

### Instructor Notes

This module refers to pages 55-58 (Earned Value) and pages 9-14 (Seven Keys) in the Learning Log.

### Objectives of this Module

- Be able to calculate earned value
- Experience using the 7 keys on a simulated project

### Module 9 Timing

This module lasts for 3 hours and 30 minutes, 10:15 - 1:45, on day 3. The agenda is:

Start	End	Length	Subject
10:15	10:40	25	Discussion
10:40	11:00	20	Earned Value Activity
11:00	11:15	15	Seven Keys Assessment
11:15	12:15	60	Lunch
12:15	1:45	90	Seven Keys Simulation

It is very important to do the Seven Keys Simulation immediately after lunch to energize the class on the last day.

## Discussion



LL 55-56

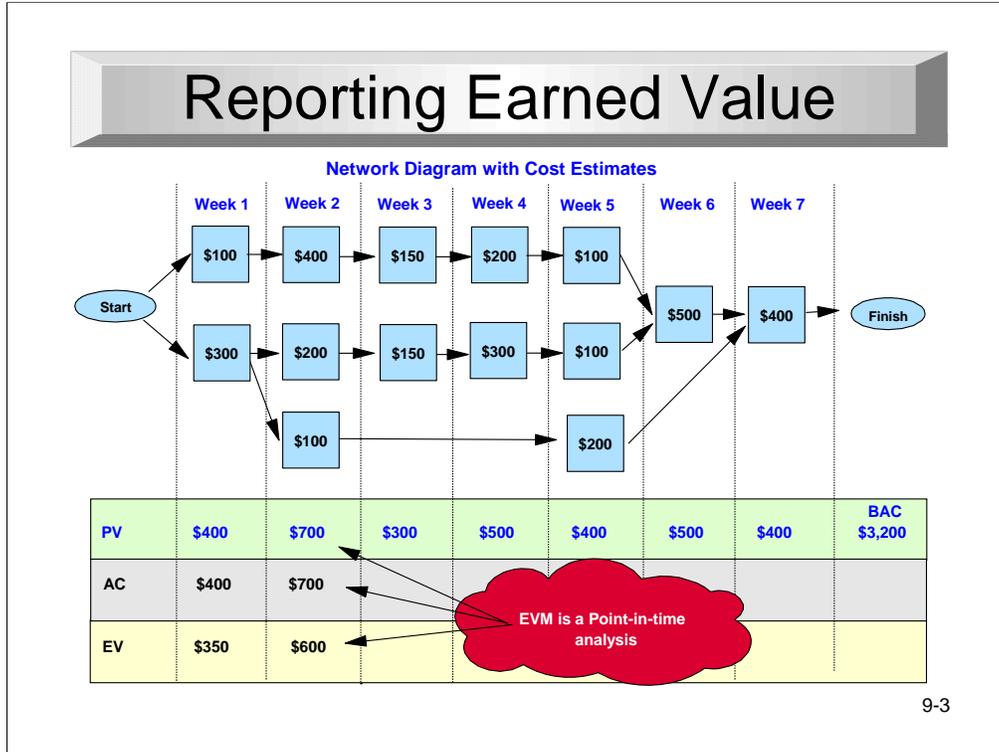
9-2

Learning objectives for the module

- Answer questions the participants have about PM Orientation
- Why does a PM collect metrics
- Personal experiences
- What happens when you measure the project performance
- What happens when you do not measure the project performance

Facilitate a discussion around the following topics:

- What does “control” mean?
- What are examples of metrics used to evaluate project performance?
- Do these metrics cover all of the Seven Keys?
- What sources of information provide data for the metrics?
- How often are metrics reported?
- How does Earned Value help control a project?
- Where would you find the data to use Earned Value Analysis on your project?
- What is the role of the PM in executing and controlling?
- Who else is involved?



