ISCAMIC UNIVERSITY OF GAZA
Community Services and Continuing Education Deanship
Community Development Institute

**Earned Value and Cost Control**

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Dedication

I would like to dedicate this work to my precious parents who always stand by me and encourage me to be who I am

As well as to my supervisor

Eng. Hisham Abu El Qumbuz who teach me and helped me during my education in this diploma.
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1. Introduction:

Earned Value Analysis: Schedule and Cost Performance

The comparison of how much you’ve spent to what you’ve planned to spend can be deceiving. For example, suppose a project is through half of its scheduled duration and you’ve spent roughly half the budget. If half the work is done as well, you’re right on track. But if the budget and schedule are half spent and the team has finished only 30 percent of the work, the picture isn’t as bright. You have 50 percent of the budget and duration left but you still must complete 70 percent of the work. Earned value analysis takes into account not only actual and budgeted costs but also how much actual and estimated work is complete to give you a better idea of where your project stands. For example, if you’ve spent more than was budgeted for the current status of the project, you could be ahead of schedule rather than over budget. Because you performed more work than you planned in the time that’s passed, the higher costs are to be expected.

Earned value analysis calculates how much of a budget should have been spent given the amount of work that’s been performed to a specific date. Earned value uses the following concepts to measure status:

- Project tasks earn value as work on the task is completed.
- The earned value compared to actual and planned costs shows cost performance and forecasts future costs.
- Work completed is measured in dollars so that cost performance and schedule performance are money-based measures.
Earned Value Status Measures

The measures that initiate earned value analysis are budgeted cost of work scheduled (BCWS), actual cost of work performed (ACWP), and budgeted cost of work performed (BCWP). Here is what each one of these measures represents:

- **Budgeted cost of work scheduled (BCWS)** is sometimes referred to as planned value (PV) because it is the baseline cost up to the status date for tasks as they were originally scheduled in the project plan. It is how much of the money you planned to spend by the status date. For example, if the cost of work that you planned to complete by September 23, 2011 is $10,000, BCWS on that date is $10,000.

- **Budgeted cost of work performed (BCWP)** is also called *earned value* (EV) because it measures the value of the worked performed, thus earned, up to the status date. This measure calculates how much of the cost should have been spent given the work that's actually been done. It has nothing to do with when the work is performed. For example, if the budgeted cost for all the task work completed so far is $8,000, BCWP is $8,000. Although you calculate BCWP for each task individually, you analyze earned value at the project level.

- **Actual cost of work performed (ACWP)**, which is also known simply as *actual costs*, represents the actual costs for the work performed up to the status date, whether you've completed more or fewer tasks than you had planned so far. ACWS is whatever you've spent up to September 23, 2011 in this example.

Analyzing an Earned Value Graph

An earned value graph is the best way to view earned value because you don’t even have to see any numbers to know whether your project is on schedule and within budget. You’ll typically see BCWS, ACWP, and BCWP compared, as shown in Figure 9-10. By plotting each measure over time, you quickly see how your project is doing compared to your planned schedule and budget. The y-axis in the earned value graph represents cost, whereas the x-axis shows time.
Figure 9-10: An earned value graph visually depicts the relationship among earned value, planned value, and actual cost, so you can easily identify trends.

Here's how you read an earned value graph to determine both the schedule and budget status for a project:

- The BCWS line (planned value) represents the amount of money you planned to spend over the course of the project, so it's no surprise that it continues to rise throughout the project's duration. As the BCWS line in Figure 9-10 illustrates, the budgeted cost increases until it reaches its planned budget ($47,240) at the end of the project.

In this example, the flat section of the graph is due to a severe two-week wait to obtain the construct on permit from the county. And the bog spke n cost represents the cost of the material as delivered just before construction.
The BCWP line (earned value) represents the cost you estimated for the work that has been performed. When construction begins (after the spike in price), the earned value line is below the planned value line. Mathematically, this means that the cost of the work you’ve done is less than the cost of the work scheduled to be completed. In project status terms, this translates into the project is behind schedule.

The ACWP line (actual cost) represents what you actually spent. When construction begins, the actual cost line is above the earned value line, which means that you spent more to complete the work than you had budgeted—in short, your project is over budget.

You can create an earned value graph by generating a variance report on Project, which describes the details in the section on “Creating an Earned Value Graph on Project,” on page 231.

