benchmarking

• *Strategic Benchmarking*
  
  – Continuous improvement is a strategic approach to realisation of organisational changes. Those who are responsible for such assignment are authorised to identify and effect changes to improve the safety performance. The benchmarking findings provide practical data and solutions through close examination of benchmarking partners’ methods, arrangements, steps, procedures and performance. Safety benchmarking is a means to an end and not an ends itself. It should then be utilised to assess particular issues and can be used as a power tools to promote continuous improvement within an organisation.

  – Re-aligning OSH strategies that have become inappropriate
Benchmarking Safety and Health

Types of Benchmarking

• *Performance or Competitive Benchmarking*

  – In competitive marketplaces, companies strive hard to establish a unique selling proposition which can help forging edges over the other competitors and establishing a good brand image in the minds of Employers and consumers. Safety benchmarking can tell you where you stand and provide invaluable material for writing the Corporate Sustainability Report which plays a significant role in building customer loyalty based on distinctive ethical values.

  – Assessing relative level of performance in key areas or activities in comparison with others in the same sector and finding ways of closing gaps in performance.
Benchmarking Safety and Health

Types of Benchmarking

• *Process Benchmarking*
  – Focuses on improving specific *critical processes and operations*. Benchmarking partners are sought from best practice organisations that perform similar work or deliver similar services. Through benchmarking process, an organisation can grasp a creative impetus that point to highly innovative solutions to safety problems. The due processes are so structured and systematic that it provides opportunities on a continuous improvement culture and initiatives that is basic to any *best practice approach*.
  – Achieving improvements in key processes to obtain quick benefits
Benchmarking Safety and Health

Types of Benchmarking

• **Functional Benchmarking**
  – benchmark with partners drawn from different business sectors or areas of activity to find ways of improving similar functions or work processes. This sort of benchmarking can lead to innovation and dramatic improvements. The success of an organisation depends very much on its ability to learn new methods, new ideas and new tools to improve operational efficiency. Benchmarking promotes corporate learning by opening the eyes to other methods of accomplishing tasks and other techniques of solving problems than the ones currently employed.
  – Improving activities or services for which counterparts do not exist.
Benchmarking Safety and Health

Types of Benchmarking

• **Internal Benchmarking**
  
  – Involves benchmarking businesses or operations from within the same organisation (e.g. business units in different countries). The main advantages of internal benchmarking are that access to sensitive data and information is easier; standardised data is often readily available; and, usually less time and resources are needed.

  – Several business units within the same organisation exemplify good practice and management want to spread this expertise quickly, throughout the organisation.
Benchmarking Safety and Health

Types of Benchmarking

• **External “Getting out of the box” Benchmarking**
  – Involves analysing **outside** organisations that are known to be best in class. External benchmarking provides opportunities of learning from those who are at the "leading edge".
  – Where examples of **good practices** can be found in other organisations and there is a lack of good practices within internal business units.
Benchmarking Safety and Health

Types of Benchmarking

- *International (Collective) Benchmarking*
  - Best practitioners are identified and analysed elsewhere in the world, perhaps because there are too few benchmarking partners within the same country to produce valid results.
  - Globalisation and advances in information technology are increasing opportunities for international projects. However, these can take more time and resources to set up and implement and the results may need careful analysis due to national differences.
  - Through mutual agreement, for example Comet benchmarking exercise, which invites 11 leading metros worldwide, including MTR and participation in benchmarking club, for example Green Cross of HK OSHC, companies with the same type of operation or interest to seek breakthrough improvement commit to undertake a series of benchmarking exercises to gauge best practices and identify new opportunities for improvement.
### Readiness for benchmarking

Certain safety management practices must be well established and maintained before staging safety benchmarking. These management practices are cornerstone for success in benchmarking. The following is a list of the management practice referred to as foundation stones as listed in WORKSAFE AUSTRILA’s “Benchmarking Occupational Health and Safety: Introductory Guide” (slightly tailored to suit local situation) can be used as a guideline for self assessment before venturing to convince the senior management:

- **A commitment at all levels in the enterprise, starting with senior management, to the process of benchmarking OSH**
- **The existence of preventive rather than reactive approaches to OSH systems.**
- **A commitment to adopt an open, consultative and participative approach to manage OSH**
- **Recognition that OSH is a central aspect of the successful management of your enterprise.**
- **The presence of management systems which allows effective management of OSH**
- **An ability to analyse OSH management systems in the enterprise rigorously.**
- **An ability to commit the necessary people and time.**
## Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>
| 1. Do you have OSH problems or goals that need action? | Possible responses:  
  • Plan to develop OSH component for induction training.  
  • There are known problems with the ergonomics of the packing line. | Possible response:  
  OSH is well-managed and under control for the foreseeable future |
| Action:                                            | Go to Question 2.                                                    | Make OSH a focus for a continuous improvement program to guide you to further developments. |
## Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Do you have vision for your business in the long term?</td>
<td>Possible responses:</td>
<td>Possible response:</td>
</tr>
<tr>
<td></td>
<td>.. to be number one Safety contractor.</td>
<td>.. We have not decided what we would like to do with the business in the long term.</td>
</tr>
<tr>
<td></td>
<td>.. to provide the best in customer service in the financial sector.</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Your response</strong></td>
<td><strong>Your response</strong></td>
</tr>
<tr>
<td>Action:</td>
<td>Go to Question 3.</td>
<td>Develop a vision for the business, then go to Question 3..</td>
</tr>
</tbody>
</table>
# Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Is there a strategy to use OSH to help achieve the Vision?</td>
<td>Possible responses: To integrate OSH into all management systems.</td>
<td>Possible response: We have not decided what OSH strategy we will use in achieving our vision.</td>
</tr>
<tr>
<td>Action:</td>
<td>Your response</td>
<td>Your response</td>
</tr>
<tr>
<td></td>
<td>Go to Question 4.</td>
<td>Develop a strategy for the use of OSH in achieving the vision, then go to Question 4.</td>
</tr>
</tbody>
</table>
### Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Do you have an action plan to implement your OSH strategy?</td>
<td>Possible responses: . . To use the OSH committee to monitor developments in OSH.</td>
<td>Possible response: We have not decided how to implement the OSH strategy.</td>
</tr>
<tr>
<td></td>
<td>Your response</td>
<td>Your response</td>
</tr>
</tbody>
</table>

**Action:**
- Go to Question 5.
- Develop an action plan for OHS, then go to Question 5.
## Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Can you identify how you could use benchmarking to improve OSH management? Do you have an action plan to implement your OSH strategy?</td>
<td>Possible responses: . . Benchmarking will give us ideas about induction training in OHS.</td>
<td>Possible response: Other change management tools suit our needs better than benchmarking.</td>
</tr>
<tr>
<td>Action:</td>
<td>Go to Question 6.</td>
<td>Develop a strategy for change using the tools that suit your enterprise. You may choose to return to benchmarking at a later time as part of that Strategy.</td>
</tr>
</tbody>
</table>
## Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. Do you know how benchmarking OSH fits into your overall improvement plan?</td>
<td>Possible responses: Benchmarking OSH will give us ideas about process improvements that we can apply to other management areas.</td>
<td>Possible response: We are using more than one strategy for change now and we are not sure how benchmarking will add to the effect of these.</td>
</tr>
</tbody>
</table>

| Action:                                                                 | Go to Question 7.                                                   | Plan to coordinate all change management tools to work together, then go to Question 7. |

| Your response                                                                 | Your response                                                                 |
## Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>7. Do you have top management commitment and are resources available?</strong></td>
<td>Possible responses: . . the CEO has endorsed our OSH policies and procedures. . . The CEO has written statements about the value of benchmarking OSH in our staff newsletter and has allocated people, time and money to complete the project.</td>
<td>Possible response: • The CEO does not understand the process of benchmarking OSH and shows no interest. • No one is responsible for the project and no resources have been allocated to it.</td>
</tr>
<tr>
<td><strong>Your response</strong></td>
<td><strong>Your response</strong></td>
<td><strong>Your response</strong></td>
</tr>
<tr>
<td><strong>Action:</strong></td>
<td><strong>Go to Question 8.</strong></td>
<td><strong>Educate top managers, gain commitment and then go to Question 8.</strong></td>
</tr>
<tr>
<td>Question</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------</td>
</tr>
<tr>
<td>8. Do you have the right culture and people in place to benchmark OSH?</td>
<td>Possible responses: . . We have an effective OSH committee renowned for information sharing and problem solving.</td>
<td>Possible response: Members of the OSH committee believe that nothing will change as a result of benchmarking</td>
</tr>
<tr>
<td>Action:</td>
<td>Go to Question 9.</td>
<td>Consider working with the committee to identify why they are uncertain of benefits and address these problems first. Then provide training and education about the management of OSH.</td>
</tr>
</tbody>
</table>

