信管网资料

信息系统项目管理师项目费用管理（中英文对照）知识

Project Cost Management includes the pr ocesses required to ensure that the project is completed within the approved budget. Figure 7-l provides an overview of the following major processes:
项目费用管理包括在批准的预算内完成项目所需的过程。图 7-1 提供下面各过程的概括。

7.l Resource Planning—determining what resources (People, equipment, materials) and what quantities of each should be used to perform project activities.
编制资源计划－确定执行每个项目工序所需何种资源（人员、设备、材料）及其数量。

7.2 Cost Estimating —developing an approximation (estimate) of the costs of the resources needed to co mplete project activities.
费用估算－编制完成项目工序所必须的资源费用的估计。

7.3 Cost Budgeting —allocating the overall cost estimate to individual work items.
费用预算－将总费用分配到单个工作项目上。

7.4 Cost Control—controlling changes to the project budget.
费用控制－控制项目预算变更。

These processes interact with each othe r and with the processes in the other knowledge areas as well. Each process may involve effort from one or more individuals or groups of indi viduals based on the needs of the project. Each process generally occurs at least on ce in every project phase.
这些过程相互之间以及同其它知识领域的过程交互作用。每个过程包含了基于项目需求的个人或集体的努力。每个过程在每个项目阶段一般至少发生一次。

Although the processes are pres ented here as discrete el ements with well-defined interfaces, in practice they may overlap and in teract in ways not detailed here. Process interactions are discussed in detail in Chapter 3.
尽管这里描述的过程有定义很好的接口，并且是独立、离散的要素，实际上它们以这里未描述的方式重叠和交互作用。第 3 章中详细讨论过程的交互作用。

Project cost management is primarily concerned with the cost of the resources needed to complete project activities. Howe ver, project cost management should also consider the effect of project decisions on the cost of using the project product. For example, limiting the number of design reviews may reduce the cost of the project at the expense of an increase in the customer 's operating costs. This broader view of project cost management is often called life-cycle costing.
项目费用管理主要关心的是完成项目工序所需资源的费用。但是也应考虑在使用项目产品的费用上的决策影响。例如，限制设计审核次数可能减少项目费用，但却增加顾客运行费用。这种广义的观点常称为全寿命期费用计算。

In many application areas predicting a nd analyzing the prospective financial performance of the project product is done outside the project. In others (e.g., capital facilities projects), project cost management also includes this work. When such predictions and analysis are included, project cost manage ment will include additional processes and numerous general management techniques such as return on investment, discounted cash flow, payback analysis, and others.
在许多应用领域中，项目产品的未来财务执行情况的预测和分析在项目以外进行。在其它领域（如固定资产项目），项目费用管理也包括这个工作。当包括这样的预测和分析时，项目费用管理将包括附加的过程和许多一般管理技术，例如投资回报、折算费用流、回收期分析等。

Project cost management should consider the information needs of the project stakeholder—different stakeholders may meas ure project costs in different ways and at different times. For example, the cost of a procurement item may be measured when committed, ordered, delivered, incurred, or recorded for accounting purposes.
项目费用管理应考虑项目利害关系者需要的信息－不同的利害关系者在不同的时间以不同的方式计算费用。例如，一个采购项目的费用可能在承诺、订货、发货、收货或会计记账时计算。

When project costs are used as a component of a reward an d recognition system (reward and recognition systems are discus sed in Section 9.3.2.3), controllable and uncontrollable costs should be estimated and budgeted separately to ensure the rewards reflect actual performance.
当项目费用被用作奖励和认可系统（见 9.3.2.3 节）的一个组成部分时，为确保奖励放映实际的执行情况，可控的和不可控的费用应分别估计和预算。

On some projects, especially smaller ones, resource planning, cost estimating, and cost budgeting are so tightly linked that they are viewed as a single process (e.g., they may be performed by a single individual over a relatively short period of time). They are presented here as distinct processes because the tools and techniques for each are different.
在一些项目，特别是小项目中，编制资源计划、费用估算、费用预算联系很紧密，它们被看做一个过程（例如，它们可以由一个人在一段短时间内完成）。但由于每个过程所使用的工具和技术不同，在此仍按不同的过程分别介绍。