Earned Value Performance

Earned value analysis also calculates variances and indexes to help you determine whether you have enough money left in the budget to complete the project or whether the project is on track to finish on time. The following are other earned value measures you can calculate and what they tell you:

- **Cost variance (CV)** The budgeted cost of work performed (BCWP or earned value) for a task minus the actual cost of work performed (ACWP). If the variance is positive, the actual cost is under the budgeted amount; if the variance is negative, the task is over budget.

The CV and Cost Variance fields on Project represent different things. For example, in the Cost tab, the Variance column is the Cost Variance field, which is the actual cost minus the budgeted cost, so a positive variance means that the task is over budget. However, the CV field in BCWP minus ACWP, so a positive CV means that the task is under budget.
- **Schedule variance (SV)** The budgeted cost of work performed (BCWP or earned value) minus the budgeted cost of work scheduled (BCWS or planned value). A positive schedule variance means that the project is ahead of schedule.

- **The cost performance index (CPI)** An indicator of whether a project might go over budget. CPI is the ratio of budgeted costs of work performed (earned value) to actual costs of work performed (BCWP / ACWP). The CPI for the entire project is the sum of BCWP for all tasks divided by the sum of ACWP for all tasks. A CPI greater than 1 indicates the project is under budget, because actual costs are less than earned value. A CPI less than 1 means the project is over budget. For example, a CPI of 0.7 means that the earned value is 70 percent of the actual cost.

- **The schedule performance index (SPI)** An indicator of whether a project will be on time and can help you estimate the project completion date. SPI is the ratio of the budgeted cost of work performed (BCWP or earned value) to the budgeted cost of work scheduled (BCWS or planned value). An SPI greater than 1 indicates that the project is ahead of schedule because the work performed exceeds the work scheduled. An SPI less than 1 indicates that the project is behind schedule.

- **Budget at completion (BAC)** Simply the baseline cost approved for the entire project.

- **Estimate at completion (EAC)** An estimate of the total cost of a task or project based on progress as of the status date. EAC is calculated using the formula EAC = ACWP + ((BAC – BCWP) / CPI).

- **Variance at completion (VAC)** The difference between the budget at completion (BAC) and the estimate at completion (EAC). In Project, the Total Cost field represents EAC and the Baseline Cost field is BAC.

- **Estimate to complete (ETC)** The amount of money needed to finish the project. To calculate ETC, subtract ACWP from EAC.

- **To complete performance index (TCPI)** The ratio of the work remaining to the budget remaining (as of a status date). The formula for TCPI is (BAC – BCWP) / (BAC – ACWP). The numerator for TCPI is the baseline cost for the work remaining. The denominator is the unspent baseline dollars for the project. If TCPI is greater than 1, the remaining baseline cost is greater than the remaining dollars, that is, the remaining work costs more than the money that’s left. If TCPI is less than 1, the baseline cost for the remaining work is less than the available dollars and you have a surplus.
Earned value analysis might sound a little daunting, and when you throw in acronyms like BCWS, BCWP, and the like, you might think that the calculations must take more time than you have available. The good news is that Project can calculate earned value measures for you. To obtain Project's assistance, you must assign costs to tasks, set a baseline, set a status date, keep track of actual costs in Project, and set up tasks that don't run from the project start to project finish. (Project uses completed tasks to calculate earned value unless you instruct it otherwise.)

Although you certainly want to find out why a CPI is less than 1, don't panic. For example, the CPI might have improved from last month's report, which means that the project is coming back closer to the original budget.

Finally, even if your analysis reveals a positive schedule variance, take a look at the tasks that must be completed to reach major milestones. If secondary tasks are all on track, but a few major tasks are behind, that positive schedule variance could disappear.

Earned Value in Microsoft Project

Project can calculate values for BCWS, BCWP, ACWS, and the other earned value measures, but you have a few tasks to complete first. You must check that options related to earned value are set the way you want. You must save a baseline (at least one). If you save more than one baseline, you must know which baseline you want to use for earned value comparisons. And you must choose between using the % Complete field or the Physical % Complete field as the basis of the calculations, which is described in the following sidebar, "The % Complete and Physical % Complete Fields." After you've completed these steps, you can view earned value analysis in several ways.
The PMI Body of Knowledge (PMBOK) suggests two definitions of complete for earned value calculations. However, you can define complete in three ways:

- **All or nothing**  This is the most conservative definition because a task is either complete or incomplete. Any less than 100 percent complete represents incomplete, which means the task is not included in earned value calculations. Project initially uses this method. If a task’s % Complete field is 100 percent, then Project calculates its earned value fields. % Complete less than 100 percent means earned value fields are 0 percent.

