Course:
Government Process Re-engineering

Day 3

Session 1: Identifying solutions for the challenges in Government Process Environment and Optimization of the Processes
Recap of previous sessions

- Problem Identification and Definition
- Define vision and objectives for GPR
- Process Study and Documentation
- Process Analysis
- Process Reengineering & Defining To-be processes
- Process implementation / IT enablement & validation

**D1 Session 5**
- Defined Service Quality Parameters
- Definition of problem
- Defined Vision for GPR

**D2 Session 1**
- Documented process maps
- Identified PIE
- Data collection

**D2 Session 2**
- Fish bone analysis
- VA / NVA, Process complexity
- Performance metrics

In this stage, we use the inputs from the previous stages, and re-engineering principles to come up with the “To-be” processes.
First steps of process re-engineering

- Focused stakeholder discussions using group thinking techniques facilitate identification of solutions and alternate ideas

- Best practices studies from similar environments provide inputs to possible solutions

- Solutions may be based on any of the following process design drivers:
  - Redesigning existing processes
  - Fundamentally reworking the way a process is executed
  - Replacing processes completely
  - Removing the process or
  - Outsourcing the process
  - Automation of process
Facilitating Group Thinking

Divergent Thinking

- Spontaneous, free-flowing generation of many ideas in a random, unorganized fashion
- Techniques include:
  - Exploration
  - Brainstorming
  - Out-of-the-Box thinking
- The ideas generated by divergent thinking are organized and structured using divergent thinking

Convergent Thinking

- Follows a particular set of logical steps to arrive at one "correct" solution
- Techniques include:
  - Prioritization
  - Assessment & evaluation
  - Multi-voting
  - PICK charts
  - PUGH matrix
  - 6 Thinking Hats
Divergent Thinking - Brainstorming

Brain-storming is a group exercise to generate, clarify and evaluate a large number of creative ideas & solutions

Phase I – Idea generation phase
• No criticism
• No constraint (allow wild ideas)
• Build on others ideas
• Encourage participation

Phase II – Understanding phase
• Idea originator to describe the idea in detail to develop common understanding

Phase III – Grouping phase
• Seek clarification on points, if needed
• Group similar ideas & short-list

Phase III – Grouping phase
• Discuss merits of each idea

Do not forget to appoint a facilitator for the session

Plan sufficient time for the session
Using brainstorming....

- The Brainstorming technique was developed in 1941 by an advertising executive called Alex Osborn in the US. He originally used the term “think up” which was later modified to “brainstorming”.

- Brainstorming is defined as “a conference technique by which a group attempts to find a solution for a specific problem by amassing all the ideas spontaneously by its members”.

- Brainstorm means using the brain to storm a creative problem and to do so in commando fashion, each stormer audaciously attacking the same objective.

- Brainstorming is a tool for generating as many ideas or solutions as possible to a problem or issue.

- Creativity is encouraged by not allowing ideas to be evaluated or discussed until everyone has run dry. Any and all ideas are considered legitimate and often the most far-fetched are the most fertile.
Doing a brainstorming session

Step 1: Prepare for the session
Step 2: Agree on ground-rules
Step 3: Conduct the brainstorming session
Step 4: Decide criteria for evaluation of ideas generated
Step 5: Evaluate all ideas generated against criteria
Step 6: Select the best ideas for implementation
Step 1: Preparing for a brainstorming session

- Who will lead or facilitate the brainstorming session?
- Who will participate in the brainstorming session?
- Who can write very quickly to record the brainstormed ideas without slowing down the group?
- Where will the brainstorming session be held?
- What materials are needed for brainstorming (easel, paper, white board, pens, etc.)?
- What is the brainstorming session’s desired outcome?
Step 2: Agreeing on ground-rules

- Ground-rules are a code of conduct to be followed during a brainstorming session.

- Before beginning a brainstorming session, ground-rules must be set. Ensure that boundaries are not set so tightly that you can't have fun or be creative.

- Have the team create their ground-rules. Try performing a mini-brainstorming session around creating brainstorming ground-rules. This allows the team to take ownership of acceptable and unacceptable behaviors.