7.1 Resource Planning （编制资源计划）
Resource planning involves determining what physical resources (people, equipment, materials) and what quantities of each should be used to perform project activities. It must be closely coordinated with cost estimating (described in Section 7.2). For example:
编制资源计划就是确定完成项目工序需要何种物质资源（人、设备、材料）以及每种资源需要多少。它必须同费用估算（见 7.2 节）紧密结合。例如：
.A construction project team will need to be familiar with local building codes. Such knowledge is often readily available at virtually no cost by using local labor. However, if the 1ocal labor pool lacks experience with unusual or specialized construction techniques, the additional cost for a consultant mwht be the most effective way to secure knowledge of the local building codes.

一个建设项目队伍需要熟悉当地的建筑法规。这类知识常可通过使用当地人而基本不付任何代价来获得。然而，如果当地的人力资源缺乏特殊或专门的施工技术经验，则要支付一笔费用聘请一位咨询人员，这可能是了解当地建筑法规最有效的方式。

.An automotive design team should be fa miliar with the latest in automated assembly techniques. The requisite know ledge might be Obtained by hiring a consultant, by sending a designer to a semi nar on robotics, or by including someone from manufacturing as a member of the team.
一个汽车设计队伍应熟悉最新的自动装配技术。这些知识可由下列方式获得：聘请一位咨询人员、派技术人员参加机器人研讨会、把一位从事制造的人员招入项目队伍。

7.1.1 Inputs to Resource Planning （编制资源计划的输入）
.1 Work breakdown structure. The work breakdown stru cture (WBS, described in Section 5.3.3.1) identifies the project elements that will need resources and thus is the primary input to resource planning. Any relevant outputs from other planning processes should be provid ed through the WBS to ensure proper control.
.1 工作分解结构。工作分解结构（见 5.3.3.1 节）确定需要资源的项目要素，它是编制资源计划的主要输入。其它计划过程的输出应由 WBS 提供。

.2 Historical information. Historical information regarding what types of resources were required for similar work on previous projects should be used if available.
.2 历史信息。在可能的条件下，应该使用以前类似工作所需资源的这一历史信息。

.3 Scope statement. The scope statement (described in Section 5.2.3.l) contains the project justification and the project obje ctives, both of which should be considered explicitly during re source planning.
.3 范围说明。范围说明（见 5.2.3.1 节）包括项目合理性和项目目标，两者都应在资源计划中明确地予以考虑。

.4 Resource pool description. Knowledge of what res ources (peop1e, equipment, material) are potentially available is necessary for resource planning. The amount of detail and the level of specificity of the resource pool description will vary For example, during the early phases of an e ngineering design pr oject, the pool may include "junior and senior engineers" in large numbers. During later phases of the same project, however, the pool may be limited to those individuals who are knowledgeable about the project as a result of having worked on the earlier phases.
.4 资源库说明。在编制资源计划时需要了解哪些资源（人、设备、材料）可供使用。资源库说明的细节数量和特性水平是不同的。例如，在工程设计项目的早期阶段，资源库中有大量的“工程师和高级工程师”。在后期阶段，资源库中仅限于那些因为参加了早期阶段而熟悉本项目的人员。

.5 Organizational policies. The policies of the performing organization regarding staffing and the rental or purchase of s upplies and equipment must be considered during resource planning.
.5 组织政策。在编制资源计划时，必须考虑执行组织关于人员、租用或购买物资和设备的

政策。

7.1.2 Tools and Techniques for Resource Planning（编制资源计划的工具和技术）

.1 Expert judgment. Expert judgment will often be required to assess the inputs to this process. Such expertise may be provided by any group or individual with specialized knowledge or trai ning and is available from many sources including:

.1 专家判断。经常需要专家判断来评估本过程的输入。这些专业技术由具有专门知识或经过培训的团体和个人提供，可能的来源包括：

Other units within the performing organization.

执行组织的其它单位。

Consultants.

顾问。

Professional and technical associations.

专业和技术协会。

Industry groups.

工业集团。

.2 Alternatives identification. Alternatives identification is discussed in Section 5.2.2.3.