- **Unstarted, started, or complete**  A more moderate approach is to keep unstarted tasks at 0 percent and completed tasks at 100 percent, while recording tasks in progress at 50 percent. Another moderate method is to break the percentages into quadrants: 0 percent for unstarted, 25 percent for started, 50 percent for halfway, 75 percent for almost complete, and 100 percent for complete.

- **Completed work**  A more accurate approach is to define complete as the specific percentage of work that’s complete.

Here’s an example of how % Complete and Physical % Complete differ. % Complete is the percentage of task duration that has passed. It doesn’t indicate how much work has been done. For example, you estimate that pouring 100 concrete pads will take 10 days. Because it rained, you’ve poured 30 concrete pads at the 5-day mark. % Complete is 50 percent, because 5 of the 10 days have passed. % Physical Complete is 30 percent because you’ve poured 30 of the 100 concrete pads.

Physical % Complete is a value you enter, so you can make it as accurate as you want. For example, you can set Physical % Complete to 0 percent, 25 percent, 50 percent, 75 percent, or 100 percent, depending on the relative completion of a task. Or, you can enter the value from the % Work Complete field into Physical % Complete.

If you don’t want to use the all or nothing method, you must tell Project to use the Physical % Complete field to calculate earned value.
To earn how to change the field Project uses to calculate earned value, see the next section, “Setting Options for Earned Value.”

**Setting Options for Earned Value**

Here are the steps for setting up options for earned value calculations:

1. On the File tab, click Options.
2. In the Project Options dialog box, click Advanced.
3. Below the Earned Value Options For This Project label, in the Default Task Earned Value Method drop-down list, choose Physical % Complete.

Change the value of this option affects only the tasks that are added to your Project after the options are changed. To change this setting for a task that already exists, double-click the task to open the Task Information dialog box and then click the Advanced tab. Choose the field you want in the Earned Value Method section.
4. In the Baseline For Earned Value Calculations list, select the baseline you want Project to use when it calculates earned value totals.

5. Click Close.

6. In the Project Options dialog box, click OK.

**Viewing Earned Value in a Table**

In a Project schedule, you can see earned value in the Earned Value table and in the Earned Value Cost Indicators table. (On the View tab, in the Data group, click the Tables down arrow, and then choose More Tables. In the More Tables dialog box, double-click either the Earned Value or Earned Value Cost Indicators table.)

- **Earned Value table**  Shows the fundamental earned value measures, including BCWS, BCWP, ACWP, SV, CV, EAC, BAC, and VAC. You can use this table to spot variances and the different values at completion.

- **Earned Value Cost Indicators table**  Includes some of the same columns as the Earned Value table, but also includes indexes, such as CPI and TCPI. Check the values of CPI and TCPI to see whether the project is on budget and schedule. If CPI is less than 1, the task or project is over budget. The value of TCPI indicates how much you need to increase project performance on remaining work to stay within the budget.

**Creating an Earned Value Graph in Project**

The Earned Value Over Time visual report automatically generates an earned value graph. To generate this visual report, follow these steps:

1. On the Project tab, in the Reports group, click Visual Reports.

2. In the Visual Reports—Create Report dialog box, on the All tab, shown in Figure 9-11, click Earned Value Over Time Report.
When you select a report in the list, a preview of the report appears on the right side of the dialog box.

3. In the Select Level Of Usage Data To Include In The Report drop-down list, choose Days, Weeks, Months, Quarters, or Years to specify the smallest time periods you want to evaluate in the report.

4. Click View.

To see an example of an earned value vs. actual report, see Figure 9-10, on page 225.
2. Proposed Project Description:

The proposed project is to establish a specialized academy to develop the capacity of secondary school students aged 15 to 18 years, mainly in the areas of English language and computer skills in the Gaza Strip within 3 years. In addition, the project will provide special training courses to direct students towards the right university specialization and adequate with their abilities and hobbies.

The project summary is to establish academy to develop the capacity of secondary school students aged 15 to 18 years in the areas of English language and computer skills in the Gaza Strip within 3 years. The project targets this age group with a condition that they must have general school assessment 75% or above, and 30% of the participating students are orphan students. In addition, there are training courses to direct students towards the right university specialization.