Your response

Your response
## Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. Do you have effective OSH information systems?</td>
<td>Possible responses: . . Our OSH information system includes information about our performance which allows us to be proactive about change in OSH.</td>
<td>Possible response: Our OSH information is unreliable, lacking in detail and is directed towards the wrong people</td>
</tr>
<tr>
<td>Your response</td>
<td></td>
<td>Your response</td>
</tr>
<tr>
<td>Action: Go to Question 10.</td>
<td></td>
<td>Develop, repair or change systems to facilitate the implementation of the OSH plan.</td>
</tr>
</tbody>
</table>
## Benchmarking readiness checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>10. Do you recognise potential conflicts, for example, resistance to change, and can they be managed?</td>
<td>Possible responses: . . Responsibility for early and appropriate management of conflict has been assigned. . . The OSH committee manages conflicts both proactively and reactively</td>
<td>Possible response: We cannot predict the reaction to change of different stakeholders in the enterprise.</td>
</tr>
<tr>
<td></td>
<td>Your response</td>
<td>Your response</td>
</tr>
</tbody>
</table>

**Action:**

<table>
<thead>
<tr>
<th></th>
<th>Begin the benchmarking process.</th>
<th>Consider conflict scenarios, establish conflict management mechanisms and then start benchmarking.</th>
</tr>
</thead>
</table>
### Steps for safety benchmarking

OSHC advocates that the whole process can be summarized in four stages and in eight steps as the table below shows:

<table>
<thead>
<tr>
<th>Stages</th>
<th>Steps</th>
<th>Key Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
<td>1. Establish project</td>
<td>Start initial work after checking feasibility and desirability</td>
</tr>
<tr>
<td></td>
<td>2. Select teams and train them</td>
<td>Assign authority and responsibilities Assure competency</td>
</tr>
<tr>
<td></td>
<td>3. Identify processes to benchmark</td>
<td>Select process(es) to be benchmarked</td>
</tr>
<tr>
<td></td>
<td>4. Analyse one’s own processes</td>
<td>Identify strengths and weaknesses so as to seize opportunities to handle threats</td>
</tr>
<tr>
<td>Collect</td>
<td>5. Build relationship</td>
<td>Join benchmarking network or club</td>
</tr>
<tr>
<td></td>
<td>6. Select benchmarking partners</td>
<td>Collect information through visits and/or questionnaires</td>
</tr>
<tr>
<td>Analyse</td>
<td>7. Analyse performance gaps</td>
<td>Define gaps between partners and target future performance</td>
</tr>
<tr>
<td>Adapt</td>
<td>8. Develop improvement strategies</td>
<td>Implement improvement plans</td>
</tr>
</tbody>
</table>
Know yourself first!

- When benchmarking OSH, the most important step is to analyse your own OSH management process. If you do not know what you are doing or how you are going, you cannot gain maximum benefit from looking at how others do it.
- The process of analysis might identify improvements immediately, without having to go outside. You can then target benchmarking to other problems or areas for improvement where you really need the creative burst given by external benchmarking.
Identifying key features of the OSH management process

• To get the maximum benefit from benchmarking, target benchmarking at the features and systems in your enterprise which have the most effect on performance.

• The flow of activity in an enterprise is a little like a river. Heavy rain at the head of the river will result in flooding downstream. To prevent a flood downstream, action has to be taken upstream, not downstream. Accidents and illness at work are downstream events. To effectively stem their flow, action needs to be taken upstream.
## ASET Process

<table>
<thead>
<tr>
<th>Atmosphere</th>
<th>-&gt; Systems</th>
<th>-&gt; Exposure</th>
<th>-&gt; Targets</th>
</tr>
</thead>
<tbody>
<tr>
<td>For example, vision, values, common goals, OHS culture.</td>
<td>For example, training purchasing policy, hazard policies procedures, maintenance procedures, information systems.</td>
<td>For example, state of equipment, and conditions in the workplace, behaviour.</td>
<td>For example, incidents, near-misses.</td>
</tr>
</tbody>
</table>

To improve the Exposure and Target end of this process, you will need to improve the first two steps—Atmosphere and Systems. Just looking at the endpoint does not allow you to improve the Atmosphere and Systems which cause incidents. Enterprises have found that the most effective OSH benchmarking occurs when the focus is on the first two steps.
OSH is part of management

• Enterprises that deal successfully with OSH integrate it into the systems that they use to manage the enterprise.

Management systems that address OSH can be:
  – specific to OSH, such as hazard policies and procedures, accident/incident investigation and reporting, auditing, inspections, risk assessment and risk control; or
  – general, addressing OSH as part of meeting broader organisational needs, for example, maintenance, training, purchasing, planning, programming, capital investment, work and job design, workplace layout, decision making and grievance procedures.

• Benchmarking OSH will require the benchmarking of both specific and general management systems
Before benchmarking the key management systems for OSH

• When you have identified the most important management systems for OSH, you should analyse each system. This will allow you to:
  – identify where the major problems in the systems are;
  – determine what causes these problems; and
  – work out what you will need to discover from your benchmarking partners.
Benchmarks team

- To benchmarking safety, past experience indicates the following composition is desirable:
  - Membership should come from different level of management and shopfloor workpeople
  - Members with expertise, good knowledge and exposure to the elements of the safety management system to be benchmarked
  - Manageable size – normally below five
  - Assigning different team to focus on different subject matter

- Each benchmarking team will need a clear statement of their role and the responsibilities of team members. This could be provided in the form of terms of reference. The OSH benchmarking team may need to develop or revise draft terms of reference for their work.
# Identify your training needs (skill)

<table>
<thead>
<tr>
<th>Skill Area</th>
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</thead>
<tbody>
<tr>
<td>Process analysis</td>
</tr>
<tr>
<td>Communication techniques</td>
</tr>
<tr>
<td>Team processes, for example, decision making, conflict resolution</td>
</tr>
<tr>
<td>Meeting procedures</td>
</tr>
<tr>
<td>Work planning</td>
</tr>
<tr>
<td>Problem solving</td>
</tr>
<tr>
<td>Interviewing skills</td>
</tr>
<tr>
<td>Report preparation</td>
</tr>
<tr>
<td>Facilitation skills</td>
</tr>
<tr>
<td>Change management</td>
</tr>
<tr>
<td>OSH management</td>
</tr>
<tr>
<td>Other specific OSH issues</td>
</tr>
</tbody>
</table>
What resources are needed?

• Benchmarking is a very useful approach to improving OSH management, but it is not a cheap or easy process. Your enterprise needs to provide clear guidance to the team on the resources available to undertake OSH benchmarking. These resources should not be just financial, but should include administrative and decision-making support.

• OSH benchmarking teams will need training to give them the skills and knowledge that allow effective benchmarking. Training also helps the team learn to work together effectively. To benchmark OSH, team members may also require training in OSH management and specific issues relating to the management systems to be benchmarked.
Process analysis can be undertaken in all sorts of ways. The important point is to focus on the ‘customers’ of the management system being analysed. You will need to identify:

– all the steps in the system;
– the problems or barriers at each step;
– the sources of these problems or barriers; and
– whether each step is essential to the system.

