

TOPIC B

Support Team Performance

You want to get the most from your team. There are many ways to support the efforts and performance. In this topic, you will explore a few practices to determine appropriate feedback that provides the best support for the team.

Enablers, Deliverables, and Tools

This topic addresses various enablers from the ECO.

- Appraise team performance against key performance indicators. (ECO 1.3.1)
- Support and recognize team growth and development. (ECO 1.3.2)
- Determine appropriate feedback approach. (ECO 1.3.3)
- Verify team member performance improvements. (ECO 1.3.4)
- Support team task accountability. (ECO 1.4.2)

The following deliverables and tools are relevant to the enablers addressed in this topic. Some of these might be covered in detail in other sections of the course.

<i>Deliverables</i>	<i>Tools</i>
RACI matrix	RACI matrix
Management by Objectives	Task boards
Benchmarking	Performance tracking tools
Performance reports	Information Radiators
	Burnup charts
	Earned Value
	Throughput metrics
	Cycle time
	Value stream map

Key Performance Indicators

To match team performance with the project vision and objectives, *key performance indicators (KPIs)* can be set. These KPI metrics can help give the team assurance that they are progressing towards project goals. There are a few core (key) examples (indicators) to let the team and others know that what they are doing (performance) is feeding into project success.

When it comes to defining useful KPIs, it's important to remember the SMART acronym. To be valuable measurement tools, KPIs need to satisfy the SMART criteria: specific, measurable, achievable, relevant, and time-bound.

Although there are varying interpretations of the SMART acronym, within the context of project management:

- **Specific** means the goal is appropriately focused and targeted, not overly general or vague. The target must be specific to the objective at hand; many targets that are too general could be affected by dozens of factors not associated with the improvement.

- **Measurable** means the change can be quantified and assessed on that basis. You must be able to measure the target; this means figuring out how to get accurate data to assess current and future performance.
- **Achievable** means that it is plausible and realistic. Ensure the target is a realistic one; you need to be able to achieve it within the size and scope of proposed improvement.
- **Relevant** ensures that the KPI is meaningfully related to its associated critical success factor(s). The target needs to be relevant in the context of the larger objectives and critical success factors.
- **Time-bound** means the goal is not open-ended but can be assigned a specific target duration. The timescale used needs to assess whether the improvement has achieved the desired results.

Team Culture and Empowerment

In projects, the team is the most important part. Without a good unified team, the project falls apart and project management becomes insufficient. The team needs to be empowered to make decisions without burden and in a timely manner. This increases the team's responsibility to deliver a product with complete ownership. You should remember that any interference with the team is disruptive, and it reduces the members' motivation to work.

Encourage the team to foster team collaboration and decision making. The team does not depend on heavy-handed discipline. The team must recognize the power and influence they possess. As an empowered cohesive unit, they depend on each other to make decisions and solve problems to deliver targeted value quickly.

Another important aspect of team empowerment is that the team should be a part of clarifying and prioritizing requirements, splitting requirements into tasks, and estimating the effort. This is essential to ensure the commitment of the entire team even at the beginning of the project. In case of any challenges during the course of the project, this involvement leads to an increased sense of ownership among team members.

Team Structure and Workspaces

The environment and location of a project team are extremely important elements to leading and managing projects. In agile projects, meaningful interaction is a core tenet. To encourage frequent, free flowing interaction, the team structure and workspaces must be conducive to this need. You need a team that can contribute everywhere and at any time. Anyone on the team is involved and leveraged throughout. Being involved and engaged encourages meaningful interactions. No one should be boxed into a singular role or engaged only when someone tells them to be. Everyone is engaged all the time and can take initiative whenever needed.

Setting up the physical environment supports the whole team engagement. Co-locating all involved in a shared workspace fosters more informal and immediate collaboration and exchange of information. Even the passive information that is absorbed from the surroundings—such as ad hoc discussions, side conversations, whiteboard drawings, physical body language—have value. Being immersed in the team physically and mentally improves the team's ability to work faster, more collaboratively, and more unified.

Establishing a culture of fluid communication and engagement in a workspace that promotes those positive interactions makes leading and managing teams much easier. The teams inherit many of the leadership and management needs.

Team Building Activities

To foster team building within a project team, a project manager might ask each of the veteran employees on the team to partner with a less experienced team member, offering coaching as needed and sharing knowledge, information, and expertise. Working collaboratively toward a shared goal is a great way for team members to help each other reach a higher level of performance.

Team-building activities are the specific functions or actions taken to help the team to develop into a mature, productive team. They can be formal or informal, brief or extended, and facilitated by the project manager or a group facilitator.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Page 341.

Team Performance Assessments

All project team members have their own areas of expertise that, if identified and used appropriately, can help in completing the project successfully. Project team performance assessment is performed to assess and identify the potential of each team member in order to help improve interaction between team members, solve issues, and deal with conflicts.

A team's technical success is measured on the basis of meeting the project objectives and finishing the project on time and within the decided budget. Continual formal or informal evaluations of the team's performance is an effective way to improve the skills and competencies of project team members and increase team cohesiveness.

You can follow these guidelines to assess team performance.

- Ask key questions of the team members. Questions may include their work experience, likes and dislikes about the projects assigned to them, tasks that they are confident about, and project tasks they will prefer to do.
- Speak to team members frequently through one-to-one meetings and regular project meetings wherein the team may talk about project cost and schedule adherence, milestones, deliverables, change management, risk management, and quality management.
- Provide constructive criticism and acclaim to team members, as necessary. Team successes should be announced publicly while reprimanding should be done in private.
- Encourage knowledge transfer. Provide team members with convenient, reliable methods for storing and accessing project knowledge and assess them on how well they provide and retrieve that information.
- Evaluate individual performance. Project managers must listen to the team members before responding and must be objective and flexible when necessary.
- In situations where a team member is not performing at the desired level, it may be necessary to remove them from the team and reassign his or her work to another resource. If this is not possible due to the workload and expertise of the other team members, it may be necessary to replace the under-performing resource and to assign his or her work to the new resource.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Page 343.

Performance Assessment Tasks

You can use performance assessment to accomplish a number of tasks, including:

- Comparing performance to goals.
- Re-clarifying roles and responsibilities.
- Delivering positive as well as negative feedback.
- Discovering unknown or unresolved issues.
- Creating and monitoring individual training plans.
- Establishing future goals.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Page 342.

Team Development Stages

When it comes to managing the dynamics of your project team, it is useful to refer to "Tuckman's Stages of Group Development." Teams might occasionally get stuck in a particular stage, or even revert to an earlier one. As the project manager, you can use these stages to lead the team as it develops.

Stage	Description
1. Forming	Team members are wondering whether the decision to join the team was a wise one. They are making initial judgments about the skills and personal qualities of their teammates, as well as worrying about how they personally will be viewed by the rest of the team. During this stage, conversations tend to be polite and noncommittal, as people hesitate to reveal too much about their personal views. In addition, team meetings tend to be confusing, as the team tries to figure out who is in charge.
2. Storming	Team members begin to assert themselves and control issues as they emerge. Personality differences begin to arise. Conflicts result as team members differ on the way they want to do the project work, or the way they want to make decisions.
3. Norming	The team begins to work productively, without worrying about personal acceptance or control issues. There are still conflicts; however, they tend to be focused on process issues rather than personality differences. The team begins to operate off mutual dependence and trust.
4. Performing	The team is working at optimum productivity. It is collaborating easily, communicating freely, and solving its own conflict problems. Team members feel safe in reporting problems, trusting their fellow team members to help them create the best solution for the team as a whole.
5. Adjourning	The team members complete their assigned work and shift to the next project or assigned work. This phase is sometimes known as "mourning."

The process of forming, storming, norming, performing, and adjourning is not done in a "lock step" fashion by the team. Team members keep coming in and going out of the team. Whenever a new member joins, forming takes place; even if the rest of the team has already crossed the forming stage. So, these stages are not followed one after the other but rather are situational.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Pages 338-339.

Effective Teams

The team members should work in a collaborative way to ensure project success. It is the responsibility of the project manager to build an effective project team and foster teamwork. Managers should give opportunities that challenge the team members' abilities, provide support and timely feedback, and recognize and reward good performance. To achieve the best team performance, managers should use effective communication methods, develop trust among team members, manage conflicts, and promote collaborative decision making and problem solving.

Project managers should seek support from upper-management or the appropriate stakeholders to effectively build project teams. This will help improve people skills, advance technical competencies, build good team environment, and increase project performance.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Pages 337-338.

Management by Objectives

Teams are typically more productive and driven when they have clear objectives to meet. Project managers can support the team by setting objectives collaboratively with the team. Project managers and the team can determine joint objectives that are challenging, yet attainable. Objective setting can be conducted at the start of a project or phase, but is commonly done throughout the project life cycle, such as in an Iteration Planning session in which the team sets the targets and commitments for the upcoming time period.

Feedback

To learn, adapt, and grow requires constructive feedback. Continuous feedback is essential for agility and responsiveness. Regular feedback is crucial for the team in all project management methodologies and team environments. Discovering the most appropriate and timely feedback is a responsibility of a project manager.

For instance, agile methods follow iterative and incremental development, and within each iteration, the product improves. With every iteration, the team members provide feedback and assistance to each other and a working product is demonstrated to the customer for feedback and direction. That feedback feeds the subsequent iterations and the product backlog. Regular customer input gives the team the opportunity to improve on the product before the final deliverable is sent to the customer, instead of when it may be too late.

Performance Tracking Tools

The following table defines some common tools that can be used to track the team's performance.

<i>Tool</i>	<i>Description</i>
Scrum/Agile/Kanban boards	Based on the Kanban management method of using cards, physical or electronic boards can track work as it progresses across various stages or categories.
Throughput Metrics	Measurement of the team's work that has moved from one stage to another stage over a certain time.
Cycle Time	Measurement of work that has progressed all the way from plan to completed or delivered.
Quality Metrics	Various measurements to track quality deliverables, defects, and acceptable output.
Earned Value	Tracking cost and effort performance against a planned value.
Bar Charts (Gantt)	Using the project schedule to track performance over time.
Velocity	Measurement of total output from an iteration to attempt to predict future iteration outputs.

Earned Value Management (EVM)

*Earned Value Management (EVM)** is a methodology that combines scope, schedule, and resource measurements to assess project performance and progress during project execution. You can measure project progress by comparing actual schedule and cost performance against planned performance as laid out in the schedule and cost baselines. Assessing the value of work requires first determining what work has actually been performed and therefore what value it has contributed to the project. These performance reviews are usually included in each project status review meeting.

During planning, project work is broken down into work packages and activities. Each work package is assigned a budget and a schedule. Because each increment of work is time-phased, a

schedule variance results when work is not completed when it was scheduled to be completed. It is valuable to understand the monetary value of work contribution.

Cost and Schedule Performance

The EVM approach to monitoring cost and schedule performance provides metrics that show variances from the baselines. Armed with this information, the project manager can identify appropriate corrective actions. When cost and schedule variance analysis is conducted at the appropriate time intervals and levels, it can be effective in controlling against further cost and schedule problems.

EVM Variables

EVM involves determining three independent variables to assess and monitor project cost and schedule performance progress. These three variables are used to provide measures of whether or not work is being accomplished as planned and to forecast project cost at completion. The variables are:

- Planned Value (PV)
- Earned Value (EV)
- Actual Cost (AC)

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Pages 226, 261-268.

Planned Value

Planned Value (PV)* is the authorized budget assigned to scheduled work. This amount is specified in the project's cost baseline. In simpler terms, PV indicates the value of work scheduled to be done during a particular time period.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Page 261.

Planned Value

Planned Value (PV)* is the authorized budget assigned to scheduled work. This amount is specified in the project's cost baseline. In simpler terms, PV indicates the value of work scheduled to be done during a particular time period.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Page 261.

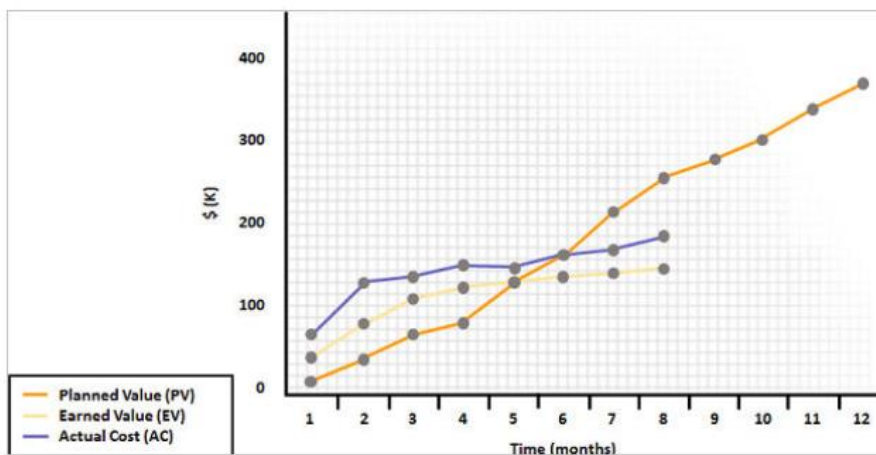


Figure 4-2: An illustration of planned value, earned value, and actual cost.

Example: Evaluating Planned Value

A project to build a shed was proposed. It involved three tasks to be done: flooring, drywalling, and roofing. Flooring was budgeted at \$200 and will take two days to complete. The task of drywalling was budgeted at \$800 and will take four days to complete. Roofing was budgeted at \$600 and will take three days to complete. The total budget for building the shed came to \$1,600. The total budget

calculated for the first six days of work, involving two days of flooring and four days of drywalling, will be $\$200 + \$800 = \$1,000$. Therefore, the PV of this project for six days is $\$1,000$.

Earned Value

Earned Value (EV)* is the measure of work performed expressed in terms of the budget authorized for that work. In other words, EV is a composite measurement of both cost and time performance in relation to scheduled or planned cost and time performance. EV is calculated by multiplying the percentage of work completed by the budgeted cost for the activity as laid out in the cost baseline.

Earned Value (EV) = % completed x Planned Value (PV)

In order to determine the EV of the project work to date, you will have to look back at the cost baseline to determine how costs were assigned originally. If the PV was determined by the percentage completed to date method, you will apply the same method of assessing the EV. In other words, EV indicates the value of work actually performed during a particular time period.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Page 261.

Example: EV Calculation for the Shed Project

The manager of the shed building project receives a project report at the end of day six, which says that the flooring task (\$200) is 100% complete and the drywalling task (\$800) is 75% complete. To calculate the EV for the completed work, you apply the following formula. Therefore, the calculated EV for the project at the end of day six is \$800.

$$\begin{aligned} \text{EV} &= (100\% \times \text{Flooring budget}) + (75\% \times \text{Drywalling budget}) \\ \text{EV} &= (100\% \times 200) + (75\% \times 800) \\ \text{EV} &= 200 + 600 \\ \text{EV} &= \$800 \end{aligned}$$

Actual Cost

Actual Cost (AC)* is the realized cost incurred for the work performed on an activity during a specific time period. AC refers to the total amount of costs incurred while performing work, either during completion of a schedule activity or during the completion of a WBS component. Actual cost is calculated and documented once the work is complete. In other words, AC indicates the actual money that has been spent for work that has been completed.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Page 261.

Example: AC Calculation for the Shed Project

The shed building project report also states that the actual money spent on flooring is \$180 and on drywalling is \$700. So, the actual cost for the project as of day six is \$880.

EVM Measures for Schedule Control

The most commonly used EVM measures for schedule control are:

- **Schedule Variance (SV)*** is a measure of schedule performance expressed as the difference between the earned value and the planned value. ($SV = EV - PV$)
 - A positive SV indicates that the project is ahead of schedule.
 - A zero SV indicates that the project is on schedule.
 - A negative SV indicates that the project is behind schedule.
- **Schedule Performance Index (SPI)*** is a measure of schedule efficiency expressed as the ratio of earned value to planned value. ($SPI = EV / PV$)

- An SPI number greater than 1.0 indicates that the project is ahead of schedule.
- An SPI of 1.0 means the project is on schedule.
- An SPI number less than 1.0 indicates that the project is behind schedule.



Note: Content related to schedule and costs has been dealt with as separate topics in this course. For detailed information on Cost Variance (CV) and the Cost Performance Index (CPI), refer to the "Control Project Costs" topic.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Pages 262, 263.

EVM Measures for Cost Control

The most commonly used EVM measures for cost control are:

- **Cost Variance (CV)*** is the amount of budget deficit or surplus at a given point in time, expressed as the difference between the earned value and the actual cost. ($CV = EV - AC$)
 - A positive CV indicates that the project is performing under budget.
 - A zero CV indicates that the project is on budget.
 - A negative CV indicates that the project is performing over budget.
- **Cost Performance Index (CPI)*** is a measure of the cost efficiency of budgeted resources expressed as the ratio of earned value to actual cost. ($CPI = EV / AC$)
 - A CPI number greater than 1.0 indicates that the project is under budget.
 - A CPI of 1.0 means the project is on budget.
 - A CPI number less than 1.0 indicates that the project is over budget.

Reference: Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide) – Sixth Edition*, Project Management Institute, Inc., 2017, Pages 262-263, 267.

Estimate at Completion Analysis

The current projected final cost of the project is referred to as the **Estimate at Completion (EAC)***. It is based on the current spending efficiency (the CPI), and is calculated from the following formula, where **Budget at Completion (BAC)*** is the sum of all budgets established for the work to be performed.

$$EAC = \frac{BAC}{CPI}$$

Figure 4-3: The EAC formula.

Estimate to Complete Analysis

During execution, you might need to know how much more money you will need to complete the project. This amount is called the **Estimate to Complete (ETC)***. It is based on the current spending efficiency of the project, and is calculated from the following formula.

$$ETC = EAC - AC$$