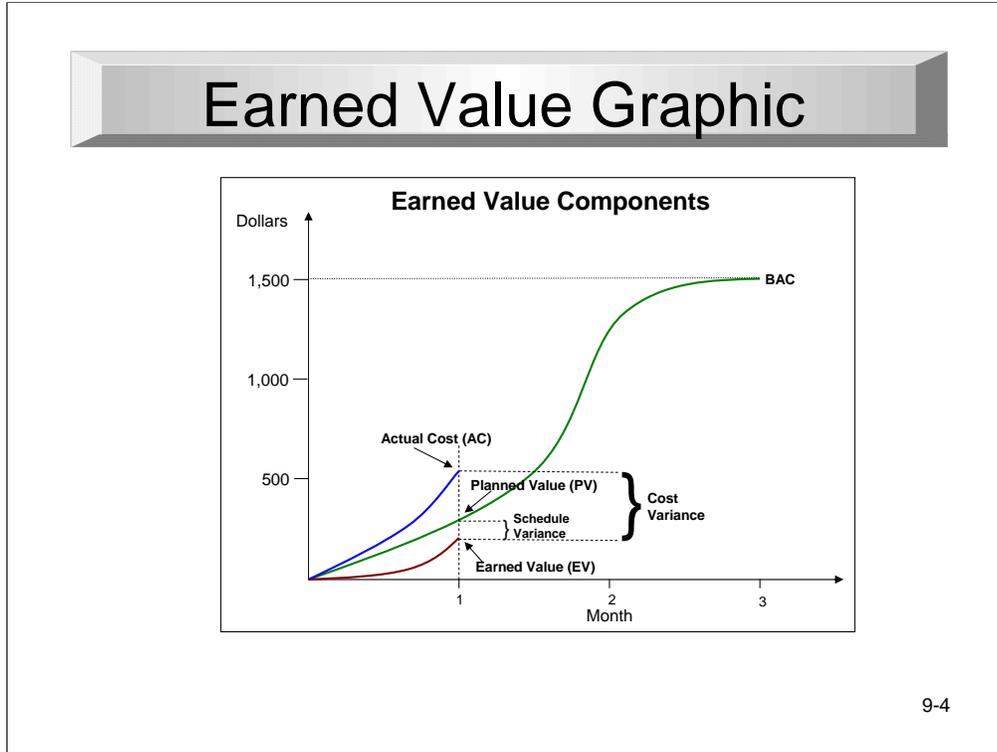
Earned Value is a measure of scope, time, and cost.

As a result of budgeting and scheduling, each task has been assigned a cost value and a timeframe. This represents the Planned Value for the time period.

The Actual Cost is just what is says, the actual amount spent on each task.

The Earned Value represents how much work was actually accomplished. If a task is 100 percent complete, the Earned Value equals Planned Value. If a task is only partially complete, then its Earned Value will be less than Planned Value.

The fourth component is the Budget At Completion (BAC), which is the total budget for the project. Here it is \$3,200.



Explaining the graphic. **Note:** Slide builds as you click.

1. BAC is the Budget at Completion. The green line represents the budget for the project
2. Suppose we are doing Earned Value analysis at the end of month 1. PV is the planned value and represents how much we were supposed to spend by the end of month one.
3. AC is the actual cost. Where would you get this information?
4. EV is the earned value. It represents the value of the work that was actually accomplished during month 1.
5. SV is the schedule variance and is equal to  $EV - PV$ . If it is negative, that means the project is behind schedule.
6. CV is the cost variance and is equal to  $EV - AC$ . If it is positive, that means the project is under budget.

Looking at this graphic, is this project over or under budget? Is it ahead of or behind schedule?

## Earned Value Exercise

**Purpose:** Determine the status of a project by calculating earned value.

**Process:**

1. You have just received the latest earned value data from the project office. The office is expecting you to interpret this data.
2. To impress your boss, you plan to calculate:
  - CV
  - SV
  - Percentage spent
  - Percentage complete
  - EAC
3. Your boss expects a complete report in 10 minutes.

**Participation:** Individually

**Product:** Completed earned value computations.

9-5

### Set-up Activity

The student notebook contains the following documents:

- Case Study 9-1 Earned Value Exercise
- Case Study 9-2 Stakeholder Management Memo – this will be required for the next module

### Monitor Activity

Give the students a chance to do the calculations on their own, then go through it as a class and discuss the calculations. This exercise should take about 20 minutes with questions.