A flow chart is a diagram that represents all the steps and decisions involved in a management system. Write each step in a box and link them with arrows to show the direction of the process. Mark decision-making points as diamonds.
Flow chart was developed by the OSH benchmarking team at a public hospital.
The components, sub systems and sub components of an Accident Investigation System

Accident Investigation Policy → Accident reporting system → Accident investigation system → Accident analyses system → Verification system → Dissemination system

Sub systems
- Distribution system
- Compliance procedures
- Investigation procedures
- Information requirements
- Follow-up procedures
- Dissemination procedures

Sub components
- Composition of investigation team
- Fact-finding procedures
- Confirmation checking
- Check previous history
- Develop solutions
- Develop action plans
Flow chart for OSH management system/process selected for benchmarking

• Now, draw up a flow chart for the management system/process that you have chosen.
Analysis

1. **Identify the problems and barriers at each step in the system.**
   For each box and diamond, write all the problems that have arisen or can arise in carrying out the step. What stops the step being carried out efficiently and effectively? What would the customers of this system (identified earlier) say were the problems and barriers?

2. **Determine whether all steps in the system are essential.**
   Are there any unnecessary steps or tasks? How could the steps better meet the customers’ needs?

3. **Identify the sources of the problems and barriers.**
   There are some useful techniques such as used a ‘fishbone’ diagram.
‘fishbone’ diagram

Plan

OSH message do not get across quickly or accurately
OSH message do not get across quickly or accurately
The definition of the workplace precautions to control a particular risk forms the basis of measuring performance in controlling that risk. It is useful to consider workplace precautions under the following issues (the ‘four Ps’):

- premises,
- plant and materials,
- procedures,
- people.

Figure 4
Construction contractors might find it difficult to formulate arrangements, steps and procedures for incorporating the “Construction, Design and Management (CDM)” concept in the daily contract management.

Benchmarked contract management processes with those adopted in design and built contract resulting in dramatically enhancement of cooperation between the designers and builders in design out unnecessary risks during the drawing boards stage. Learning from the long time experience in design and built contract management, the contactor has gained inspiration in drawing up the protocol and methodology for implementing the CDM concept.

Proprietor from a catering establishment finds themselves at a lost when drawing up the arrangements, steps and procedures for evaluation, selection and managing of service providers and subcontractor for providing temporary working hands.

Initial benchmarking research indicates comprehensive processes have been developed by most construction companies. By making reference to those established by the forerunners of the construction industries and sharing experience of other members of the Green Cross Group, the catering establishment proprietor could establish his own steps, procedures and arrangements for evaluation, selection and management of service providers, etc.

It has been identified by Hospital Authority that in non-clinical services such as catering and domestic services, improvement including the safety conditions has to be made.

Some hospitals of the Authority have collaborated with hotels and other service institutions in Hong Kong to identify their best practices and adapted them into their settings.

Collecting benchmarking within its industry is essential. However, it might already have a pretty good idea or preconceived view on how the industry performs. It is then imperative that the organisation should reach the outside world.

An organisation might opt to work with one partner or a number of them. The pre-condition of the decision is the availability of networks and “how do you gain access to safety benchmarking partners?” By joining a club, for example Green Cross Club, an organisation might have a wide range of potential partners to choose from.

Those who succeed in developing global perspective will soon surpass those who fail to do so. In order to make speedy advancement and create innovative ideas, organisation must be able to think outside the box, that is, to assess their process from external perspective.
Who should we benchmark with?

Selection of suitable partners

The best OSH benchmarking partners will meet the following criteria:

• **Willingness to participate in benchmarking.**
  Most important selection criteria for a benchmarking partner is the partner’s willingness to participate.

• **Good performance in the management systems in which you are interested.**
  As well as being ready to share information, partners should be undertaking work of interest to you. They should be able to teach you something about how to do it better.

IDENTIFY BEST PARTNER(S)

ACTIONS

Criteria for identifying, evaluation and selection of partner(s)
- Searching for potential partner(s)
- Choosing the right partner(s)

RESPONSIBLE STAKEHOLDERS
- Management
- Process owner
- Benchmarking team
- External consultant
- External data sources

TECHNIQUE
- Primary and secondary research
- Analysis
Who will we approach?

Brainstorm answers to the following questions.

1. From the existing networks of team members, list all the possible benchmarking partners.
2. List the enterprises that you have heard have good reputations or that you know are doing well in areas of OSH that you want to benchmark.
3. List all the possible networks that you can tap into for information about potential benchmarking partners.

The enterprises on the list of potential partners need to be researched and the final list refined. Do this with calls to the enterprise itself, unions and employer associations. Read any material provided by the enterprise. Look for other information in the press or in journals.
<table>
<thead>
<tr>
<th>Internal Partner</th>
<th>External Partner</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td><strong>With competitors</strong></td>
</tr>
<tr>
<td>Easier to get information and therefore cheaper</td>
<td>Easy to identify potential partners</td>
</tr>
<tr>
<td>Improve consistency within a firm</td>
<td>Can help your competitive edges</td>
</tr>
<tr>
<td>Can help improve communication and information sharing</td>
<td>Use as a marketing feature if you are the “benchmark”</td>
</tr>
<tr>
<td>Easier to get management commitment</td>
<td><strong>Within the same industry</strong></td>
</tr>
<tr>
<td>Good practice of technique before looking for outside organisation</td>
<td>Quite easy to identify potential partners</td>
</tr>
<tr>
<td></td>
<td>Often links already exist with potential partners</td>
</tr>
<tr>
<td></td>
<td>“Speak the same language”; share issues and concerns</td>
</tr>
<tr>
<td><strong>Disadvantages</strong></td>
<td><strong>Different industry</strong></td>
</tr>
<tr>
<td>Doesn’t identify overall best practice</td>
<td>Potential for really innovative ideas</td>
</tr>
<tr>
<td>Can be ‘blinker(ed)”</td>
<td>No competitor problems</td>
</tr>
</tbody>
</table>
Benchmarking ethics

One way of building up a useful relationship with benchmarking partners is to have an agreed code of conduct. This provides reassurance for both partners that certain standards of behaviour will be maintained. The following principles come from the *Benchmarking Code of Conduct of the* American Productivity and Quality Centre:

- information exchange will be legal;
- communication will be full and frank;
- confidentiality will be maintained;
- information will be used only for the purposes for which it was provided and only passed to third parties with permission;
- the appropriate contact people will be used;
- both partners will prepare properly so that there is an efficient use of time;
- tasks will be completed to both partners’ satisfaction; and
- each partner will treat the other as they would want to be treated.
General points

• Be realistic – avoid doing too much for any one exercise.
• Before exchanging information, make sure that they are comparable – “apple for apple”. For example, comparing accident statistics with same parameters and/or presentation format.
• “Respect your partner” – Remember confidentiality, give and take tactics, keep to agreed topics, be fully abreast of the subject areas and data, show awareness and strict compliance of the cord of conduct, keep to timescales and a send a vote of thanks.
Preliminary work that needs to take place before the visit

Developing the questionnaire/list of issues

The OSH benchmarking team used flow charts and fishbone diagrams to analyse the systems and processes that they had decided should be the subject of benchmarking. They chose six areas for investigation, including rehabilitation. The questions that they took to their benchmarking partners were framed so that they would lead to further discussion.

An example appears below.

- How is the rehabilitation plan implemented with support of the injured person, supervision and colleagues?
- Do you involve the employee’s family in rehabilitation plans and progress?
- How is discipline used when there is a lack of cooperation?
- How do you handle rehabilitation for non-work injuries?
- How do you educate local doctors to comply with enterprise rehabilitation procedures?
- Who are your preferred rehabilitation providers and why?
- How do you close cases?
Preliminary work that needs to take place before the visit

**Rehearsing interviews**
- Before you embark on your first visit, practice so that you get it right. Decide who will ask which questions. This is important because it ensures that everyone contributes without the naturally outspoken people taking over the interview.
- Rehearse with your team, with different members taking turns to play the interviewer. You could practice in your own enterprise or arrange a visit to a friendly enterprise.