The training program consists of three main parts which are as follows:

Part I: a portion of empowering the target group on English language skills including reading, writing, listening and speaking skills. This stage begins by holding a level exam in English language skills to determine the general level of the participating students from 9 levels. Based on the test results the students will be distributed on the levels and continue upward to the last level. The duration of a single level course is one month about 24 hours. The student will pay tuition fees about $10 per course and orphan students will excluded. Moreover, the project will enrich this part by providing High school students (Tawjihi students) an English courses in their school curriculum. The student will pay tuition fees about $20 per course.

Part II: a portion of empowering students in computer skills, office programs and internet browsers using an equipped lab. within the academy. The project will provide an incentive computer courses. The duration of each course will be one month. The student will pay tuition fees about $10 per course and orphan students will excluded.

Part III: a portion of free courses aimed to support all the project participant students and to provide them good directing and guidance to choose their university specialization the commensurate with their abilities and hobbies.
The center will provide an integrated academic library that will serve project participants with the latest scientific, cultural, entertainment books in both Arabic and English languages.

**PROJECT BENEFICIARY**

Direct beneficiary: The project will target directly

- 2000 students will be annually directly targeted by the English courses
- 1000 students will be annually directly targeted by the computer courses
- 3000 students will be annually serve by the Academy library.

Indirect beneficiary: The project will target indirectly

- Palestinian University
- Palestinian families
- Palestinian community in Gaza Stripe

**3.3 THE OVERALL GOAL AND OBJECTIVES**

- **THE OVERALL OBJECTIVE**
  To contribute enhancing students capacity and raise education quality inside Palestinian community.

- **PROJECT OBJECTIVES**
  ✓ To establish a special academy to improve secondary school students in English language and computer skills.
  ✓ To direct students to choose the right university specialization which accommodate to their abilities and hobbies
  ✓ To empower orphan student inside their community by participating them in project activities
  ✓ To support Palestinian families economically by providing empowering courses to their children with tuition fees.
PROJECT EXPECTED RESULTS

- Established and highly equipped academy providing capacity building for secondary school students specially in English and computer skills.
- Annually 3000 empowered students in English and computer skills; 30% of them are orphan students
- An equipped library with 1,500 books (500 books each one has 3 copies), CD’s and DVD in Arabic and English languages served about 3000 students annually from project beneficiary.
- At least 6 courses established annually focused on providing awareness and guidance to students when they choose their university specialization.

The project will be implemented through three phases as following:

PHASE ONE: PREPARATORY PHASE (duration-2 months)

This points of work deals with academy place purchasing and staff contracting activities. Moreover, this stage includes processing activities for equipped and furnish the academy and other preparation activities which is prior of the implementation of training stage and includes.

- Announce the project in the local newspapers and news websites
- Choice of the academy place and complete purchasing and registration procedures.

The place of academy will be selected based on several criteria, namely

- be a suitable place and easier for students to access.
- contains of 4 classrooms each of one has a capacity of 15 students
- has a special place for the project management staff.
- has a place to establish a computer lab
- has a dedicated place to equip the academy library
- has a hall of meeting
- has a kitchen and two bathrooms for students

Nomination and selection

Project manager will be responsible to nominate and select the project staff. The project staff will includes: Project manager, administrative assistant, accountant, 3 projects training supervisors, librarian, computer lab technician, servant and trainers.

- Start to equip and furnish the academy with the needed tools and equipment needed
✓ Design and prepare training materials, which include
  • text books for English skills training
  • training materials for computer skills training
  • training materials for student guidance courses to choose the right university specialization
  • Purchase the library books which will be 500 Arabic and English language books each book has 3 copies, so the total number of books 1,500 books.

✓ Start to implement the marketing activities for the Academy, which include
  • design and distribute one page booklet contains mission, vision, goals and activities of the Academy in the public places, especially in schools students
  • design and published several posters in the roads, public places and schools to advertise the academy
  • design a lighten billboard and number of banners for the academy
  • design a Facebook page and website for academy
  • prepare advertisements in local newspapers and magazines
  • design advertisements on local radio and TV cannels
  o Prepare lists of the candidate students to participate the academy courses.
  o Identify and announce the date of the level test.