.2 替代方案的确定。替代方案的确定见 5.2.2.3 节。

7.1.3 Outputs from Resource Planning（编制资源计划的输出）

1 Resource requirements. The output of the resource planning process is a description of what types of resources are required and in what quantities for each element of the work breakdown structure. These resources will be obtained either through staff acquisition (described in Section 9.2) or procurement (described in Chapter 12).

.1 资源需求。编制资源计划过程的输出是一份说明书，说明工作分解结构中各个组成部分需要何种类型的资源和数量。这些资源将通过人员招募（见 9.2 节）和采购（见第 12 章）获得。

7.2 Cost Estimating（费用估算）

Cost estimating involves developing an a pproximation (estimate) of the costs of the resources needed to co mplete project activities.

费用估算是编制一个为完成项目活动所必需的资源费用的近似估计。

When a project is performed under contract, care should be ta ken to distinguish cost estimating from pricing. Cost estimating involves developing an assessment of the likely quantitative resul-ow much will it cost the performing organization to provide the product or service involved. Pr icing is a business decision—how much will the performing organization charge for the product or service—that uses the cost estimate as but one consideration of many.

当项目按合同进行时，应注意区分费用估算和费用报价。费用估算是编制可能定量结果的评估－为提供产品或服务，执行组织要付出多少费用。报价是一个商业决策－对于产品或服务执行组织要收取多少费用－费用估算仅仅是需要考

虑的众多因素之一。
Cost estimating includes id entifying and considering various costing alternatives. For examp1e, in most application areas, additional work during a design phase is widely held to have the potential for reducing the cost of th e production phase. The cost estimating process must consider whet her the cost of the additional design work will offset the expected savings.
费用估算包括确定和考虑各种各样的费用估算方案。例如，在大多数应用领域中，普遍认为在设计阶段多做些工作有可能节省生产阶段的费用。费用估算过程必需考虑这种附加的设计工作能否抵消期望的费用节省额。

7.2.1 Inputs to Cost Estimating（费用估算的输出）
.1 Work breakdown structure. The WBS is described in Section 5.3.3.1. It will be used to organize the cost estimates and to ensure the all identified work has been estimated.
.1 工作分解结构。WBS 见 5.3.3.1 节。它用于组织费用估算并确保所有已确定的工作已被估算。
.2 Resource requirements. Resource requirements are described in Section 7.1.3.1.
.2 资源需求。资源需求见 7.1.3.1 节。
.3 Resource rates. The individual or group prepar ing the estimates must know the unit rates (e.g., staff cost per hour, bul k material cost per cubic yard) for each resource in order to ca1cula te project costs. If actual rates are not known, the rates themselves may have to be estimated.
.3 资源单价。在计算项目服时，准备估算的个人和集体必需知道各种资源的单价（例如，每小时人工费，每立方码大宗材料费用）。如果不知道每种资源费用，单价本身必需评估。
.4 Activity duration estimates. Activity duration estimates (described in Section 6.3) will affect cost estimates on any project where the project budget includes an allowance 1for the cost of financing
. . . . . .
(i.e., interest charges).
.4 工序工期估计。如果项目预算中包括资金的附加费用（即利息），工序工期估计（见 6.3 节）将影响其费用估算。

.5 Historical information. Information on the cost of many categories of resources is often available from one or more of the following sources:
.5 历史信息。许多种类的资源费用信息可从下列一个或多个来源获得：
z Project file—some or more of the orga nizations involved in the project may maintain records of previous project results that are detailed enough to add in developing cost estimates. In so me application areas, individua1 team members may maintain such records.
项目档案－参与项目的一个或多个组织保存以前项目结果的记录，它们有助于进行费用估计。在一些应用领域中，个人成员也保存有这样的记录。

z Commercial cost estimating databases—historical information is often available commercially.
商业费用估计数据库－历史信息通常具有商业用途。

z Project team knowledge—the individual members of the project team may remember previous actual or estimat es. While such recollections may be useful, they are generally far less reliable than documented results.
项目队伍的知识－项目队伍成员可能记得以前的实际或估计费用。虽然这些记忆信息可能很有用，但它们一般远不如档案记录的结果可靠。