**Pre-warning your OSH benchmarking partner**
- Preparing a list of the issues from your questionnaire and sending this along in advance.
- For the benchmarking partners, a list of issues can be used to ensure that the appropriate information is made available and that the relevant people allocate sufficient time to spend with you.
- An agenda and an interview schedule in consultation with your benchmarking partners. It may be appropriate for members of your team to split up and interview some people separately. This can be a good use of time for both the visitors and the benchmarking partners.
Conducting benchmarking visits

- **Determine the roles and responsibilities of the members of the OSH benchmarking team during benchmarking visits**
  Each member of the benchmarking team will have a specific role. These may include note taker, questioners, observers, photographer (but get permission to take photographs before getting there) and interview taper (but get prior permission to tape). Once you have been given a role, make sure that you are able to fulfil it.

- **Give and take**
  Remember that benchmarking is a two-way process. You will pick up information from your benchmarking partners and, as the term ‘partner’ implies, your partners will learn from you. Be prepared to give information about your enterprise. Before your visit, ask your partners if there is any information that they would like from you. Bring any appropriate material with you on the visits.
Protocol for face-to-face benchmarking

• Circulate meeting agenda and relevant documentation well in advance
• Be professional, sincere, polite and managing time tightly
• Introduce the team members and their roles
• Avoid raising issues not on the agenda
• Ensure prior authority has been obtained before exchanging proprietary and confidential information
• Explain your process and if requested the result
• Solicit a future reciprocal visit
• Conclude all activities in time
• Extend vote of thanks before leaving
The benchmarking team is tempted to concentrate on the process(es) and statistics. They are important and yet the other three issues, core competency, “enablers” and best practice, have not been accorded the proper attention.

As a continuous improvement tool, benchmarking should primarily be used to enhance core competencies, the basic business processes that enable an organisation to have an edge over others.

Enablers also known as critical factors are a wider set of activities or conditions that help to enhance the implementation of a business practice. The core value of a true benchmarking approach is analysing the management skills and attitudes that amalgamate together to realise achievement of best safety practices.

Collect the best and superior practices that lead to breakthrough strategies leading to quantum leaps over competitors in safety performance.
What did we learn from our OSH benchmarking visits?

- One of the tools for learning is referring to the problems and systems that you had identified during the gap analysis prior to benchmarking when analysing the information and observation gathered during the exercise and thereafter map out the improvement strategies for the key problem and system of the safety management system.

- Another approach is to prepare a table comparing how different enterprises handle the range of issues that you need to address.

- After analysing the information collated after the benchmarking visit, the team should identify the changes that their organisation will be benefitted from to effect moving towards forging their own organisation into one with best practices. This should not be a stereo-type copy of partner’s version as each organisation has its own culture and climate. What work well with the partners might not work for the team’s organisational setup.
Reporting back after benchmarking visits

• It is appropriate for the team to send a short personal note of thanks.

• You must also provide your partners with any information that you promised as a follow up to your visits. Remember, benchmarking is a two-way process. Effective, long term benchmarking partnerships require a continuing exchange of information.

• OSH benchmarking team needed to discuss what they had discovered as soon as they had returned to the workplace. A ‘debrief’ on the same day helped the team identify the most important findings.

• On the basis of their debrief and further analysis, the team quickly drew up a set of draft recommendations. These were presented to senior management who provided comments and suggestions for change. A formal report was then prepared and again presented to senior management.
Report back

- Everyone in the workplace should be informed about the outcomes of the benchmarking exercise. However, different groups and areas will have different information needs and will want information in different forms.

- Everyone should get the same essential message. However, some groups will want different degrees of detail and information about different subjects.

- There are many different ways to provide reports—in meetings, in written form and using formal presentations. In large, multi-site enterprises, videos and audio tapes may also be used. Different methods are useful for different groups.

- Senior managers may prefer written reports, followed up by formal presentations.
The report included:

- a list of the OSH benchmarking team members;
- the enterprise’s aims for OSH benchmarking;
- the OSH systems that were benchmarked;
- a list of the benchmarking partners and when they were visited; and
- the findings and recommendations developed by the team as a result of benchmarking.

This written report was distributed to the OSH committee and to senior management.

Formal meetings were then held to discuss the report. It was also used as the basis for verbal reports back to the rest of the workforce as part of weekly toolbox meeting.
Implementing changes

- The most effective changes will probably be tailored for your own enterprise using ideas that you gained from across the range of partners.
- Brainstorm a list of possible changes for your enterprise to achieve best practice in the relevant area.
- Consult with all relevant people, especially decision makers and those who will have to implement and operate under the changes.

- Not all of the changes that you have listed will be suitable for your enterprise. You will need to assess how applicable each of these will be for your own circumstances.
- Use the following list of questions as a checklist to identify the most important or useful changes:
  - Which changes will most effectively help achieve best practice in this and other areas?
  - Which changes would be able to be implemented given current systems, structures and financial context?
  - Which changes have wider benefits than just addressing the current problem?
PERFORMANCE MEASUREMENT

• Has the objective evidence to demonstrate that learnt–from partnership and benchmarking are found on work with customers, measure the customer’s perception of service to indicate the safety and health performance, corrective action arising from complaints, etc.?

• Has the objective evidence to demonstrate that learnt from partnership and benchmarking are found on the best practice performers achieve their success and improve its own work practices and system on the basis of what has been learnt?

• Has the objective evidence to demonstrate that learnt from partnership and benchmarking are found on from external OSH promotional safety competitions and activities?

While benchmarking OSH involves looking at management processes rather than outcomes, some way of measuring or assessing outcomes will be required. In other words, in order to benchmark OSH management, measurement of its performance will be required. This, in turn, will require the development of safety performance criteria or indicators.
Safety performance indicators (SPI)

• To minimise the occurrence of workplace injury/disease by reducing the level of risk at work
• To provide informative feedback mechanisms
• To provide a measure of sound management and corporate sustainability
• To facilitate a process of OSH benchmarking between organisations and industries
Using benchmarking data as a performance goal

- Benchmarking has been used as a business tool for a collaborative learning process and was originally invented as a formal process by Rank Xerox.
- Benchmarking, or measuring your company’s processes and/or performance outcomes against another, when applied in the field of OSH, has tended to focus on outcome indicators as opposed to SPIs. This has occurred for two principal reasons.
  1) when organisations compare performance, they tend to focus on the bottom-line results that impact on their business, such as accident and/or compensation claim costs, fatality rates and incidence rates.
  2) Secondly, because SPIs are often developed to meet the specific needs of an organisation, it is often difficult to find similar organisations that are measuring exactly the same things.

For this reason SPIs have only a limited application in benchmarking, and more work may need to be undertaken within industry groups to develop appropriate and relevant measures for their needs.
It is necessary to emphasize that benchmarks are not performance indicators and vice versa. Using performance indicators is an internal function for an organisation. A benchmark is an external goal that is recognized as an industry or process standard. However, the number in itself is meaningless, unless there is an understanding of how the benchmark is derived. Understanding the enablers and success factors behind the benchmark is what is most important.

The New South Wales Health Department (1998) defines a performance indicator as “a statistic or other unit of information which reflects directly or indirectly, the extent to which an anticipated outcome is achieved, or the quality of processes leading to that outcome”. In order to measure particular aspects of an organisation’s OSH performance, performance indicators need to be developed for areas that are to be evaluated.
General perspective of SPI(KPI,PPI)

• “If you cannot measure it, you cannot manage it” as well as the statement by Yogi Berra: ‘If you don’t know where you are going, chances are you will end up somewhere else’
• Safety performance indicators include a suitable combination of measurement of consequences, cause and control.