## Earned Value Exercise

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9-6

### Debrief Activity

There is one handout to pass out after the exercise:

- Case Study Exercise 9.1, Reporting Earned Value Solution

Work through the calculations. Ask the participants how they arrived at their results.

What made the activity difficult or easy to do?

What do you need to have before doing this on your project?

Would you be able to do this on your projects?

Who does this on the project (PM, team leaders, staff, sponsor, ...)?

Would doing this be useful on your projects?

**Delivery organization benefits are being realized**

 <p>Delivery organization benefits are being realized</p>	<b>Healthy Signs</b> <ul style="list-style-type: none"><li>• People feel they are learning</li><li>• Willingness to invest in the project</li><li>• Good press is being created</li></ul>	<b>Unhealthy Signs</b> <ul style="list-style-type: none"><li>• Good staff are not available</li><li>• Negative remarks about project</li></ul>
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- 1. The project will help the delivery organization's reputation.**
- 2. The project will help financially; billing and collections are current.**
- 3. Project will help team members' careers.**
- 4. Project will contribute to the organization's knowledge and lessons learned.**

9-7

What is IBM upper management getting from the project?

Money, plus better staff, good citations, and increasing IBM's reputation in the market place.

What benefits do client staff working on the project attain?

Increased skills and knowledge. A better reputation within their organizations.

What about knowledge harvesting? Has anyone contributed to IBM Assets?

How would you implement these elements on your project?

**Delivery organization benefits are being realized**

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1. The project will help the delivery organization's reputation.
2. The project will help financially; billing and collections are current.
3. Project will help team members' careers.
4. Project will contribute to the organization's knowledge and lessons learned.

9-8

Besides cost, what are the other elements of the Delivery Organization Benefits are Being Realized key?

- Delivery organization stakeholders are known
- Knowledge is harvested
- Staff are developed
- Favorable project citations are established

Who is part of the delivery organization?

It includes the project team, other groups within IBM involved in the project, client staff working on the project, and subcontractors. So there are both internal and external members of the delivery organization. All these people are trying to derive benefits from the project.

What are the project staff looking for from the project?

Increased skills and knowledge. Higher visibility in the organization. A good performance appraisal.

Who is responsible for developing the staff?

It is part of the PM's job to develop staff by challenging them with new problems, helping them to increase their skills and knowledge, and coaching them.

# Seven Keys Assessment

**Purpose:** Practice reviewing the health of the project using the Seven Keys

**Process:** See the diagram.  
 - Record status  
 - Think about issues & actions

**Participation:** Teams led by Project Manager

**Product:** Status, issues, and actions for all Seven Keys

**Time allowed 5 Minutes**

**Seven Keys Assessment Worksheet**  
 ■ Red - Urgent - corrective action required immediately.  
 ■ Yellow - Warning - corrective action required in the near term.  
 ■ Green - Stay the Course - no corrective action required.

Project Name: \_\_\_\_\_ Interviewee: \_\_\_\_\_ Date: \_\_\_\_\_ Interviewer: \_\_\_\_\_

Key and Criteria	Noted Issues	Health Up Display	Proposed Actions
Stakeholders are Committed	>	Red Yellow Green	>
Business Benefits are Being Realized	>	Red Yellow Green	>
Work and Schedule are Predictable	>	Red Yellow Green	>
Scope is Realistic and Managed	>	Red Yellow Green	>
Team is High Performing	>	Red Yellow Green	>
Risks are Being Mitigated	>	Red Yellow Green	>
Delivery Organization Benefits are Being Realized	>	Red Yellow Green	>