.6 Chart of accounts. A chart of accounts describes the coding structure used by the performing organization to report financial information in its general ledger 2Project cost estimates must be assign ed to the correct accounting category.
.6 账目表。账目表是执行组织在其通用账目中用来报告财政信息的编码结

1
n.津贴，补助
2
n.总帐，分类帐构。项目费用估计必需被赋予正确的账目分类。

7.2.2 Tools and Techniques for Cost Estimating （费用估算的工具和技术）
.1 Analogous estimating. Analogous estimating, also called top-down estimating, means using the actual cost of a previous, similar project as the basis for estimating the cost of the current project. It is frequently used to estimate total project costs when there is a limited amount of detailed info rmation about the project (e.g., in the early phases). Analogous estimating is a form of expert judgment (described in Section 7.1.2.1).
.1 类比估算。类比估算也叫自上而下估算，就是利用以前类似的项目费用作为基础估算当前项目的费用。当项目可用信息有限时（如项目的早期阶段），常采用这种方法估算项目总费用。类比估算是专家判断的一种形式（见 7.1.2.1 节）。

Analogous estimating is generally less costly than other technique s, but it is also generally less accurate. It is most reliable when (a) the previous projects are similar in fact and not just in appearance, and (b) the individuals or groups preparing the estimates have the needed expertise.
类比估算比其它方法便宜，但精度较低。在以下条件下它是可靠的：(a)以前的项目在实质上而不是表面上相似，(b)进行估算的个人或团体有必需的专业技术。

.2 Parametric modeling. Parametric modeling involves using project characteristics (parameters) in a mathemati cal model to predict project costs. Models may be simple (residential home construction will cost a certain amount per square foot of living space) or complex (one model of software development costs uses 13 separate adjustment factors each of which has 5-7 points on it).
.2 参数模型。参数模型法是将项目特点（参数）用数学模型方式来预测项目费用。模型可以是简单的（住宅建设每平方尺居住面积花费多少）或复杂的（软件开发费用的一个模型使

用 13 个单独的调整因子，而每个因子又有 5-7 个要素）。

Both the cost and accuracy of parametric models varies widely They are most likely to be reliable when (a) the historical information used to develop the model was accurate, (b) the parameters used in the m odel are readily quantifiable, and (c) the model is scalable (i.e., it works as well for a very large project as for a very small one).
参数模型法的费用和精度变化很大。它们在以下时候是可靠的：(a)用于开发模型的历史信息是精确的，(b)模型中使用的参数被量化，(c)模型可按比例调整的（就是，大型项目和小型项目同样使用）。

.3 Bottom-up estimating. This technique involves estimating the cost of individual work items, then summarizing or rolling-up the individual estimates to get a project total.
.3 自下而上估算。这个技术是先估算各个单位工作的费用，然后汇总单个费用得出项目整个费用。

The cost and accuracy of bottom-up estimating is driven by the size of the individual work items: smaller work items increase both cost and accuracy The project management team must weigh the additional accuracy against the additional cost.
自下而上估算的精度和费用取决于单个工作项目的大小：

.4 Computerized too1s. Computerized tools such as project management software and spreadsheets are widely used to assist with co st estimating. Such products can simplify the use of the tools described above an d thereby facilitate rapid consideration of many costing alternatives.
.4 电脑化工具。项目管理软件和电子表格等电脑化工具广泛用于辅助费用估算。这些产品简化上述工具的使用，提高考虑多种替代方案的速度。

7.2.3 Outputs from Cost Estimating（费用估算的输出）
.1 Cost estimates. Cost estimates are quantitative assessments of the likely costs of the resources required to complete proj ect activities. They ma y be presented in summary or in detai1.
.1 费用估算。费用估算是对完成项目工序所需的资源的可能费用的量化估计。它可以表达得很概括或详细。

Costs must be estimated for all resources that will be charged to the project. This includes, but is not limited to, labor, materials, supplies, and special categories such as an inflation allowance or cost reserve.
必需对项目上支出的所有资源进行估算。它们包括，但不限于，人力、材料、设备和一些特殊种类，如通货膨胀补贴或费用储备等。

Cost estimates are generally expressed in units of currency (dollars, francs, yen,

etc.) in order to facilitate comparisons both within and across projects. Other units such as staff hours or staff days may be used, unless doing so will misstate project costs (e.g., by failing to differentiate among resources with very different costs). In some cases, estimates will have to be provided using multiple units of measure in order to facilitate appropriate management control.
费用估算一般以货币单位（美元、法郎、日元等）表示，以便项目内或项目间进行比较。也可以采用其它一些单位，如工日和工时，除非这样做会对费用估算产生误解（比如，错误区分具有很大差别费用的资源）。在某些情况下，估算必需采用多种计量单位以有利于合适的管理控制。

Cost estimates may benefit from being refined during the course of the project to reflect the additional detail available. In some application areas, there are guidelines for when such refinements should be made and what degree of accuracy is expected. For example, AACE International has iden tified a progression of five types of estimates of construction costs during engi neering: order of magnitude, conceptual, preliminary definitive, and control.
费用估算收益于项目进展过程的细化结果，以便反映有利的辅助细节。在某些应用领域，它们是何时进行这种细化和精确到什么程度的指南。例如，美国国际造价师协会已经定义了工程中建设估算的五种级别：量级估算、概念估算、初步估算、最终估算和控制估算。

.2 Supporting detai1. Supporting detail for the cost estimates should include:
.2 辅助细节。费用估算的辅助细节包括：

z A description of the scope of work es timated. This is often provided by a reference to the WBS.
需要估算的工作范围的描述。它通常由 WBS 的参考资料提供。

z Documentation of the basis for the estimate, i.e., how it was developed.
估算依据的文档，即估算是如何编制的。

z Documentation of any assumptions made.
任何作做的假定的文档。

z An indication of the range of possible results, for example, $10,000 ± $l,000 to indicate that the item is expected to cost between $9,000 and $11,000.
可能结果的范围说明，例如，$10,000 ± $l,000 表示该项目的期望费用在$9,000 和$11,000 之间。

The amount and type of additional detail varies by application area. Retaining even rough notes may prove valuable by pr oviding a better understanding of how the estimate was developed.
辅助细节的数量和类型随应用领域变化。即便保留粗略的资料对更好理解估算的编制过程都被证明是很有价值的。

.3 Cost management plan. The cost management plan describes how cost variances will be managed (e.g., different re sponses to major problems than to minor ones). A cost management plan may be formal or informal, highly detailed or broadly framed based on the needs of the project stake holders. It is a subsid iary element of the overall project plan (d iscussed in Section 4.1.3.1).

.3 费用管理计划。费用管理计划描述如何管理费用偏差（大问题和小问题的应对措施是不同的）。费用管理计划可以是正式的或非正式的、非常详尽的或粗略的，这取决于项目利害关系者的需要。费用管理计划是整体项目计划（见 4.1.3.1 节）的一个辅助要素。

7.3 Cost Budgeting（费用预算）

Cost budgeting involves allocating the overall cost estimates to individual work items in order to establish a cost base line for measuring project performance.

费用预算就是将整个费用估算分配到单个工作项目中，其目的是为了建立一个衡量项目执行情况的费用基准。

7.3.1 Inputs to Cost Budgeting（费用预算的输入）

.1 Cost estimates. Cost estimates are described in Section 7.2.3.1.

.1 费用估算。费用估算见 7.2.3.1 节。

.2 Work breakdown structure. The work breakdown structure (described in Section 5.3.3.l) identifie s the project elements that costs will be allocated to.

.2 工作分解结构。工作分解结构（见 5.3.3.1 节）确定需要分配费用的项目要素。

.3 Project schedu1e. The project schedu1e (described in Section 6.4.3.1) includes planned start and expected finish dates for the project elements that costs will be allocated to. This information is needed in order to assign costs to the time period when the cost will be incurred.

.3 项目进度计划。项目进度计划包括了需要分配费用的项目要素的计划开始日期和预期完成日期。这个信息是将费用分配到其发生的时段上去所必需的。

7.3.2 Tools and Techniques for Cost Budgeting （费用预算的工具和技术）

.1 Cost estimating tools and techniques. The tools and tec hniques described in Section 7.2.2 for developing project cost estimates are used to develop budgets for work items as well.

.1 费用估计的工具和技术。7.2.2 节介绍的费用估计所使用的工具和技术也可用于编制工作项目的要素。

7.3.3 Outputs for Cost Budgeting（费用预算的输出）

.1 Cost baseline. The cost baseline is a time-phased budget that will be used to measure and monitor cost performance on the project. It is developed by summing estimated costs by period and is usually displayed in the form of an S-curve, as illustrated in Figure 7-2.

.1 费用基准。费用基准是一个按时间分段的预算，它用于衡量和监督项目的费用执行情况。按时段将估算的费用叠加起来可得到费用基准，它经常用 S 曲线的形式表示，如图 7-2。

Many projects, especially larger ones, may have multiple cost baselines to measure different aspects of cost performance. For example, a spending plan or cash flow forecast is a cost baseline for measuring disbursements.
许多项目，特别是大项目，具有多个费用基准来衡量费用执行情况的不同方面。例如，开支计划或现金流预测是衡量支付的费用基准。

7.4 Cost Control（费用控制）
Cost control is concerned with (a) infl uencing the factors which create changes to the cost baseline to ensure that changes are beneficial, (b) determining that the cost baseline has changed, and (c) managing the actual changes when and as they occur. Cost control includes:
费用控制的内容有：(a)对造成费用基准变更的因素施加影响，确保变更是有益的，(b)确定费用基准产生变更，(c)当变更发生时进行管理。费用控制包括：
z Monitoring cost performance to detect variances from plan.
监视费用执行情况并寻找出与计划的偏差。
z Ensuring that all appropriate changes ar e recorded accurately in the cost baseline..
确保所有适合的变更精确地记录在费用变更中。
z Preventing incorrect, inappropriate, or unauthorized changes from being included in the cost baseline.
防治错误的、不适宜的或未核准的变更包括在费用基准中。
z Informing appropriate stakeholde rs of authorized changes.
将核准的变更通知合适的利害关系者。

Cost control includes searching out the "whys" of both positive and negative variances. It must be thoroughly integrated with the other contro l processes (scope change control, schedule control, quality c ontrol, and others as discussed in Section 4.3). For example, inappropria te responses to cost vari ances can cause quality or schedule problems or produce an unacceptable level of risk later in the project.
费用控制包括找出产生正负偏差的“原因”。它必须同其它控制过程紧密结合（范围变更控制、进度控制和 4.3 节中讨论的其它控制）。例如，对费用偏差采取不适宜的应对措施会造成质量或进度的问题，或者产生项目今后无法接受的风险水平。

7.4.1 Inputs to Cost Control（费用控制的输入）
.1 Cost base1ine. The cost baseline is de scribed in Section 7.3.3.l.
.1 费用基准。费用基准见 7.3.3.1 节。
.2 Performance reports. Performance reports (discussed in Section 10.3.3.l) provide information on cost performance such as which budgets have been met and which have not. Performance reports may also alert the project te am to issues which may cause problems in the future.
.2 执行报告。执行报告（见 10.3.3.1 节）提供费用执行情况的信息，即哪些预算已满足，哪些没有达到。执行报告也提醒项目队伍注意将来可能造成问题的事项。

.3 Change requests. Change requests may occur in many forms—oral or

written, direct or indirect, ex ternally or internally initi ated, and legally mandated or optional. Changes may require increasing the budget or may allow decreasing it.
.3 变更请求。变更请求有许多形式－口头或书面，直接或间接，外部或内部产生的，法律强制或随意选择的。变更可能需要增加或减少预算。

.4 Cost management Plan. The cost management plan is described in Section 7.2.3.3.
.4 费用管理计划。费用管理计划见 7.2.3.3 节。

7.4.2 Tools and Techniques for Cost Control （费用控制的工具和技术）
.1 Cost change control System. A cost change control system defines the procedures by which the cost baseline ma y be changed. It includes the paperwork, tracking systems, and approval levels nece ssary for authorizing changes. The cost change control system should be integrated with the overall change control system discussed in Section 4.3.
.1 费用变更控制系统。费用变更控制系统定义费用基准产生变更的过程。它包括文书工作、跟踪系统和授权变更所需的批准水平。费用变更控制系统应同整体变更控制系统（4.3 节）结合起来。

.2 Performance measurement. Performance measurement techniques, described in Section 10.3.2, help to assess the magnit ude of any variations which do occur. Earned value ana1ysis, desc ribed in Section 10.3.2.4, is especially useful for cost control. An important part of cost control is to determine what is causing the variance and to decide if the variance requires corrective action.
.2 执行情况衡量。执行情况衡量技术（见 10.3.2 节）帮助评估任何发生的偏差的大小。挣值分析（见 10.3.2.4 节）费用控制特别有用。费用控制的一个重要部分是确定什么造成了偏差和决定是否需要采取纠正措施。

.3 Additional planning. Few projects run exactly according to plan. Prospective changes may require new or revised cost estimates or analysis of alternative approaches.
.3 辅助计划编制。很少的项目精确按计划进行。预期的变更可能需要新的或修正的费用估算或替代方法的分析。

.4 Computerized tools. Computerized tools such as project management software and spreadsheets are often used to track planne d costs vs. actual costs, and to forecast the effects of cost changes.

.4 电脑化工具。电脑化工具，如项目管理软件和电子表格，常用于跟踪计划费用和实际费用，来预测费用变更的影响。

7.4.3 Outputs from Cost Control（费用控制的输出）
.1 Revised cost estimates. Revised cost estimates are modifications to the cost information used to manage the project. Appr opriate stakeholders must be notified as needed. Revised cost estimates may or may not require adjustments to other aspects of

the overall project plan.
.1 修正的费用估算。修正的费用估算是对用于管理项目的费用信息的修改。必须通知合适的项目利害关系者。修正的费用估算可能需要，也可能不需要对整体项目计划的其它方面进行调整。

.2 Budget updates. Budget updates are a special category of revised cost estimates. Budget updates are changes to an approved cost baseline. These numbers are generally revised only in response to scope changes. In some cases, cost variances may be so severe that "rebaselining" is needed in order to provide a realistic measure of performance.
.2 预算更新。预算更新是一类特殊的修正的费用估算。预算更新是对已批准的费用基准的修改。这些数字一般只针对范围变更做修正。在某些情况下，费用偏差非常严重，需要“重定基准”来提供执行情况的真实衡量。

.3 Corrective action. Corrective action is anything done to bring expected future project performance into line with the project plan.
.3 纠正措施。纠正措施是确保项目按计划执行所采取的措施。

.4 Estimate at completion. An estimate at completion (EAC) is a forecast of total project costs based on project performance. The most co mmon forecasting techniques are some variation of :
.4 完成估算。完成估算（EAC ）是按照项目执行情况对项目总费用的预测。最常用的预测技术有下面几种：
z EAC = Actual to date plus the re maining project budget modified by a performance factor, often the cost. performance index described in Section 10.3.2.4. This approach is most often used when current variances are seen as typical of future variances.
EAC ＝当前的实际费用加上经执行因子修改的剩余项目预算，执行因子为 10.3.2.4 节中描述的费用执行指数。当将当前偏差看做未来偏差时，这种方法经常使用。

z EAC = Actual to date plus a new es timate for all remaining work. This approach is most often used when past performance shows that the original estimating assumptions were fundamental flawed, or that they are no longer relevant due to a change in conditions.
EAC ＝当前的实际费用加上对所有剩余工作的新的估算。当过去的执行情况表明初始的估计假定有本质缺陷，或者由于条件的变化它们不在适合的情况下，这种方法经常使用。

z EAC = Actual to date plus remaining budget. This approach is most often used when current variances are seen as atypical3and the project management team's expectation is that similar variances will not occur in the future.
EAC ＝当前的实际费用加上剩余的项目预算。当当前偏差是特例以及项目管理队伍希望类似的偏差不在未来发生时，这种方法经常使用。

Each of the above approaches may be th e correct approach for any given work item.
对任何一个给定的工作项目，上述中的某一个可能是正确的方法。

.5 Lessons learned. The causes of variances, the reasoning behind the corrective action chosen, and other types of lessons learned from cost control should be documented so that they become part of th e historical database for both this project and other projects of the performing organization.
.5 得到的教训。产生偏差的原因、选择纠正措施的推理以及其它类型的教训都应记录下来，它们成为执行组织的这个项目和其它项目的历史数据库。