Safety performance indicators can be either:
• Quantitative – an indicator that can be counted or measured and is described numerically. For example, number of safety audits conducted, injury frequency rates.
• Qualitative – an indicator that would describe or assess a quality or a behaviour. For example, employee ratings of management commitment (safety climate index) to achieving ‘best practice’ in OSH.
Quality Model for Process Improvement

- Measurement of safety performance can involve either outcome-focused or process-focused indicators of performance. These two types of measures fulfil different roles and are therefore best used in combination.
- The notion of using SPIs to improve OSH performance has evolved from the model of process control in quality management. In this model, process steps leading to sub-standard outputs are defined and examined to identify factors that have caused this sub-standard output. By addressing these factors in a timely manner, the standard of the output can be improved. When this process is applied consistently over time it leads to a cycle of continuous improvement.
The quality management model

INPUT
- PEOPLE
- MACHINERY & EQUIPMENT
- MATERIALS

PROCESS
- MONITOR PROCESSES

OUTPUT
- PRODUCT
- SUB-STANDARD PRODUCT
The quality management model can be applied to the process of (hazardous Materials) OSH management

<table>
<thead>
<tr>
<th>Safety Performance Indicators</th>
<th>Outcome Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Key OSH Activities</td>
<td>Output Progress Towards Goals</td>
</tr>
<tr>
<td>Process Monitoring Key Risks</td>
<td>Goals</td>
</tr>
<tr>
<td>Output Targets</td>
<td></td>
</tr>
</tbody>
</table>

- **Input Key OSH Activities**
  - Audit undertaken to identify hazardous Materials. Training in hazardous materials storage and handling instructions provided to staff

- **Process Monitoring Key Risks**
  - Observed that hazardous materials being stored and handled correctly

- **Output Progress Towards Goals**
  - Number or % of staff competent in hazardous materials storage and handling requirements

- **Goals**
  - Storage and handling instructions developed for all hazardous materials, and understood by staff

- **Outcome Targets**
  - X% reduction in the incidence of workplace injury
  - Areas where storage and handling targets are not met (eg by sector or by hazard risk) are identified

- **Input Key OSH Activities**
  - Equipment provided and staff trained in safe work from heights procedures

- **Process Monitoring Key Risks**
  - Observed that fall arresters being used at heights

- **Output Progress Towards Goals**
  - Number or % of staff competent in safe working from height requirements

- **Goals**
  - Reduction in falls from heights

- **Outcome Targets**
  - Areas where improvement is required are identified
The quality management model can be applied to the process of OSH management

**a) Inputs (Key Activities)**

i) Input SPIs are measures of what actions or initiatives have been undertaken in the workplace to improve OSH and can provide useful information on participation, leadership and communication. Although they are seen as good indicators of commitment and effort, they are not indicators of the effectiveness of the activities.

ii) In practical terms, organisations will need to define those activities in their safety management system that need to be promoted and reinforced. A focus on these activities can be used to visibly drive the safety culture in the workplace. SPIs can be developed for these activities.

**b) Processes (Monitoring Key Risks)**

i) Process SPIs are measures that are used to monitor the major risks in an organisation. These can be developed by identification of the key contributors to the outcomes of concern and developing measures to monitor behaviours and practices.

ii) In developing SPIs of this type, organisations should focus on all core risks and ensure that measures are in place to provide an indication that risk control practices are being followed.

**c) Outputs (Milestones)**

i) Output indicators are used to measure outputs in terms of the achievement of objectives, and on the progress towards the achievement of higher level OSH goals and targets.
Using SPIs to drive OHS activities

The systematic management of OSH

• ‘Systematic approach’ can take many forms but usually consists of a number of key elements that together are often referred to as safety management system (SMS). There are many variations of SMS in use, but all have the following principles:
  • commitment and policy
  • planning
  • implementation
  • measurement and evaluation, and
  • review and improvement.
Examples of performance indicators against each of the OSH management system core categories

<table>
<thead>
<tr>
<th>SPI CATEGORY</th>
<th>SPI IN THIS CATEGORY MEASURE</th>
<th>PERFORMANCE INDICATORS</th>
<th>HOW TO MEASURE</th>
</tr>
</thead>
</table>
| COMMITMENT AND POLICY          | Demonstrated commitment to improve OSH performance.                                          | ☐ Evidence of OSH policy statement signed by CEO  
☐ Frequency and quality of OSH reporting by or to Senior Management  
☐ Senior managers’ performance appraisals include OSH  
☐ Percentage of workforce and contractors covered by consultation processes and OHS representation  
☐ Rating of effectiveness of employee participation in OSH management | Employee Questionnaire/survey (Safety Climate Index)  
Examination of records                                                                                                                                  |
| PLANNING                       | Procedures established to eliminate workplace injury and disease                             | ☐ Operating procedures are developed and relevant  
☐ The extent to which an organisation requires risks to be managed using a process of hazard identification, risk assessment and control  
☐ Extent to which health and safety information is accessible to employees  
☐ Extent to which purchasing guidelines and contracts include specific health and safety requirements (for the delivery of the goods or services) | Employee Questionnaire/survey (Safety Climate Index)  
Examination of records                                                                                                                                  |
<table>
<thead>
<tr>
<th>SPI CATEGORY</th>
<th>SPI IN THIS CATEGORY MEASURE</th>
<th>PERFORMANCE INDICATORS</th>
<th>HOW TO MEASURE</th>
</tr>
</thead>
</table>
| IMPLEMENTATION     | Capability and support mechanisms that are necessary to achieve OSH objectives and targets. | ☐ Percentage of workplace inspections conducted over a specified timeframe  
☐ Percentage of high risks identified over a specified timeframe  
☐ The proportion of items identified through safety walks and inspections that are repeat items measured over a specified timeframe  
☐ The proportion of reported incidents that do not result in injury compared with those that do, over a specified timeframe  
☐ Percentage of planned management visits conducted over a specified timeframe  
☐ Percentage of managers and employees that have received OSH training (e.g., induction, job-specific, hazard management, emergency procedures) | Observation – walk through inspections/audits  
Examination of hazard reports  
Examination of hazard logs  
Review of maintenance log  
Analysis of accident and incident reports |
| MEASUREMENT AND EVALUATION | The extent to which workplace health and safety is monitored and evaluated so that issues can be identified and corrective action taken. | ☐ The extent to which health and environmental monitoring is undertaken and records are maintained and evaluated  
☐ Extent to which accident and incident records are maintained and evaluated to identify trends  
☐ Extent to which corrective action is taken to address identified issues | Employee Questionnaire/survey  
Examination of records |
| REVIEW AND IMPROVEMENT | The effectiveness of the OSH Management system, and its continuing suitability. | ☐ Percentage change in internal or independent OSH management system audit over a specified period of time | Management system audits  
Examination of records |
Selection of SPIs

- SPIs should reflect the elements of the SMS (or in the case of small business, the processes designed to maintain a high level of OSH) in any specific workplace, and should measure the most significant risks in the workplace. It is ‘what matters most’ that should be measured. In addition, it should include at least:
  - hazard identification
  - risk exposure
  - risk control measures, and
  - attainment of competencies in OHS by managers and staff.
<table>
<thead>
<tr>
<th>SPI CATEGORY</th>
<th>SPI IN THIS CATEGORY MEASURE</th>
<th>PERFORMANCE INDICATORS</th>
<th>HOW TO MEASURE</th>
</tr>
</thead>
</table>
| RISK MANAGEMENT                | The extent to which workplace hazards are identified and associated risks are eliminated or controlled. | ☐ Percentage planned risk assessments completed  
☐ Percentage of reported incidents investigated  
☐ Percentage of planned workplace inspections completed | • Observation – walk through inspections/audits  
• Examination of hazard reports/hazard logs  
• Examination of maintenance log  
• Examination of accident/incident reports |
| MANAGEMENT OF WORK PROCESSES   | The extent to which established safe systems of work are actually implemented                  | ☐ Percentage of risk assessment recommendations completed  
☐ Percentage of workplace inspection recommendations completed  
☐ Percentage of incident investigation recommendations implemented | • Observation – walk through inspections/audits  
Examination of hazard Reports hazard logs  
• Examination of maintenance log  
• Employee questionnaire/survey |
<table>
<thead>
<tr>
<th>SPI CATEGORY</th>
<th>SPI IN THIS CATEGORY MEASURE</th>
<th>PERFORMANCE INDICATORS</th>
<th>HOW TO MEASURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>PARTICIPATION, COMMUNICATION AND SKILLS</td>
<td>The extent to which the working environment provides people with opportunities and capabilities to effectively contribute to OSH management. The extent to which they are actively involved in problem solving and decision making and receive education and training.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLANNING, DESIGN AND PROCUREMENT</td>
<td>The extent to which OSH is addressed in the design, planning and procurement phases and activities of the project.</td>
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</tr>
<tr>
<td>SPI CATEGORY</td>
<td>SPI IN THIS CATEGORY MEASURE</td>
<td>PERFORMANCE INDICATORS</td>
<td>HOW TO MEASURE</td>
</tr>
<tr>
<td>-------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------------------------</td>
</tr>
</tbody>
</table>
| PARTICIPATION, COMMUNICATION AND SKILLS   | The extent to which the working environment provides people with opportunities and capabilities to effectively contribute to OSH management. The extent to which they are actively involved in problem solving and decision making and receive education and training. | - Employee perception of management commitment  
- Rating of the effectiveness of OSH communication at toolbox/work meetings  
- Rating of the effectiveness of employee participation in OSH management (including involvement in the OSH committee)  
- Percentage of employees that have received adequate OSH training  
- Percentage of managers that have received OSH training                                                                                                 | Employee questionnaire/survey  
Examination of records        |
| PLANNING, DESIGN AND PROCUREMENT          | The extent to which OSH is addressed in the design, planning and procurement phases and activities of the project. | - Percentage of contracts with OSH clauses  
- Number of instances where procurement decisions are based on OSH considerations over the life of the project  
- Number of instances where design changes are made to address identified OSH issues over the life of the project                                                                                   | Employee questionnaire/survey  
Examination of records        |
<table>
<thead>
<tr>
<th>STEPS TO DEVELOPING SPIs</th>
</tr>
</thead>
</table>

**Step 1 Develop a risk profile for the organisation and/or identify OSH outcomes of concern**

This step aims to identify and quantify the level of risk, personal injury and disease to which persons in the workplace may be exposed. Many organisations with well-developed OHS management systems undertake detailed hazard audits and risk assessments, and have well-documented risk profiles.

<table>
<thead>
<tr>
<th>Consider all activities, taking account of possible harm to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>– employees;</td>
</tr>
<tr>
<td>– contractors;</td>
</tr>
<tr>
<td>– members of the public;</td>
</tr>
<tr>
<td>– those using products and services;</td>
</tr>
<tr>
<td>– anyone else affected by the activity, such as neighbours.</td>
</tr>
</tbody>
</table>
**STEPS TO DEVELOPING SPIs**

**Step 2 Review current arrangements for managing OSH to identify areas for improvement**

- Once the outcomes of concern in the workplace have been established, and the type and nature of workplace hazards identified, an appraisal should be undertaken to examine if and how those risks are currently being managed.

- Where a systematic approach is adopted, this usually consists of a number of key elements (14) that together are often referred to as safety management system (SMS).

- It is essential that each organisation undertakes a review of its SMS to identify areas for improvement. This review should consider the following key issues/questions:
  - What do we have in place?
  - What do we need to do next?
  - How do we do it?
Step 3 Define key OSH outcomes that need to be achieved within set timeframes

The next step is to establish a number of key OSH outcomes that are to be achieved within set timeframes. These outcomes will become the goals towards which the health and safety effort will be directed.

In addition to these key OSH outcomes, goals that clearly articulate the desired results need to be developed along with a strategy for implementing them. Goals may also be established:

a) in large organisations in regional or local level operational plans, where goals are developed from higher level OSH strategic plans. These goals, although consistent with the higher level plan, should be developed to reflect local priorities, or

b) to direct special OSH initiatives
Step 4 Develop core SPIs based upon the areas of focus for improvement

- Having defined the key OSH outcomes and goals to be achieved in the management of OSH in the organisation, both the nature of the prevention activities to be undertaken, and the manner in which these are to be measured will need to be determined.

- To assist in the task of developing suitable SPIs, a worksheet comprising a matrix combining the categories of SPIs and the Quality Model for Process Improvement is provided.
<table>
<thead>
<tr>
<th>CATEGORIES OF SPI</th>
<th>INPUTS (Key Activities)</th>
<th>PROCESSES (Monitoring Key Risks)</th>
<th>OUTPUTS (Milestone progress towards goals)</th>
<th>GOALS</th>
<th>TARGETS</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMITMENT AND POLICY</td>
<td>(Demonstration of a commitment to improve OSH performance)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PLANNING</td>
<td>(Procedures established to eliminate workplace injury and disease)</td>
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<td></td>
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<tr>
<td>IMPLEMENTATION</td>
<td>(Capabilities and support mechanisms that are necessary to achieve OSH objectives and targets)</td>
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<td></td>
</tr>
<tr>
<td>MEASUREMENT AND EVALUATION</td>
<td>(The extent to which OSH activities are monitored, evaluated and corrective actions taken)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REVIEW AND IMPROVEMENT</td>
<td>(The operation of the SMS and its continuing suitability to prove effective)</td>
<td></td>
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</tr>
</tbody>
</table>

*Commitment and Effort Used to Monitor Key Risks Achievement of Objectives Key OSH Outcomes*
STEPS TO DEVELOPING SPIs

Step 5 Ensure that the selected SPIs meet relevant essential criteria

Selected SPIs should be:
• an accurate measure of the area of interest
• able to be measured objectively
• easily understood by all persons that are required to use them
• relatively simple and cost-effective to collect
• able to be reproduced consistently over time, and
• a timely measure of performance.

As SPIs will tend to be specific to an organisation, and are more focused on areas of risk and/or specific OSH goals, once established they need not necessarily be ‘set in concrete’ for long periods of time. Rather, they might be under constant review to remain relevant to the needs of the organisation. For example, in construction, different SPIs may be used during different stages of a major project on the same site.
**STEPS TO DEVELOPING SPIs**

**Step 6 Determine how each SPI is to be collected, calculated and frequency of reporting**

- Methods for collecting SPI data will vary between organisations depending on specific needs.
- An important consideration when choosing a collection method is the reliability of the data, and who will have the responsibility of collecting the data.

- Some common methods of collecting SPI data involve the use of staff questionnaires and surveys, interviews, direct observations and the examination of records.
- For each of the SPIs developed, the frequency and method of reporting will need to be determined. Some SPIs will need to be collected, analysed and reported on a daily basis, others weekly or monthly. Aggregate data will tend to be reported and analysed on a quarterly or annual basis.
**STEPS TO DEVELOPING SPIs**

**Step 7 Conduct performance measurement using selected SPIs**

Carry out performance measurement, using selected SPIs, analysing and recording the data and providing reports and feedback to management and employees. However, prior to undertaking performance measurement, all affected employees should be provided with information why such an activity is being undertaken, what SPIs have been selected, what is being measured and the method of collecting data.

**Step 8 Monitor and review**

The organisation’s OSH performance, the strategies that have been implemented to improve its performance and the effectiveness and relevance of the SPIs selected need to be periodically monitored and reviewed. As part of continuous improvement, appropriate measures should be taken to address any issues identified during this review.
The Balanced Scorecard: A synthesis of four types of measures relating to finance, the customer’s perspective, internal business processes and learning/growth (Kaplan & Norton, 1992, 1996). The Balanced Scorecard approach reflects and combines measures of major stakeholder interests, and facilitates disaggregation to assign costs and motivate employees.

A balanced scorecard to evaluate overall business performance has two principle characteristics:

1) The identification of important measures (relating to financial perspectives; customer perspectives; internal business process perspectives; and learning and growth perspectives). These four perspectives are generic categories for information; how they are translated into data will vary between organisations.

2) A strategic decision-making framework which integrates data from the four perspectives. The business strategy is not a theoretical model – it is an activity by which businesses apply data to strategy.
THE BALANCE SCORECARD

Financial perspectives
Goal | Measure

Vision & strategy

customer perspectives
Goal | Measure

internal business process perspectives
Goal | Measure

learning and growth perspectives
Goal | Measure
<table>
<thead>
<tr>
<th>Financial perspective</th>
</tr>
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<tbody>
<tr>
<td>Reputational claims</td>
</tr>
<tr>
<td>benchmarking data</td>
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<table>
<thead>
<tr>
<th>Customer (Stakeholder) perspectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incident data</td>
</tr>
<tr>
<td>Employee feedback mechanisms</td>
</tr>
<tr>
<td>SPI data</td>
</tr>
<tr>
<td>External stakeholder feedback (including the use of SPI &amp; audit Data)</td>
</tr>
<tr>
<td>Internal business process perspective</td>
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<td>--------------------------------------</td>
</tr>
<tr>
<td>SPI data</td>
</tr>
<tr>
<td>SPI, audit and benchmarking data</td>
</tr>
<tr>
<td>manager and employee feedback</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>learning and growth perspectives</th>
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<tbody>
<tr>
<td>Verification audit &amp; SPI data</td>
</tr>
</tbody>
</table>
## An SMS Balanced Scorecard

<table>
<thead>
<tr>
<th>Perspective</th>
<th>Dimensions of SMS</th>
<th>Measurement Objective (examples)</th>
<th>Type of Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Organisational &amp; Financial Perspective</td>
<td>All SMS</td>
<td>Capture qualitative and quantitative outcome data to review performance</td>
<td>Reputational, claims &amp; benchmarking data</td>
</tr>
<tr>
<td>Stakeholder Perspectives: Internal (such as employees)</td>
<td>Voluntary/Mandatory</td>
<td>Monitor outcomes</td>
<td>Incident data Employee feedback mechanisms; SPI data External stakeholder feedback(including the use of SPI &amp; audit data)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Employee satisfaction with SMS effectiveness</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Compliance of SMS with Government &amp; other external stakeholder requirements</td>
<td></td>
</tr>
<tr>
<td>Stakeholder Perspectives: External (such as Government agencies, trade unions, contractors etc.)</td>
<td></td>
<td>Incident data</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Employee feedback mechanisms; SPI data</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>External stakeholder feedback(including the use of SPI &amp; audit data)</td>
<td></td>
</tr>
<tr>
<td>Internal Business Process Perspective</td>
<td>Safe Person/Safe Place</td>
<td>Incidence and quality of OSH training Measures to identify, assess and control Hazards</td>
<td>SPI data</td>
</tr>
<tr>
<td></td>
<td>Traditional/Innovative management structure/style</td>
<td>Assessment of senior management activity and level of involvement Assessment of integration into general management systems Assessment of extent and quality of employee involvement</td>
<td>SPI, audit &amp; benchmarking data; manager and employee feedback</td>
</tr>
<tr>
<td>Learning &amp; Growth Perspective</td>
<td>Developmental level</td>
<td>Assessing extent of SMS development Meeting system specifications Continuous Improvement</td>
<td>Verification audit &amp; SPI data Verification audit Validation audit &amp; SPI data.</td>
</tr>
</tbody>
</table>
Management structures and styles

- **Traditional management**, where health and safety is integrated into the supervisory role and the ‘key persons’ are the supervisor and/or any health and safety specialist; or alternatively a traditional health and committee is in place. *(Safety management system)*

- **Innovative management**, where management have a key role in the health and safety effort; there is a high level of integration of health and safety into broader management systems and practices; and employee involvement is viewed as critical to system operation, with mechanisms in place to give effect to a high level of involvement *(safe working cycle).*
OHS control strategies

• A 'safe place' control strategy, which is focused on the control of hazards at source through attention at the design stage (safe design) and application of hazard identification, risk assessment and risk control principles.

• A ‘safe person’ control strategy, which is focused on the control of employee behaviour (work safe behaviour, Human factors).
Alternative approaches to managing OSH and different control strategies

- Which type of SMS performs best
- **Traditional management structure and ‘safe place control strategy’** are mandatory in Hong Kong and should be found in workplaces. There is not, therefore, a clear choice between two mutually exclusive control strategies; the workplace with dominant safe person characteristics should also be implementing safe place characteristics.

### Types of OSH (Gallagher)

<table>
<thead>
<tr>
<th>Innovative/safe person</th>
<th>Innovative/safe place</th>
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</thead>
<tbody>
<tr>
<td>‘Sophisticated behavioural’</td>
<td>‘Adaptive hazard managers’</td>
</tr>
<tr>
<td>Traditional/safe person</td>
<td>Traditional/safe place</td>
</tr>
<tr>
<td>‘Unsafe act minimisers’</td>
<td>‘Traditional engineering and design’</td>
</tr>
</tbody>
</table>
Degree of Implementation: Quality Levels

- Cispros (OSHC) expands upon the distinction between mandatory and voluntary SMS to further identify four levels of systems objectives, drawn from the literature on product quality control, that represent different levels of achievement and measures of SMS performance.
Under the **CISPROS**, the performance of safety management system in an organization can be broadly classified and graded into **four** levels:

| Level 1 | ✓This is the level of beginning of **Planning and Developing** of a safety management system.  
✓The motivation in level 1 is to fulfill the requirements imposed by the legislation and accomplish this by developing and implementing the necessary programmes. |
<table>
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<tbody>
<tr>
<td>Level 2</td>
<td>✓This is the level of completing the <strong>Planning, Developing and Maintaining</strong> of a safety management system.</td>
</tr>
<tr>
<td>Level 3</td>
<td>✓This is the level that <strong>compliance with legislative requirements</strong> and efforts are made to do everything that is required.</td>
</tr>
<tr>
<td>Level 4</td>
<td>✓This is the level of modern management, where the entire organization passionately committed to safety and betterment.</td>
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</tbody>
</table>
The Balanced Scorecard

A balanced scorecard approach to SMS evaluation would be applied through strategic planning and consultative processes within organisations. This is not a data collection exercise: rather it is a systematic framework for planning and resource allocation which requires the use of data to understand and accommodate stakeholder interests, monitor the efficiency of internal processes, and project actions to fit the developmental process of implementing a successful SMS.
The Balanced Scorecard

- Vision & strategy
- Financial perspectives
- Customer perspectives
- Internal business process perspectives
- Learning and growth perspectives
- OSH Goals
- Department Objectives
- Individual Objectives
- Training Plan
- Evaluation of Performance
- OSH Results
- Continuous Improvement
- Organizational Culture
Risk: What to Measure
Risk Scorecard

Key Risk Indicators:
Information on the level of exposure at a point of time
Risk: What to Measure
Risk Scorecard

Key Risk Indicators:
Information on the level of exposure at a point in time

Control Effectiveness Indicators:
Extent to which a given Control is meeting its Intended purpose, at a point in time
Risk: What to Measure

Risk Scorecard

Risk Indicators: Information on the level of exposure at a point in time

Control Effectiveness Indicators: (predictive) Extent to which a given Control is meeting its Intended purpose, at a Point in time

Performance Indicators: SPI-Non predictive Overall performance indicators
It is advocated in the publication that “measurement is an accepted part of the ‘plan-do- check-act’ management process. Measuring performance is as much part of a safety management system as financial, production or service delivery management” and “the primary purpose of measuring safety performance is to provide information on the progress and current status of the strategies, processes and activities used by an organisation to control risks to safety. Measurement information sustains the operation and development of the safety management system, and so the control of risk”.

- average training days, tool-box discussion and hazard identification activities per employees
- percentage of employees holding silver cards, specific trade training courses and “safety supervisors courses”
- evidence of management commitment, e.g. number of headquarter-level workplace visits, inspections, “attendance of safety committees meetings” or participation in activities that have a safety theme
- evidence of workpeople involvement, e.g. reporting of unsafe condition and unsafe acts and hazardous conditions
<table>
<thead>
<tr>
<th>Evidence of participation of front-line supervisors in risk assessment processes</th>
<th>In case of very low injury rate, use lower severity but statistically more meaningful criteria, such as first aid treatment injuries or total day lost insured and estimated uninsured costs of accidents, ill-health, major property/plant damage and other events with major potential for loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage and coverage of risk assessments completed and reviewed</td>
<td>Near-miss events with major potential for loss</td>
</tr>
<tr>
<td>Findings of safety inspections and audits/reviews completed versus targets set</td>
<td>Emergency response drills and exercise, assessment and follow-up actions</td>
</tr>
<tr>
<td>Percentage of satisfactory remedial actions taken in respect of the improvement actions plan drawn up after audit/review and inspections, including regulatory inspections</td>
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</tbody>
</table>
Indicators commonly adopted in Hong Kong

- Occupational Safety and Health Council promote the concept that “Organisations need to recognise that there is no single reliable measure of safety performance. What is required is a ‘basket’ of measures or a ‘balanced scorecard’, providing information on a range of health and safety activities”.

- Each indicator is devised to assess only a certain aspect or component of the safety performance of an organisation. Each of the measurement on its own cannot reflect the big picture of the safety scenario. Using any indicator in isolation must therefore be handled with care to avoid misrepresentation or misunderstanding.
Indicators commonly adopted in Hong Kong

• Organisations should **avoid selecting too many SPIs**. The task of collecting information on a large number of indicators may result in an evaluation system becoming unworkable. It is better to start with a small number of SPIs and develop additional measures as the SMS matures.

• HK organization always only use accident statistics as SPI.

• F&IU (Safety Management) Regulation recommends Initial Status Analysis should compare the existing arrangements with:
  – the requirements of relevant legislation
  – the existing guidance
  – the best trade practice and trade performance
  – the efficiency and effectiveness of existing resources devoted to SMS
Glossary

• **Benchmarking** is a systematic tool to identify and assess the differences between your enterprise and world-class performers. It can be used to introduce best practice into enterprises. It is conducted in such a way that there is wide consultation and people are in a position to understand and achieve their full potential.

• **Best practice** refers to the cooperative way in which enterprises and their employees work together continuously to strive to be the best possible in all key business processes. The benefits can be seen in improvements in timeliness, cost, quality and customer service.

• **Performance indicators** are used to monitor the performance of individuals, groups or whole enterprises. Performance needs to be monitored to improve and to provide a better service to the enterprise’s customers.
Measures to SMS

- Traditional measures (LTIFR) are poor in problem identification and motivation
- Benchmarking (target setting) and SPIs (motivational and operational targets) have counterpart OSH measures – PPIs – although the extent of their use is unknown. Safety benchmarking is a means to an end and not an end itself.
- Employee involvement in SPI formation encourages ‘comprehensible’ measures relevant to workforce tasks
- The ‘Balanced Scorecard’ (measuring finance, customer responses, internal business processes and learning/growth) has potential OSH applications.
- Action research to involve workplace parties in the establishment and evaluation of appropriate SMS (especially in applying SMS to problem situations such as contractors or for development of the Balanced Scorecard).
Auditing OSH should not be confused with benchmarking.

Auditing or review is essentially an internal activity and is acknowledged as an important activity to ensure that hazards are appropriately managed at enterprise level. The effectiveness of auditing can have profound implications for the hazard management program in any organisation. As an important process in OSH management, auditing or review methodology could be targeted as a useful process to compare between companies as part of a benchmarking strategy.
Points to success (Health & safety benchmarking – Improving together, HSE)

To succeed in health and safety benchmarking, you need:

• senior management resources and commitment – for all the steps involved;
• employee involvement through their safety representatives at all key stages;
• a commitment to an open and participative approach to health and safety, including a willingness to share information with others within and outside your organisation;
• an ability to identify your strengths and weaknesses;
• to compare data on a meaningful “apples with apples” basis;
• to do your homework – proper planning and preparation is vital.
Developing safety performance indicators for OSH

Step 1 - Establish your goal for OSH

• What is your goal for OSH management on this site? (Steer away from measures masquerading as goals. For example, zero injuries is not a goal, it’s a measure. Ask “what have you achieved when you’ve achieved zero injuries?”. You’ll get something like, “a safe and healthy work environment”.)

Step 2 - Determine the objectives that will let you fulfil the goal

• (These might be things like, “provide everyone with the competencies they need to perform their job effectively” or “establish more effective consultation”.)
Developing safety performance indicators for OSH

**Step 3 - Choose one of your objectives to work on: Develop a list of safety performance indicators**

Brainstorm your answers to the following questions about the chosen objective:

- How would we know if we have achieved that objective?
- What tells us that we are performing well or badly in getting there?

**Step 4 - Refine your safety performance indicators**

Next, refine that list:

- Cross off any silly or irrelevant items.
- Compare the list to the ACCURATE checklist for good performance indicators and cross off any which don’t have the necessary features.
Developing safety performance indicators for OSH

Step 5 - List your SPIs

Write down the performance indicators you have left. These become your Safety Performance Indicators, or SPIs.

Step 6 - Determine how to measure your SPIs

Use the following table to summarise your answers to the following questions:

- How can our SPIs be measured?
- What do we need to set up a measurement system?
- What is our current measurement against each SPI?
Safety performance indicators (SPI) for measuring safety culture

- 告知文化 (Informed Culture)
- 學習文化 (Learn Culture)
- 公平及關愛文化 (Just and Caring Culture)
- 匯報文化 (Reporting Culture)
- 危害意識及計劃文化 (Risk Awareness and Planning Culture)
Has the organization evidence to demonstrate that upward communication is found on providing a system of reporting all accidents/incidents and all employees should be aware of the system?

Why is reporting near-miss process so difficult?
Why is reporting near-miss process so difficult?

**UPPER Management**

- Believes in the near miss program and will provide financial support, but they are not engaged and do not know how to be.

**Safety Professionals**

- Have the technology to be successful yet struggle with how to effectively teach the organization what to them is elementary and obvious.

**Supervisors**

- Do not want their people to get hurt but are over burdened and do not want more “non-value added” work shoved down their throats

**Hourly employees**

- Are willing to be safer, yet wonder “what’s in it for me for turning in a near miss report"
Safety performance indicators (SPI) for measuring Reporting Culture

- Development and sustainability of quality near-miss systems.

Concepts and materials covered include:
- What are typical, effective near-miss definitions
- How to develop a system that functions effectively in the long term
- How to track, act on and communicate important and day-to-day near-miss issues
- What are simple, effective reporting forms
- What are common pitfalls and solutions at the start-up phase
Safety performance indicators (SPI) for measuring Reporting Culture

1. Development and sustainability of quality near-miss systems.

Concepts and materials covered include:

- What kind of feedback, follow up and audit efforts are needed
- What kind of traps are there in the long term for effective near miss reporting culture
- What about rewarding near-miss performance day-to-day and in performance reviews.
Purpose Statement

• **Purpose:**
  Improve our safety reporting culture by engaging employees in an enhanced and well defined “Safety Awareness” reporting process which is easily communicated within

• **Outcomes:**
  - Review the current flow chart and existing electronic reporting system
  - Review the reporting process
  - Develop defined activities
  - Develop training plan
  - Develop measurement plan
  - Develop recognition plan
  - Develop timeline
  - Identify pilot areas
  - Develop communication plan
  - **Create a “safety awareness” card**