PHASE TWO: IMPLEMENTATION OF TRAINING COURSES (duration-10 months)

This phase includes the implementation of the training programs and will be extended to nine months per year and includes

❖ held the level test for the participants.
❖ divide students by level exam results into groups each one has 15 students at most
❖ list and divide participant students for computer skills courses into groups
❖ list and divide Tawjihi participant students for English courses into groups
❖ schedule training sessions
❖ implement the training programs

PHASE THREE: MONITORING AND EVALUATION (duration-1 months)

This phase includes monitoring and evaluation procedure and will be extended to one month per year. This stage is divided into several parts:
monitoring and evaluation of training courses:

The training implementation will be monitored and evaluated through the following steps:

- Follow-up during the courses to solve any problem that may occur.
- Taking the daily impressions of the participants about major issues related to the training process (style, trainer performance, & course contents).
- The trainer will assess the skills gained by the participants and provide advice of their use in the work context.
- Questionnaires will be filled at the end of the course to evaluate the trainer, the style, content and the used methods.

Fig(3-1). Evaluation stages for the project

Monitoring and evaluation of the project:

**Monitoring**

The project will be monitored by:

- Reviewing reports from staff and comparing and testing them against the project action plan.
- Follow-up during the courses to solve any problem that may occur.
- Taking trainees feedback daily and after the end of each course.
- training supervisors will take notes about daily performance of the field workers.
- Reviewing reports submitted by supervisors in the follow-up stage.

**Evaluation**

- Monthly administrative reports from training supervisors about the training sessions.
- Monthly financial reports from accountant
- Arranging a closing ceremony at the end of each year to gain direct feedback from field workers about the overall performance and to get a clear image about the degree of objectives achieved
- Write the final administrative and financial report

The total cost for the project is $255,784.70
## PROJECT ACTION PLAN

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## Job Analysis for the Project Staff:

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<tr>
<th>No</th>
<th>Position</th>
<th>Required Skills</th>
<th>Key Responsibilities</th>
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</table>
| 1  | Project Manager           | - Managerial and administrative skills.  
                              - Reporting Skills.  
                              - Ability to work under pressure and to solve problems.  
                              - Ability to manage multiple activities.  
                              - Excellent communicator and have the ability to work in team. | - Manage the overall activities of the project.  
                              - Prepare progress and final reports.  
                              - Arrange for the work and assure quality and due time.  
                              - Monitor performance.  
                              - Communicate with all beneficiaries and build a network with them.  
                              - Solve problems during implementation. |
| 2  | Training Supervisors      | - Administrative Skills.  
                              - Reporting Skills.  
                              - Ability to work under pressure and solve problems.  
                              - Team player.  
                              - Initiator and have monitoring skills. | - Arrange for activities such as training, workshops…  
                              - Report directly to the project manager.  
                              - Solve problems.  
                              - Arrange for Logistics.  
                              - Contact organizations.  
                              - Monitor Training. |
| 3  | Administrative Assistant  | - Soft skills.  
                              - Ability to work under pressure and solve problems.  
                              - Team player.  
                              - Excellent communication Skills | - Typing Letters.  
                              - Greeting and introducing people.  
                              - Help in preparing and arranging logistics.  
                              - Faxing, emailing, telephone calls… |
| 4  | Accountant                | - Team player  
                              - Financial reporting skills  
                              - Transparency and honesty on work  
                              - Ability to work under pressure | - Responsible for all the material purchase and equipment of the project  
                              - Prepare the financial reports |
| 5  | Computer Technician       | - Team player  
                              - Follow up and maintenance skills  
                              - Website design skills  
                              - Reporting skills | - Write reports when computer failures occurs  
                              - Design a website for the academy  
                              - Design marketing materials and printings  
                              - Design Fb page for the academy |
<table>
<thead>
<tr>
<th></th>
<th>Librarian</th>
<th>Trainers</th>
<th>Servant</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Team player</td>
<td>Team player</td>
<td>Ability to work under pressure</td>
</tr>
<tr>
<td></td>
<td>Follow up and coordinating skills</td>
<td>Ability to work under pressure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ability to work under pressure</td>
<td>Communication skills with students</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Protect the library contents</td>
<td>Prepare training materials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arrange and design the library books</td>
<td>Implement training materials</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Responsible for withdrawal and return process of books</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepare monthly lists of the books out and in the library</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepare a detailed list of the books, CD’s and DVD’s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Prepare refreshments for students within the breaks</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prepare refreshments for project staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Purchase kitchen and academy requirements</td>
<td></td>
</tr>
</tbody>
</table>
Description of the Cases:

Case 1:

<table>
<thead>
<tr>
<th>Item Names</th>
<th>Budget Cost</th>
<th>PCT Schedule</th>
<th>PCT Actual</th>
<th>BCWS</th>
<th>BCWP</th>
<th>ACWP</th>
<th>C.P.I</th>
<th>CPI Status</th>
<th>S.P.I</th>
<th>SPI Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$255,785</td>
<td>68%</td>
<td>68%</td>
<td>$173,933.60</td>
<td>$173,933.60</td>
<td>$173,000.00</td>
<td>1.005397</td>
<td>On Budget</td>
<td>1</td>
<td>On Schedule</td>
</tr>
</tbody>
</table>

The first case, shows that the project is working well as it is on the expenditure are on the proposed budget and the time usage is on schedule.