9-9

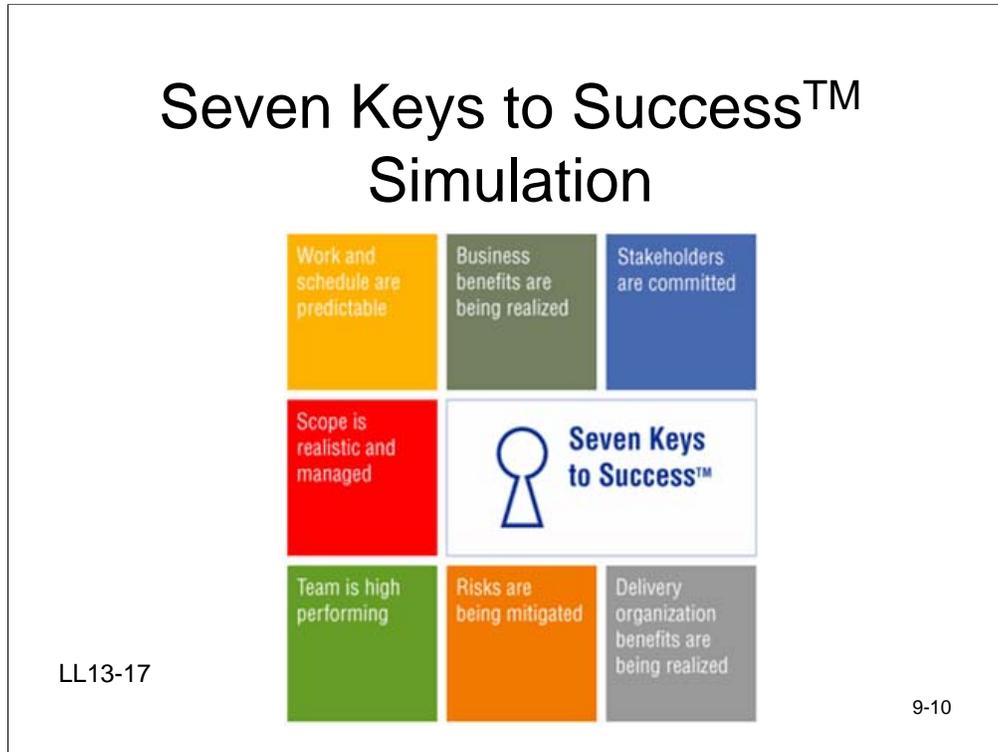
There should already be a flip chart for each team capturing the health of the project from the previous module. Get the teams to update the flip for Module 8 based on their current knowledge of the Case Study project.

Get the teams to think about:

- The status (Green, Amber, Red)
- The issues behind any Yellow or Red keys
- What actions they could propose to resolve the issues

Ask one team to present back and then invite other groups to contribute if they have any major differences. Make a note of which team has presented back since another team should present back in the next module.

Pay attention to all the Keys.



### **1) Check the Materials & Scene Setting during lunch**

Check that you have all the materials needed for the simulation. You will need the following materials for each table group:

Seven Keys Workmat

Bag of blue tokens (or gray coins) to indicate status of each key

Bag of brown tokens (or silver washers) representing project management resources

Stack of 32 Signs & Symptoms and Concerns & Impact cards divided into:

Cards 1-3 Demo round Signs & Symptoms

Cards 4-6 Demo round Concerns & Impact

Cards 7-12 Round One Signs & Symptoms

Cards 13-18 Round One Concerns & Impact

Cards 19-25 Round Two Signs & Symptoms

Cards 26-32 Round Two Concerns & Impact

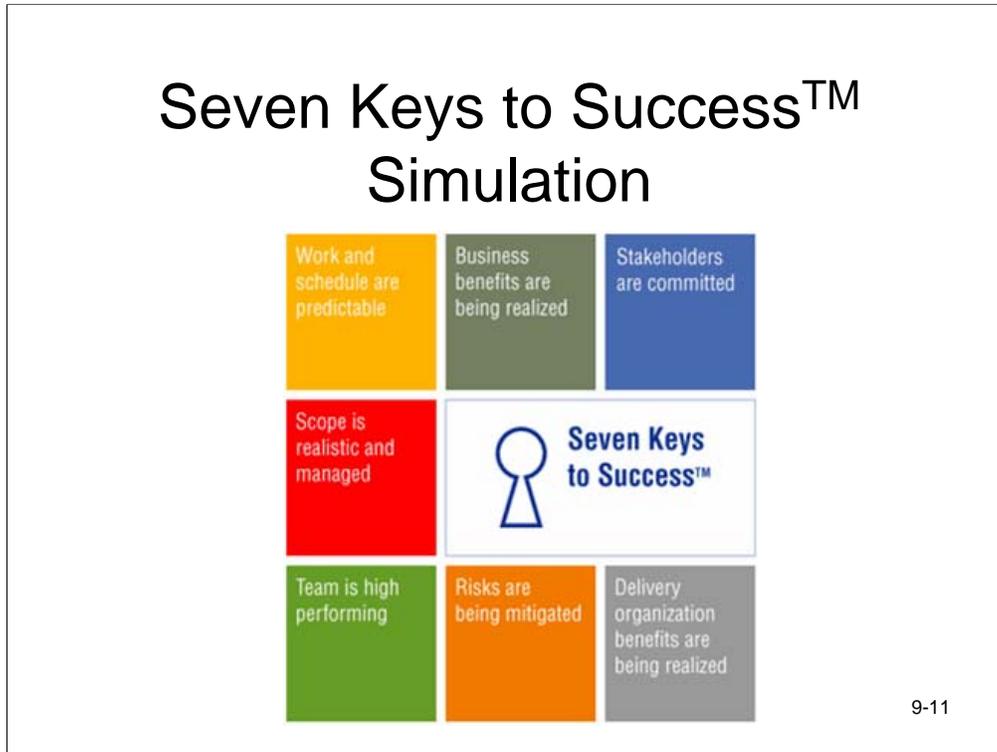
(Optional) 8 plastic carriers for holding the tokens

Also have a stack of 32 cards for yourself so you can walk the participants through the demo round and answer any of their questions.

Teams – The simulation can work when the participants are in groups of between 5 & 6. More than 6 results in the teams taking too long to make a decision & some team members not being involved in the discussions at the appropriate level. A number less than 5 results in the discussions being too brief & a more dominant member being too influential.

You can take a break before starting the simulation in order to set up the materials, or you can pass out the materials to each group and talk the participants through the set up.

**Tip** - Even better if you can orchestrate the timetable so this is done after lunch time since the exercise invokes lively discussions & generates energy which helps the learners get over the usual post lunch time dip in energy.



### Timing for the Seven Keys Simulation

Start	End		Length	Subject
12:15	12:30	15		Introduction to the board & set up
12:30	12:55	25		Demo Round
12:55	13:45	50		2 Rounds with Debrief after each

### Objectives for this Activity:

- Experience using the Seven Keys to assess, prioritise and manage risks
- Understand the need to act promptly on signs and symptoms of risks
- Recognize the need to discuss and agree risk assessments and actions with the project team

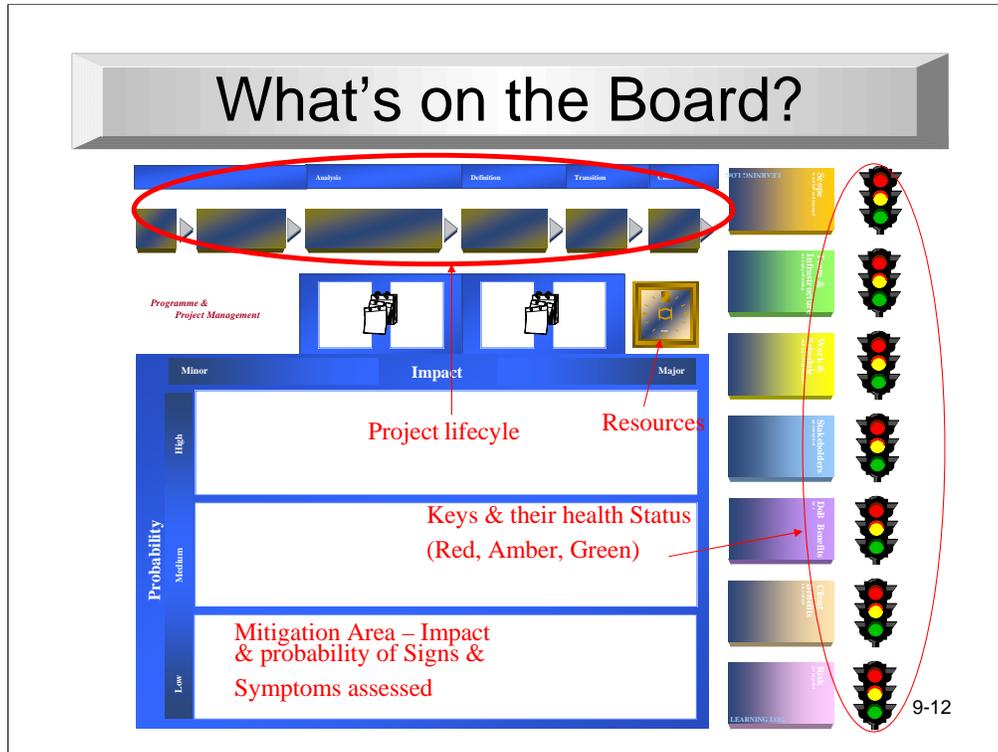
**Opening bang – wake them up!!! Project managers spend 90% of their time on communications in one form or other whilst managing projects – Ask the participants ‘Based on this, what sort of tool do you think the Seven Keys to Success is?’ Answer = Communication tool enabling the PM to communicate the health of the project to key stakeholders in a concise, consistent & comprehensive way (3 C’s).**

The Seven Keys to Success are trademarked and copyrighted and are being positioned as an important competitive advantage that we have over our competition.

They were developed in the 90’s with the help of the Gartner Group in a piece of research looking at what were the common causes of project failure. The research was also trying to find a simple but consistent approach to communicating the health of a project to the key stakeholders.

Ask if any of the group has previous experience of the Seven Keys? Ask those who respond positively to briefly explain their experience.

Check the learners know the difference between the Business Benefits Key & the Delivery Org Benefits key  
Check the learners know what the Risk Key is monitoring (i.e. Risk Mgt processes in place & working).



**2) Explain the simulation.**

Explain the purpose of the simulation is to practice using the seven keys to assess the health of a project and determine how to spend project management resources to correct problem areas.

**Project life cycle**

At the top of the board, you can find the project life cycle.

As was mentioned, you will enter the project half-way through; in the design stage; **phases 13-18**.

**Seven Keys**

To the right on the board, you can find the Seven Keys and the current situation; varying between green and yellow/amber on the traffic lights.

The performance is shown by using blue coins representing one index point each. 0–3 points equals red, 4–6 equals yellow/amber and 7+ equals green.

The coins in the box outside the board are a resource for later on when you are going to indicate changes in the performance on the seven keys.

**Mitigation area**

In the middle of the board, in the mitigation area, the signs and symptoms are placed, in terms of their probability & impact. The signs & symptoms cards will help you with probability but you have to work out the impact.

**Resources for mitigation**

The coins used for mitigation are the brownish ones and they represent one time unit each. Included in a time unit is limited management time, extra hours put in by project team members and other firm resources (for example, legal support to review the contract, or consultation with an audit partner).



Key	Start	Demo	Round 1	Round 2
Stakeholders	6			
Bus.Benefits	7			
W&S	7			
Team	4			
Scope	4			
Risks	5			
DOB	6			

9-13

Tell each team to create a flipchart with the Head Up Display like the overhead. Give each team red, yellow/orange and green pens to record their scores.

Tell each team to put the number of blue tokens in the Start column of the slide on the work mat next to the appropriate key.

Tell each team to take out 5 brown tokens that represent their available project management resources.

**Resources you will need to set the simulation up:** For each team:

Seven Keys simulation workmat

Box containing

- Small plastic pots
- Blue tokens
- Brown tokens

Set of 32 cards sorted into stacks:

- 1-3 Signs and Symptoms for Demo Period
- 4-6 Impacts for Demo Period
- 7-12 Signs and Symptoms for Period 1
- 13-18 Impacts for Period 1
- 19-25 Signs and Symptoms for Period 2
- 26-32 Impacts for Period 2

Explain that there will be 3 Periods to the simulated project – a Demo Period which the tutor will talk participants through, and 2 periods which participants will manage themselves

## Demonstration Round

**Purpose:** Understand the mechanics and rules of the simulation.

**Process:** Follow the instructions given to you by the trainer. Ask questions about the set up to clarify understanding.

**Participation:** In Teams



**Product :** Updated Heads Up Display

9-14

### 3. Set Up – Demo Period

Talk participants through Sign and Symptom cards 1-3. Get participants to place the cards on the work mat risk matrix, according to their estimate of the probability and impact of the risk suggested by the sign or symptom. **Explain** to the learners that for the Demo round, we will not be focusing on the impact of each card since we are focusing on the mechanics of the simulation. There will be time to look at impacts of Signs & Symptoms in the next 2 rounds.

Tell participants to mitigate risk for the IC Collection Mechanism. Point out that this will use all 5 of their project management resources, leaving the other risks unmitigated.

**Talk participants through Impact cards 4-6, explaining the impact of either mitigating or not & the associated adjustment to the keys:**

- the negative effect on the team and Work and Schedule Keys of leaving the Project Plan risk unmitigated - get teams to update the traffic light colours accordingly
- the positive effect on the Team and DOB Keys of mitigating the IC Collection Mechanism risk – update traffic light colours
- sometimes, signs and symptoms do not lead to problems, and that project management resources spent on mitigating the Request for More Challenging Work risk would have been wasted

**Also note the card numbers represent where you are in the project – look at the top of the board for the Project Lifecycle information.**

**Have each team update their flipchart HUD & clear away the Demo round cards**

# Round 1

**Purpose:** Use the Seven keys to manage a project based on a simulated IBM project environment,

**Process:**

1. Take out 9 resource tokens
2. Review the cards for Round 1
3. Discuss the impact and probability of each
4. Allocate the Project Management resources to the most important cards
5. Update Seven Keys status for each key based on your decision

**Participation:** In Teams



**Product :** Allocation of project management resources and updated status recorded on the Heads Up Display

9-15

### 4. Set Up – Round 1

**Other rules to remind the teams of before they start:**

1. Key Health can not be less than Zero or greater than 10 blue / grey tokens
2. Brown resource tokens can't be carried forward to the next round – use 'em or lose 'em
3. You must totally mitigate a sign & symptom, you can't partially mitigate it (so if it costs 5 tokens & you only have 4 left, you can't mitigate it).

Check participants' understanding of the process, then initiate Period 1 by

- Clearing away the Demo period cards
- Filling the project management resources pot with 9 brown tokens – representing 4.5 days of effort
- Give a set of Sign and Symptom cards 7-12 to each team

**Monitor Activity**

Answer questions. Do not make suggestions to teams, but use questions to challenge any team whose approach is superficial.

When participants have prioritised the Signs & Symptoms and allocated their project management resources, hand out the Impact cards 13-18 to each team.

Make sure each team updates the blue tokens for each key based on the Impact cards.

When teams have updated the traffic light colours for each Key on the workmat, ask them to update their flipchart Head Up Display (HUD)

**Debrief**

Compare teams' decisions and results. :

Signs and symptoms affect >1 Key and can interact

Signs and symptoms can be vague and confusing

Project management resources are not sufficient to act on all signs and symptoms

Effect of 'Delivery Beyond Expectations'

# Round 2

**Purpose:** Use the Seven keys to manage a project based on a simulated IBM project environment,

**Process: Time allowed 15 minutes**

1. Take out 11 resource tokens
2. Review the cards for Round 2
3. Discuss the impact and probability of each
4. Allocate the Project Management resources to the most important cards
5. Update Seven Keys status for each key based on your decision

**Participation:** In Teams



**Product :** Allocation of project management resources and updated status recorded on the Heads Up Display

9-16

### 5. Set Up – Round 2

Clear away the Round 1 cards

Tell the teams to fill the project management resources pot with 11 brown tokens – representing 5.5 days of effort

Give each team a set of Sign and Symptom cards 19-25

#### Monitor

Answer questions as appropriate. Do not make suggestions to teams, but use questions to challenge any team whose approach is superficial.

When participants have prioritised the risks and allocated their project management resources, hand out the Impact cards 26-32 to each team

Make sure each team updates the blue tokens for each key based on the Impact cards.

When teams have updated the traffic light colours for each Key on the workmat, ask them to update their flipchart Head Up Display (HUD)

#### Debrief

Compare teams' decisions and results.

Did the Signs and Symptoms remind you of experiences you have had on projects?

Which Signs and Symptoms did you mitigate?

What was the outcome?

Which of the Seven Keys did you do best on? Worst?

Can you envision using the Seven Keys on your projects? With your clients?

# Seven Keys Uses

- As a common language for communication and reporting with the project team, sponsors, and stakeholders
- To set Steering Group agendas for effective project governance
- A structure for Quality / Risk Reviews
- To identify underlying causes of project health
- To identify and prioritize actions required
- As a checklist for decision making; for example, changes in scope



Effective at all stages, from Opportunity, through Design and Delivery, to Close

LL 13-17

9-17

## 6. Review the uses of the Seven Keys.

Checklist of project failure root causes that strike a cord with your client so you can work with them to stay out of trouble

A list of project success factors that make sense to your client so you can work together to do better than just stay out of trouble

A recurring consistent agenda that provides a familiar and easy framework for presenting the most important issues to the stakeholder group

Prioritized key issues and recommended fixes, steering committees are more focused and are more efficient in their discussions and decisions

### **Other Key Learning points that should be highlighted – relate back to Short SIM:**

1. Not only do you take into consideration the priority of the signs & symptoms based on probability & impact, but you also have to take into consideration the health of all seven keys & focus on the ones in poorer health.
2. We need to be pro-active in managing our projects rather than reactive, so looking forward at potential signs & symptoms & acting on the ones that we think will affect the project most may save extra intervention effort later. Optional – Use an analogy where you're driving a car fast on the Freeway / motorway / autobahn & you see a problem up ahead. The sooner you see it, the sooner you can make a correction in your steering to avoid the problem & usually, the sooner you see a problem, the smaller the correction needed to avoid the problem. The way we deal with signs & symptoms on our projects can be similar to this.
3. We must look forwards as well as backwards. Looking backwards helps us understand historical performance & lessons learned. We then apply those to the signs & symptoms that were finding as we look forwards. (There's a reason why our car windscreens are bigger than our rear view mirror!!).
4. The Seven Keys can help you manage your projects throughout the lifecycle of your project and it worthwhile paying attention to where you are in the lifecycle as well as looking at the status of the keys e.g. you may have to more work to get your stakeholders on board early on in the project since they will have more influence the project early on in the project.

The Seven Keys Report (Heads-Up Display, “HuD”):			
The Seven Keys	Issues	HuD	Corrective Actions
 <b>Stakeholders are committed</b>			
 <b>Business Benefits are being realized</b>			
 <b>Work and Schedule are predictable</b>			
 <b>Scope is realistic and managed</b>			
 <b>Team is high performing</b>			
 <b>Risks are being mitigated</b>			
 <b>Delivery organization benefits are realized</b>			

9-18

It is important to have a better understanding of what the Seven keys assessment and report looks like and why it is so valuable to the team and client.

For each key, **issues are highlighted that threaten the project**, the **corresponding action required** is represented by green, yellow or red as we’ve discussed, and what the recommended or **sanctioned corrective actions are that will return proper health to any keys that are in trouble**.

The most effective presentation to executives should contain what you want them to know, and what you want them to do or decide. This is perfect, the Seven Keys report provides exactly that.

Tip for the trainer – it will be useful to also draw this as a flip & leave visible once this has been covered since it will provide the teams with a useful template when they do the next module = Quality Assurance. They can use the template for the exercise in that module & consider their project using the Seven Keys.

## Tips on Using the Seven Keys

- If you use all Seven Keys, you will be able to identify any and every issue affecting project health
- Even good projects are not green on all keys all the time, but good projects are always assertive and quick to identify and address issues and always take timely corrective action
- On the other hand, poor projects generally have one or more keys go "red" early, and they stay red until the project fails...
- Don't over engineer the Seven Keys, they are a simple communication tool that provides a highly effective view of critical project dimensions
- Take your Seven Keys assessment seriously – don't just 'tick the boxes'

9-19

### Points to make

- Stress to not over engineer
- Don't forget to probe green areas, there may be sleepers in there.
- Keep everyone attuned that 7 Keys is not a backward looking status report, it is a forward looking corrective action agenda.
- Red is not "Bad", it just means that the PM and client are being forthright in recognizing and dealing with inevitable issues and problems that will come up.
- 7 Keys is not a methodology, it is a very powerful viewing, thinking and coordinating tool.