- Once the ground-rules list is generated, gain consensus that the session will be conducted according to them.

- Post them in a highly visible location in the room.
Step 2: Some ground rules for a brainstorming session

• There are no dumb ideas. Period. It's a brainstorming session, not a serious matter that requires only serious solutions. Remember, this is one of the more fun tools of quality, so keep the entire team involved!

• Don't criticize other people's ideas. This isn't a debate, discussion or forum for one person to display superiority over another.

• Build on other people's ideas. Often an idea suggested by one person can trigger a bigger and/or better idea or a variation of an idea by another person. It is this building of ideas that leads to out of the box thinking and fantastic ideas.

• Reverse the thought of 'quality over quantity.' Here we want quantity; the more creative ideas the better.
Step 3: Conduct the brainstorming session

- Define the problem/phenomenon/issue concisely and make sure that everyone understands the problem and is in agreement with the way it is worded. There is no need to put a lot of restrictions on the problem at this time.
- Give everyone a few seconds to jot down a few ideas before getting started.
- Begin by going around the table or room, giving everyone a chance to voice their ideas or pass. After a few rounds, open the floor.
- Note down all ideas exactly as they are being said.
- Don't stop until ideas become sparse. Allow for late-coming ideas.
- Remove duplicate ideas.
Step 4: Decide criteria for evaluation of ideas

- Criteria should start with the word "should“, for example,
  - "it should be cost effective",
  - "it should be legal",
  - "it should be possible to finish before March 31", etc.

- Criteria can be qualitative as well as quantitative

- Choose the top 9 criteria for evaluation of various ideas
Step 5: Evaluate the ideas and prioritize for execution

- Each idea can be prioritize based on criteria on varied scales
  - High – 9
  - Medium – 3
  - Low – 1

<table>
<thead>
<tr>
<th>Idea</th>
<th>Criteria 1</th>
<th>Criteria 2</th>
<th>Criteria 3</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea 1</td>
<td>9</td>
<td>3</td>
<td>1</td>
<td>4.4</td>
</tr>
<tr>
<td>Idea 2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>Idea 3</td>
<td>9</td>
<td>9</td>
<td>3</td>
<td>7.8</td>
</tr>
</tbody>
</table>
Convergent thinking technique – PICK Chart

• PICK charts
  – A PICK chart helps a team to organize & prioritize its ideas & solutions by separating them into four categories in 2 x 2 matrix on the basis of expected benefits and ease of implementation
  – The ideas can be categorized into Implement, Challenge, Possible & Kill
Convergent thinking technique – PUGH Matrix

- PUGH matrix
  - The PUGH matrix is a technique to select an appropriate solution from a set of ideas or solutions based on given criteria
  - Each potential idea or solution is given “+”, “-” or “S” depending on whether it is better, worse or same as the base-line situation... the solution having the highest net Score is selected
The PUGH Matrix is a technique to select a candidate solution from a set of solutions based on a given criteria.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Weight</th>
<th>Baseline “As Is”</th>
<th>“To Be” option 1</th>
<th>“To Be” option 2</th>
<th>“To Be” option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction</td>
<td>50</td>
<td>S</td>
<td>+</td>
<td>+</td>
<td>-</td>
</tr>
<tr>
<td>Cost</td>
<td>30</td>
<td>S</td>
<td>S</td>
<td>-</td>
<td>S</td>
</tr>
<tr>
<td>Manpower flexibility</td>
<td>10</td>
<td>S</td>
<td>+</td>
<td>S</td>
<td>+</td>
</tr>
<tr>
<td>Training difficulty</td>
<td>10</td>
<td>S</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Counts

<table>
<thead>
<tr>
<th></th>
<th>Count of + ves</th>
<th>Count of “S”</th>
<th>Count of - ves</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted + ves</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Weighted “S”</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Weighted - ves</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Totals</td>
<td>60</td>
<td>60</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

Each candidate is given +, - or S depending on whether it is better, worse or same as the base line solution. The solution having the highest Net Score is selected.
Convergent Thinking Technique – 6 Thinking Hats

- 6 Thinking Hats
  - This technique promotes parallel thinking to assess each alternative from various dimensions
    - White Hat
    - Yellow Hat
    - Black Hat
    - Red Hat
    - Green Hat
    - Blue Hat
Parallel thinking is often superior than spaghetti thinking….

**White Hat** — search for information related to the subject.

**Yellow Hat** — search for benefits, values, and reasons to be optimistic about the subject.

**Black Hat** — search for faults, problems, and dangers related to the subject.

**Red Hat** — signify feelings, hunches, and intuitions about the subject.

**Green Hat** — search for creative alternatives and solutions related to the subject.

**Blue Hat** — organize and summarize.
Importance of Best Practices

- **A best practice** is a technique, method, process, activity or any other process attribute that is believed to be more effective at delivering a particular outcome than any other technique, method, process, etc. when applied to a particular condition or circumstance.

- Best practices from similar environments are a major source for solution ideas during process re-engineering...

- The steps involved in identifying best practices include the following:
  - Identify globally and nationally accepted systems in the domain under consideration.
  - Identify the key factors contributing to the success of those initiatives.
  - Identify potential opportunities and generate ideas based on them.
  - Shortlist the best practices that are applicable in the current context, directly or after appropriate modifications.
Best Practices Illustrative Example

• In case of Land Records Management, the best practice systems included:
  ➢ New Zealand - Land Information Online
  ➢ Canada - Land Title & Survey Authority
  ➢ Singapore - Singapore Land Authority
  ➢ Australia - Land Victoria

• All these systems are similar environments, as they are all governed by the underlying commonwealth land management laws…

• The best practices identified included:
  ➢ Single authority for delivering all land record related services
  ➢ Central data repository and direct updating of database
  ➢ Interlinking of Title information with Survey maps and geodetic control data
  ➢ Addition of new delivery channels to provide hassle free service to citizens
Process design can be carried out through…

- **Redesign** existing processes - combine activities, remove redundancies, duplications, obsolescence, disconnects, inappropriate timing, costs…
- **Rework** the way (how and where) that the process is executed
  - e.g. co-locating all of the functions in one area or tasks that were formerly divided between 6 people are now undertaken by 1 person
- **Remove** the process or sub-processes
  - e.g. police verification process completely waived off for certain cases in passport process, based on certain business rules
- **Replace** processes / sub processes completely either by **automation** or by alternate processes
  - e.g. a manual system replaced by a computer system
- **Outsource** the process or components of the process
What may drive process design

- Processes are rarely derived “in a vacuum”. Some drivers affecting the process content, boundaries and structure may include:
  - Legal & Regulatory requirements that govern the process
  - Changing the way work is performed e.g.: Filling of the application form by citizen online, to prevent data entry at department
  - Possibility of outsourcing components of a process e.g.: Facilitation Centres for submission of passport application, 24x7 call centre
  - The use of specific technologies e.g., barcode readers, computer simulation, computer-aided design and manufacturing
  - The use of specific software packages with rich functionality enabling many alternative solutions

Processes are not everything - remember Policies, Technology, Organisation and Facilities as well
Checklist for evaluating the process design:

- Check that the process design:
  - Resolves the business issues
  - Achieves performance targets
  - Meets relevant legal & policy legal requirements
  - Achieves planned benefits
  - Is cost-effective
  - Is capable of being implemented

The different process design approaches will be discussed in the subsequent sessions
Redesigning existing processes

- The main objective of redesign is to improve performance measures – CTPs and CTQs identified during the process mapping phase.

- Redesign can be carried out by looking at the following items identified during process analysis:
  - Redundancies
  - Duplications
  - Inefficiencies
  - Bottlenecks
  - Unnecessary activities
  - Non value-adding activities

- Redesign should take into account legal issues, IT / Technology opportunities and organizational constraints of the process.
Some principles of process re-design

• Eliminate waste or non-value added activities as much as possible
• Organise around outcomes - treat geographically dispersed resources as though centrally located
• Build quality in at the source - mistake proof the process, standardize on best practices, capture information in digital form at the source
• Find opportunities to cross train and use multifunctional workers
• Reduce preparation and waiting times
• Use parallel processing
• Apply automation and appropriate technologies
• Use visual process control systems
• Establish a continuous improvement capability and mindset
### Simple Process Redesign Example: Bank Account Opening

#### Existing Process

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Image</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Customer Visits Bank Branch</td>
<td>![Customer Visits Bank Branch]</td>
</tr>
<tr>
<td>2.</td>
<td>Customer fills up form &amp; hands over all documents</td>
<td>![Customer fills up form &amp; hands over all documents]</td>
</tr>
<tr>
<td>3.</td>
<td>Form &amp; documents are dispatched to centralized data entry team</td>
<td>![Form &amp; documents are dispatched to centralized data entry team]</td>
</tr>
<tr>
<td>4.</td>
<td>Centralized data entry team enters customer data in database</td>
<td>![Centralized data entry team enters customer data in database]</td>
</tr>
<tr>
<td>5.</td>
<td>Data is verified by Bank’s officers</td>
<td>![Data is verified by Bank’s officers]</td>
</tr>
<tr>
<td>6.</td>
<td>Data is uploaded in the Bank’s software</td>
<td>![Data is uploaded in the Bank’s software]</td>
</tr>
<tr>
<td>7.</td>
<td>Signatures of customers are scanned</td>
<td>![Signatures of customers are scanned]</td>
</tr>
<tr>
<td>8.</td>
<td>ATM Cards &amp; Cheque Books are printed</td>
<td>![ATM Cards &amp; Cheque Books are printed]</td>
</tr>
<tr>
<td>9.</td>
<td>ATM Cards &amp; Cheque books are dispatched by post</td>
<td>![ATM Cards &amp; Cheque books are dispatched by post]</td>
</tr>
</tbody>
</table>
Discuss opportunities to have the wastes eliminated

<table>
<thead>
<tr>
<th>Types of wastes</th>
<th>Waste metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motion</td>
<td>Distance travelled</td>
</tr>
<tr>
<td>Waiting</td>
<td>Wait time</td>
</tr>
<tr>
<td>Over production</td>
<td>Productivity per person per day</td>
</tr>
<tr>
<td>Unnecessary processing</td>
<td>Cost per transaction</td>
</tr>
<tr>
<td></td>
<td>No of hand off points</td>
</tr>
<tr>
<td></td>
<td>No of data entry points</td>
</tr>
<tr>
<td></td>
<td>No of iterations</td>
</tr>
<tr>
<td>Defect</td>
<td>Sigma</td>
</tr>
<tr>
<td></td>
<td>Errors</td>
</tr>
<tr>
<td></td>
<td>Yield</td>
</tr>
<tr>
<td>Inventory</td>
<td>WIP</td>
</tr>
<tr>
<td>Transportation</td>
<td>Distance traveled per file</td>
</tr>
</tbody>
</table>
Identify broad functional definitions for groups of activities

Start:
Customer enters bank branch with documents

- Transport paper
- Record data
- Make card & book
- Deliver card & book

Central data entry team enters customer data in database

Data is verified by Bank’s officers

Data is uploaded in the Bank’s software

Signature of customer are scanned

ATM Cards & Cheque Books are printed

End:
Customer receives cheque book & ATM card
The old process took ~ 8 days

Start:
Customer enters bank branch with documents

~ 8 days

End:
Customer receives cheque book & ATM card
Identify alternate ways of achieving each function

Transport paper
- 20 min
- Pick up from home
- Courier agency
- Post
- Drop box & pick up
- ...

Record data
- 2 days
- Scan documents
- Photograph documents
- Data entry at branch
- Audio tape
- ...

Make card & book
- 2 days
- ...

Deliver card & book
- 4 days
- Pre-printing
- Courier agency
- Post
- ...

Slide 31
Look for options for waste elimination / parallel processing

- **Transport paper**: 20 min
- **Record data**: 2 days
- **Make card & book**: 2 days
- **Deliver card & book**: 4 days

Data can be recorded post account opening, at the centralised data entry place.

Can pre-print card & book and make it available at the branch.
End of Session