According to this case, the project manager would find no problems at all with working in the same pace as he has 2 main important results;

1. The project is on budget.
2. The project is on schedule.
Case II: Data Date 1-May-2015 (With Change in Budget)

<table>
<thead>
<tr>
<th>Item Names</th>
<th>Budget Cost</th>
<th>PCT Schedule</th>
<th>PCT Actual</th>
<th>BCWS</th>
<th>BCWP</th>
<th>ACWP</th>
<th>C.P.I</th>
<th>CPI Status</th>
<th>S.P.I</th>
<th>SPI Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$255,785</td>
<td>77%</td>
<td>74%</td>
<td>$196,954.22</td>
<td>$189,280.68</td>
<td>$190,000.00</td>
<td>0.996214</td>
<td>Over Budget</td>
<td>0.961039</td>
<td>Behind Schedule</td>
</tr>
</tbody>
</table>

The second case shows that the project started to show problems related to time and budget. The expenditure are over what it is planned for as well as the time usage is behind the schedule which mean the manager is already late and not all activities assigned in this period have been implemented.

According to this case, the project manager would find problems and he/she has to try what they can to compensate;

1. The project is over budget.
2. The project is behind schedule.
Case 3:

### Case III: Data Date 1-Aug-2015 (With Change in Budget)

<table>
<thead>
<tr>
<th>Item Names</th>
<th>Budget Cost</th>
<th>PCT Schedule</th>
<th>PCT Actual</th>
<th>BCWS</th>
<th>BCWP</th>
<th>ACWP</th>
<th>C.P.I</th>
<th>CPI Status</th>
<th>S.P.I</th>
<th>SPI Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Budget</strong></td>
<td><strong>$255,785</strong></td>
<td>90%</td>
<td>90%</td>
<td><strong>$230,206.23</strong></td>
<td><strong>$230,206.23</strong></td>
<td><strong>$235,000.00</strong></td>
<td>0.979601</td>
<td>Over Budget</td>
<td>1</td>
<td>On Schedule</td>
</tr>
</tbody>
</table>

The third case shows that the manager started to overcome one of the problems while still another one still appeared. The expenditure are still over what it is planned but the time usage is on the schedule which mean the manager now implemented all assigned activities but still the budget is over what supposed to be.

According to this case, the project manager would try to minimize the expenditures in a time that there is no problem with the time;

1. The project is over budget.
2. The project is on schedule.
Case 4:

<table>
<thead>
<tr>
<th>Item Names</th>
<th>Budget Cost</th>
<th>PCT Schedule</th>
<th>PCT Actual</th>
<th>BCWS</th>
<th>BCWP</th>
<th>ACWP</th>
<th>C.P.I</th>
<th>CPI Status</th>
<th>S.P.I</th>
<th>SPI Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Budget</td>
<td>$255,785</td>
<td>100%</td>
<td>100%</td>
<td>$255,784.70</td>
<td>$255,784.70</td>
<td>$265,000.00</td>
<td>0.965225</td>
<td>Over Budget</td>
<td>1</td>
<td>On Schedule</td>
</tr>
</tbody>
</table>

The forth case is exactly like the third case, it shows that the manager started to overcome one of the problems while still another one still appeared. The expenditure are still over what it is planned but the time usage is on the schedule which mean the manager now implemented all assigned activities but still the budget is over what supposed to be.

According to this case, the project manager would try to minimize the expenditures in a time that there is no problem with the time;

1. The project is over budget.

2. The project is on schedule.
Conclusion:
This project is a good example of the importance of earned value and cost control for any manager during the supervision of his/her work. It would in following the project during implementation and helping in the assurance of proceeding the project as planned for. During following the progress of the project, the manager would be able to be aware of any obstacles noticed in both Time & Cost which is one of the most important three principles of Management added to Quality.
References:


