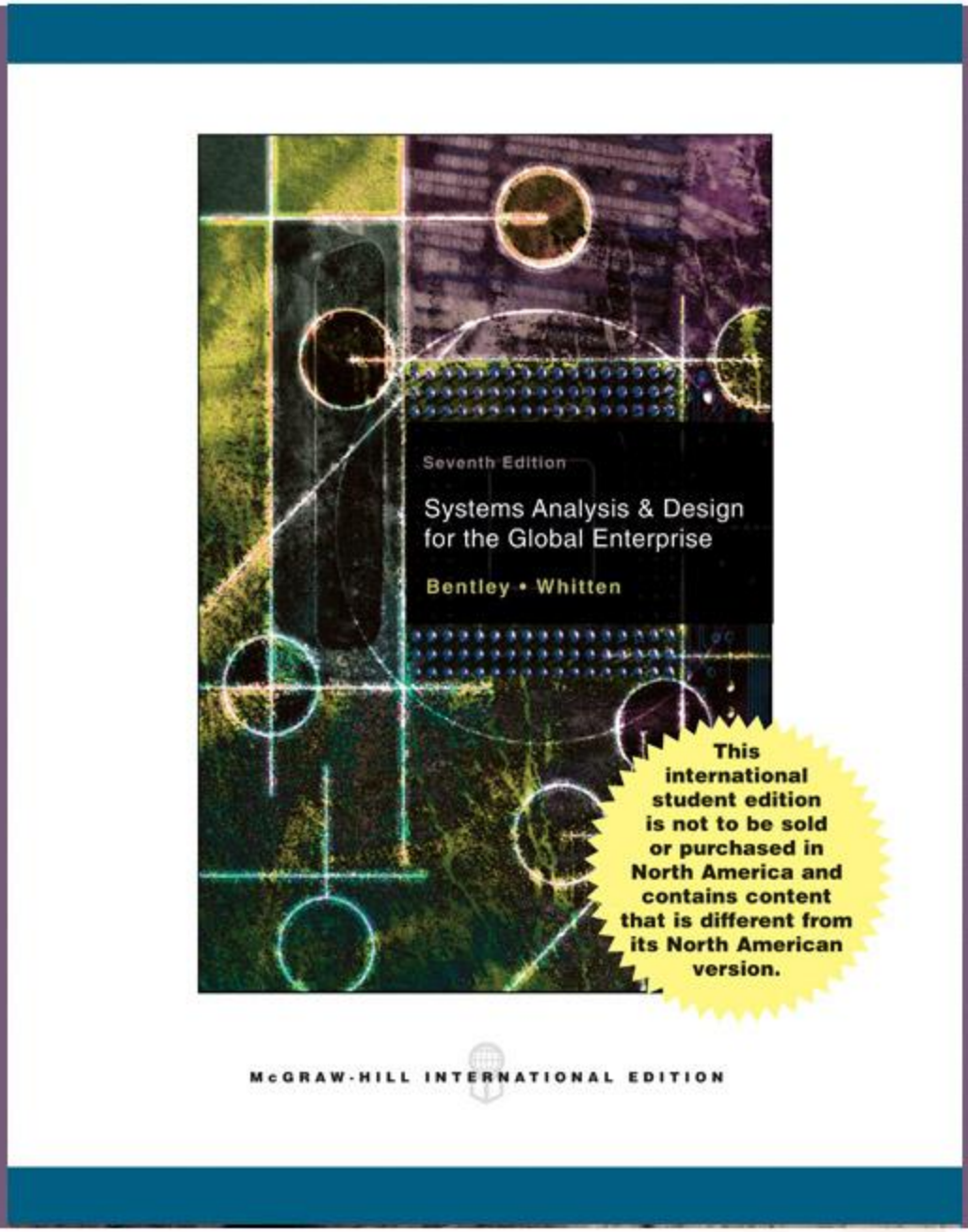
Seventh Edition
Systems Analysis & Design for the Global Enterprise
Bentley • Whitten
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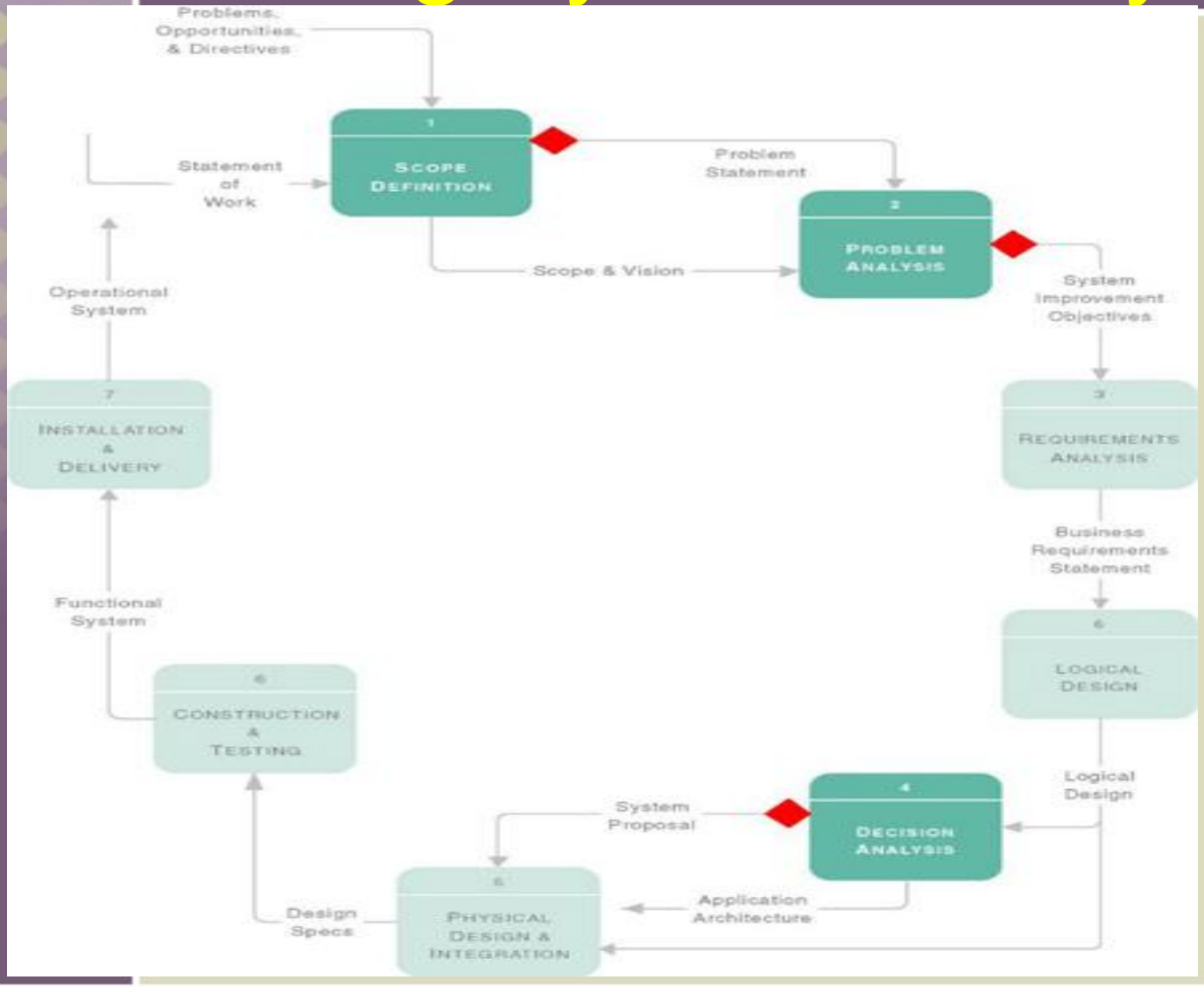
McGRAW-HILL INTERNATIONAL EDITION

Objectives

- Payback Analysis
- Return On Investment
- Net Present Value
- EV

11.1 Feasibility Checkpoints During Systems Analysis



See pp.290

Candidate Systems Matrix

Characteristics	Candidate 1	Candidate 2	Candidate 3	Candidate ...
Portion of System Computerized Brief description of that portion of the system that would be computerized in this candidate.	COTS package Platinum Plus from Entertainment Software Solutions would be purchased and customized to satisfy Member Services required functionality.	Member Services and warehouse operations in relation to order fulfillment.	Same as candidate 2.	
Benefits Brief description of the business benefits that would be realized for this candidate.	This solution can be implemented quickly because it's a purchased solution.	Fully supports user required business processes for SoundStage Inc. Plus more efficient interaction with member accounts.	Same as candidate 2.	
Servers and Workstations A description of the servers and workstations needed to support this candidate.	Technically architecture dictates Pentium Pro, MS Windows NT class servers and Pentium, MS Windows NT 4.0 workstations (clients).	Same as candidate 1.	Same as candidate 1.	
Software Tools Needed Software tools needed to design and build the candidate (e.g., database management system, emulators, operating systems, languages, etc.). Not generally applicable if applications software packages are to be purchased.	MS Visual C++ and MS Access for customization of package to provide report writing and integration.	MS Visual Basic 5.0 System Architect 3.1 Internet Explorer	MS Visual Basic 5.0 System Architect 3.1 Internet Explorer	
Application Software A description of the software to be purchased, built, accessed, or some combination of these techniques.	Package Solution	Custom Solution	Same as candidate 2.	

Candidate Systems Matrix (cont.)

Method of Data Processing Generally some combination of: on-line, batch, deferred batch, remote batch, and real-time.	Client/Server	Same as candidate 1.	Same as candidate 1.	
Output Devices and Implications A description of output devices that would be used, special output requirements (e.g., network, preprinted forms, etc.), and output considerations (e.g., timing constraints).	(2) HP4MV department laser printers (2) HP5SI LAN laser printers	(2) HP4MV department laser printers (2) HP5SI LAN laser printers (1) PRINTRONIX bar-code printer (includes software & drivers) Web pages must be designed to VGA resolution. All internal screens will be designed for SVGA resolution.	Same as candidate 2.	
Input Devices and Implications A description of input methods to be used, input devices (e.g., keyboard, mouse, etc.), special input requirements (e.g., new or revised forms from which data would be input), and input considerations (e.g., timing of actual inputs).	Keyboard & mouse	Apple "Quick Take" digital camera and software (15) PSC Quickscan laser bar-code scanners (1) HP Scanjet 4C Flatbed Scanner Keyboard & mouse	Same as candidate 2.	
Storage Devices and Implications Brief description of what data would be stored, what data would be accessed from existing stores, what storage media would be used, how much storage capacity would be needed, and how data would be organized.	MS SQL Server DBMS with 100GB arrayed capability.	Same as candidate 1.	Same as candidate 1.	

Feasibility Matrix

Feasibility Criteria	Weight	Candidate 1	Candidate 2	Candidate 3	Candidate . . .
Operational Feasibility **Functionality**. A description of to what degree the candidate would benefit the organization and how well the system would work. **Political**. A description of how well received this solution would be from both user management, user, and organization perspective.	30%	Only supports Member Services requirements and current business processes would have to be modified to take advantage of software functionality **Score: 60**	Fully supports user required functionality. **Score: 100**	Same as candidate 2. **Score: 100**	
Technical Feasibility **Technology**. An assessment of the maturity, availability (or ability to acquire), and desirability of the computer technology needed to support this candidate. **Expertise**. An assessment of the technical expertise needed to develop, operate, and maintain the candidate system.	30%	Current production release of Platinum Plus package is version 1.0 and has only been on the market for 6 weeks. Maturity of product is a risk and company charges an additional monthly fee for technical support. Required to hire or train C++ expertise to perform modifications for integration requirements. **Score: 50**	Although current technical staff has only Powerbuilder experience, the senior analysts who saw the MS Visual Basic demonstration and presentation have agreed the transition will be simple and finding experienced VB programmers will be easier than finding Powerbuilder programmers and at a much cheaper cost. MS Visual Basic 5.0 is a mature technology based on version number. **Score: 95**	Although current technical staff is comfortable with Powerbuilder, management is concerned with recent acquisition of Powerbuilder by Sybase Inc. MS SQL Server is a current company standard and competes with SYBASE in the Client/Server DBMS market. Because of this we have no guarantee future versions of Powerbuilder will "play well" with our current version SQL Server. **Score: 60**	
Economic Feasibility **Cost to develop:** **Payback period (discounted):** **Net present value:** **Detailed calculations:**	30%	Approximately $350,000. Approximately 4.5 years. Approximately $210,000. See Attachment A. **Score: 60**	Approximately $418,040. Approximately 3.5 years. Approximately $306,748. See Attachment A. **Score: 85**	Approximately $400,000. Approximately 3.3 years. Approximately $325,500. See Attachment A. **Score: 90**	
Schedule Feasibility An assessment of how long the solution will take to design and implement.	10%	Less than 3 months. **Score: 95**	9–12 months **Score: 80**	9 months **Score: 85**	
Ranking	100%	60.5	92	83.5	

11.2 Six Tests For Feasibility

Operational feasibility – a measure of how well a solution meets the system requirements.

Cultural (or political) feasibility - a measure of how well a solution will be accepted in an organizational climate.

Technical feasibility – a measure of the practicality of a technical solution and the availability of technical resources and expertise.

Schedule feasibility – a measure of how reasonable the project timetable is.

Economic feasibility - a measure of the cost-effectiveness of a project or solution.

Legal feasibility - a measure of how well a solution can be implemented within existing legal/contractual obligations.

Operational Feasibility

- How well proposed system solves the problems and takes advantage of opportunities identified during the scope definition and problem analysis phases
- How well proposed system satisfies system requirements identified in the requirements analysis phase
- Is the problem still worth solving?

Cultural (or political) feasibility

- Does management support the system?
- How do end users feel about their role in the system?
- What end users may resist or not use the system? How can this be overcome?
- How will the working environment change? Can users and management adapt to the change?

Technical feasibility

- Is the proposed technology or solution practical?
- Do we currently possess the necessary technology?
- Do we possess the necessary technical expertise?

Schedule feasibility

- Are specified deadlines mandatory or desirable?
- Are mandatory deadlines realistic for proposed solution?

Economic feasibility

- During Scope Definition
  - Do the problems or opportunities warrant the cost of a detailed study and analysis of the current system?
- During Problem Analysis
  - After a detailed study of the current system
  - Better estimates of development costs and benefits
- During Decision Analysis
  - Requirements now defined
  - Development costs can be better estimated

Legal feasibility

- Copyrights
- Union contracts
- Legal requirements for financial reporting
- Antitrust laws
- National data and work laws

11.3 Information System Costs

- Development costs - one time costs that will not recur after the project has been completed.
- Many organizations have standard cost categories that must be evaluated. In the absence of such categories, the following list should help:
  - Personnel
  - Computer usage
  - Training
  - Supply, duplication, and equipment
  - Computer equipment and software

11.3 Information System Costs

- Operating costs - costs that recur throughout the lifetime of the system.
  - Fixed costs — occur at regular intervals but at relatively fixed rates.

    software license payment prorated salaries
  - Variable costs — occur in proportion to usage.

    costs of computer usage(e.g., CPU time used, terminal connect time used) ,which vary with the workload

    supplies(e.g., preprinted forms, printer paper used) that vary with the workload

Information System Benefits

- Tangible(有形) benefits are those that can be easily quantified(量化).

While processing student housing application, we discover that considerable data is being redundantly typed and file. An analysis reveals that the same data is typed seven times, requiring an average of 44 additional minutes of clerical work per application. The office processes 1,500 applications per year. That means a total of 66,000 minutes or 1,100 hours of redundant work per year. If the average salary of a secretary is $15 per hour, the cost of this problem and the benefit of solving the problem is $16,500 per year.

Information System Benefits

- Tangible(有形) benefits are those that can be easily quantified(量化).
  - Fewer processing errors
  - Increased throughput
  - Decreased response time
  - Elimination of job steps
  - Increased sales
  - Reduced credit losses
  - Reduced expenses

Information System Benefits

- Intangible(无形) benefits are those benefits believed to be difficult or impossible to quantify.
  - Improved customer goodwill
  - Improved employee morale
  - Better service to community
  - Better decision making

Costs for a Proposed Solution

Estimated Costs for Client-Server System Alternative

DEVELOPMENT COSTS

Personnel:

2	Systems Analysts (400 hours/ea $50.00/hr)	$40,000
4	Programmer/Analysts (250 hours/ea $35.00/hr)	$35,000
1	GUI Designer (200 hours/ea $40.00/hr)	$8,000
1	Telecommunications Specialist (50 hours/ea $50.00/hr)	$2,500
1	System Architect (100 hours/ea $50.00/hr)	$5,000
1	Database Specialist (15 hours/ea $45.00/hr)	$675
1	System Librarian (250 hours/ea $15.00/hr)	$3,750

Expenses:

4	Smalltalk training registration ($3,500.00/student)	$14,000

New Hardware & Software:

1	Development Server	$18,700
1	Server software (operating system, misc.)	$1,500
1	DBMS server software	$7,500
7	DBMS client software ($950.00 per client)	$6,650

Total Development Costs: $143,275

PROJECTED ANNUAL OPERATING COSTS

Personnel:

2	Programmer/Analysts (125 hours/ea $35.00/hr)	$8,750
1	System Librarian (20 hours/ea $15.00/hr)	$300

Expenses:

1	Maintenance Agreement for server	$995
1	Maintenance Agreement for server DBMS software	$525
	Preprinted forms (15,000/year @ .22/form)	$3,300

Total Projected Annual Costs: **$13,870**

Three Popular Techniques to Assess Economic Feasibility

- Payback Analysis
- Return On Investment
- Net Present Value

Time Value of Money

- Used with all three cost-effectiveness techniques.
- Concept that recognizes that a dollar today is worth more than a dollar one year from now.
  - Invest $100 at 2% for one year yields $102.
  - So $100 today and $102 one year from today represent the same value.
  - Given $20,000 benefit from information system two years from now and 10% return from other investments, means that benefit is worth $16,528 today.

Payback Analysis

Payback analysis – a technique for determining if and when an investment will pay for itself.

Payback period – the period of time that will lapse before accrued benefits overtake accrued and continuing costs.

Present Value Formula

Present value – the current value of a dollar at any time in the future.

$$PV_n = 1/(1 + i)^n$$

Where ***n*** is the number of years and **i** is discount rate

Discount rate – a percentage similar to interest rates that you earn on your savings.

- In most cases the discount rate for a business is the **opportunity cost** of being able to invest money in other projects or investments

Payback Analysis for a Project

	A	B	C	D	E	F	G	H	I
4	Cash flow description	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	
5	Development cost:	($418,040)							
6	Operation & maintenance cost:		($15,045)	($16,000)	($17,000)	($18,000)	($19,000)	($20,000)	
7	Discount factors for 12%:	1.000	0.893	0.797	0.712	0.636	0.567	0.507	
8	Time-adjusted costs (adjusted to present value):	($418,040)	($13,435)	($12,752)	($12,104)	($11,448)	($10,773)	($10,140)	
9	Cumulative time-adjusted costs over lifetime:	($418,040)	($431,475)	($444,227)	($456,331)	($467,779)	($478,552)	($488,692)	
10									
11	Benefits derived from operation of new system:	$0	$150,000	$170,000	$190,000	$210,000	$230,000	$250,000	
12	Discount factors for 12%:	1.000	$0.893	$0.797	$0.712	$0.636	$0.567	$0.507	
13	Time-adjusted benefits (current of present value):	$0	$133,950	$135,490	$135,280	$133,560	$130,410	$126,750	
14	Cumulative time-adjusted benefits over lifetime:	$0	$133,950	$269,440	$404,720	$538,280	$668,690	$795,440	
15		0	1	2	3	4	5	6	
16	Cumulative lifetime time-adjusted costs + benefits:	($418,040)	($297,525)	($174,787)	($51,611)	$70,501	$190,138	$306,748	
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18									
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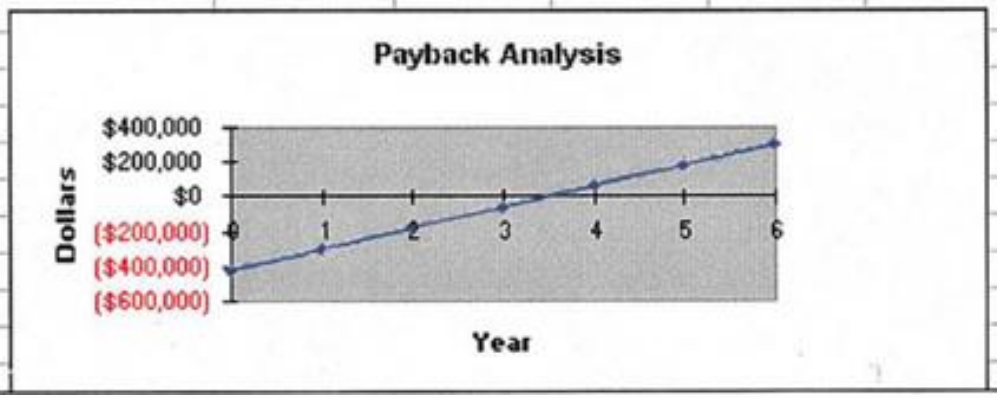


Return-on-Investment Analysis (ROI)

Return-on-Investment (ROI) analysis – a technique that compares the lifetime profitability of alternative solutions.

> The ROI for a solution or project is a percentage rate that measures the relationship between the amount the business gets back from an investment and the amount invested.

Lifetime ROI =
(estimated lifetime benefits – estimated lifetime costs) / estimated lifetime costs

Annual ROI = lifetime ROI / lifetime of the system

Net Present Value (NPV) Analysis

Net present value – analysis technique that compares annual discounted costs and benefits of alternative solutions.

	A	B	C	D	E	F	G	H	I	J
1	Net Present Value Analysis for Client-Server System Alternative									
2	(Numbers rounded to nearest $1)									
3										
4	Cash flow description	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total	
5	Development cost:	($418,040)								
6	Operation & maintenance cost:		($15,045)	($16,000)	($17,000)	($18,000)	($19,000)	($20,000)		
7	Discount factors for 12%:	1.000	0.893	0.797	0.712	0.636	0.567	0.507		
8	Present value of annual costs:	($418,040)	($13,435)	($12,752)	($12,104)	($11,448)	($10,773)	($10,140)		
9	Total present value of lifetime costs:								($488,692)	
10										
11	Benefits derived from operation of new	$0	$150,000	$170,000	$190,000	$210,000	$230,000	$250,000		
12	Discount factors for 12%:	1.000	$0.893	$0.797	$0.712	$0.636	$0.567	$0.507		
13	Present value of annual benefits:	$0	$133,950	$135,490	$135,280	$133,560	$130,410	$126,750		
14	Total present value of lifetime benefits:								$795,440	
15										
16	NET PRESENT VALUE OF THIS ALTERNATIVE:								$306,748	
17										

Earned Value Management, EMV

挣得值管理：是一种综合项目范围、时间、进度计划、成本绩效测量的方法。它通过与计划工作量、实际挣得收益、实际花费成本进行比较，从而确定成本和进度绩效是否符合原定计划,从而选取不同的对应措施，以保证最终完成项目目标。

基本概念

1. **PV (planned value)：** 计划成本。指截止到成本挣得值分析图中当前时间，计划应该完成的工作对应的预算成本，即根据批准认可的进度计划和预算到某一日期应当完成的工作所需的投入资金。PV值是项目进度是否滞后、费用是否超支的一个衡量标准。

通常：PV值在项目实施过程中应保持不变。如发生预算、计划或合同等变更，则相应的PV基准也应作相应的更改。

- 计划工作量的预算费用(BCWS)，即(Budgeted Cost for Work Scheduled)。计划成本
- BCWS是指项目实施过程中某阶段计划要求完成的工作量所需的预算工时(或费用)。
- BCWS主要是反映进度计划应当完成的工作量而不是反映应消耗的工时(或费用)。

2. 实际成本(AC):指截止到当前日期,实际已完成工作的成本总额,即在某一日期所完成工作的实际成本.该值必须符合PV值与EV值所做的预算.

- 已完成工作量的实际费用(ACWP), 即(Actual Cost for Work Performed)。(实际成本)
- ACWP是指项目实施过程中某阶段实际完成的工作量所消耗的工时(或费用)。
- ACWP主要是反映项目执行的实际消耗指标。

3. 挣值(EV):指截止到当前日期,实际完成工作对应的预算成本(已完成工作的预算成本)。该值是批准认可的预算,即到某一日期已完成工作应当投入的资金。

例:有一项任务预定在测量时间点上完工,其计划成本为1000元.但只完成这项任务的95%.这样,就完成了950元的工作量,这就是挣值(EV).

- 已完工作量的预算成本(BCWP)，即(Budgeted Cost for Work Performed)。BCWP是指项目实施过程中某阶段按实际完成工作量及按预算定额计算出来的工时(或费用)，即挣得值(Earned Value)。（挣值）
- BCWP的计算公式为：ＢＣＷＰ＝预算定额×已完工作量。
- 例如：第一周购买了服务器和软件，是完成总计划工作量的70%，你第一周的计划成本是3万元。那么你第一周的挣值就是：第一周的BCWP=70%*3万=2.1万元。即你在第一周时间点上的挣值是2.1万元。

4. BAC = Budgeted Cost at Completion（完工预算）
[完成整个项目的预算成本]

- CV = BCWP-ACWP（费用偏差） =EV-AC
[已经完成的工作是超过预算还是低于预算]
- SV = BCWP-BCWS（进度偏差）=EV-PV
[得出当前进度是提前还是滞后]
- SPI=BCWP/BCWS (SPI = Schedule Performance Index)（进度绩效指数）
- CPI=BCWP / ACWP (CPI = Cost Performance Index)（成本绩效指数）

四个评价指标

(1)成本偏差(CV,用Cost Variance):将挣值(EV)减去实际成本(AC), 即:CV=EV-AC=BCWP-ACWP.

例:已完成了950元的工作量(EV),但为完成这一工作实际花费了1100元(AC).完成这项工作比原先预想的多花了150元(CV).

- 当CV>0(即EV>AC),表明项目的实施成本处于节约状态;反之,当CV<0(EV<AC),则表明项目实施成本超支,当CV=0,表明项目实施成本与预算相符.

CV＞0　表示完成某工作量时，实际资源消耗低于计划值（如图 2. 2-3）。

CV＜0　表示完成某工作量时，实际资源消耗高于计划值（如图 2. 2-4）。

CV＝0　表示完成某工作量时，实际资源消耗等于计划值。

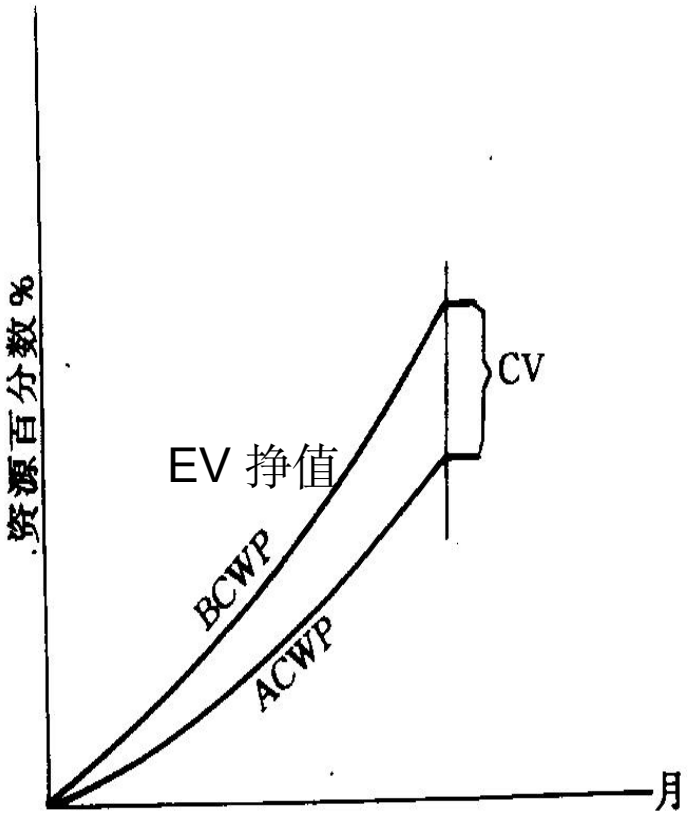


图 2. 2-3

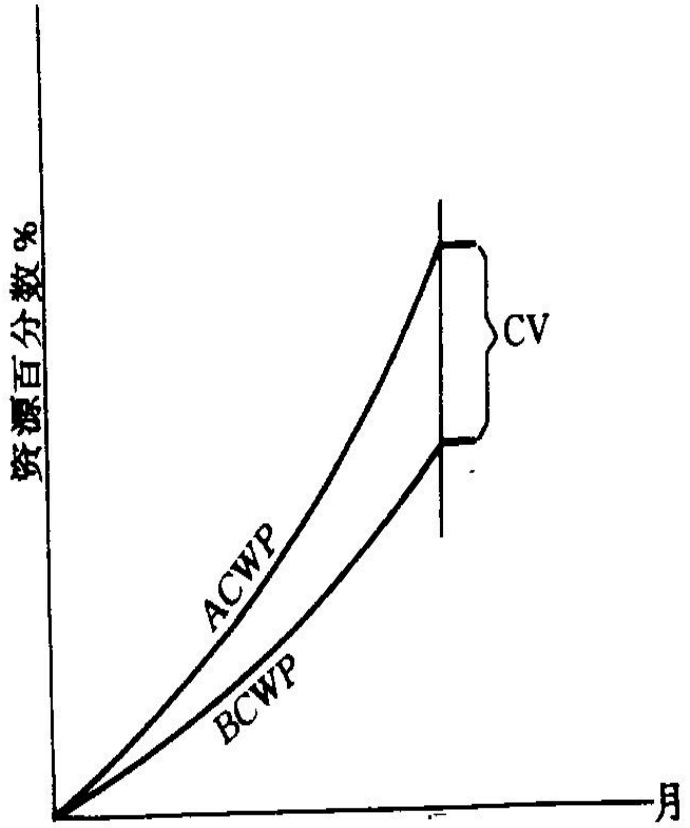


图 2. 2-4

(2) 进度偏差: SV=EV-PV = BCWP-BCWS

- [得出当前进度是提前还是滞后]
- SV>0:进度提前，SV<0:进度延误。

例:对于一项工作,原先预计到测量时间点为止会完成1000元的工作量(PV).而实际上完成了950元的工作量(EV).这样就比原计划少完成了50元的工作量.

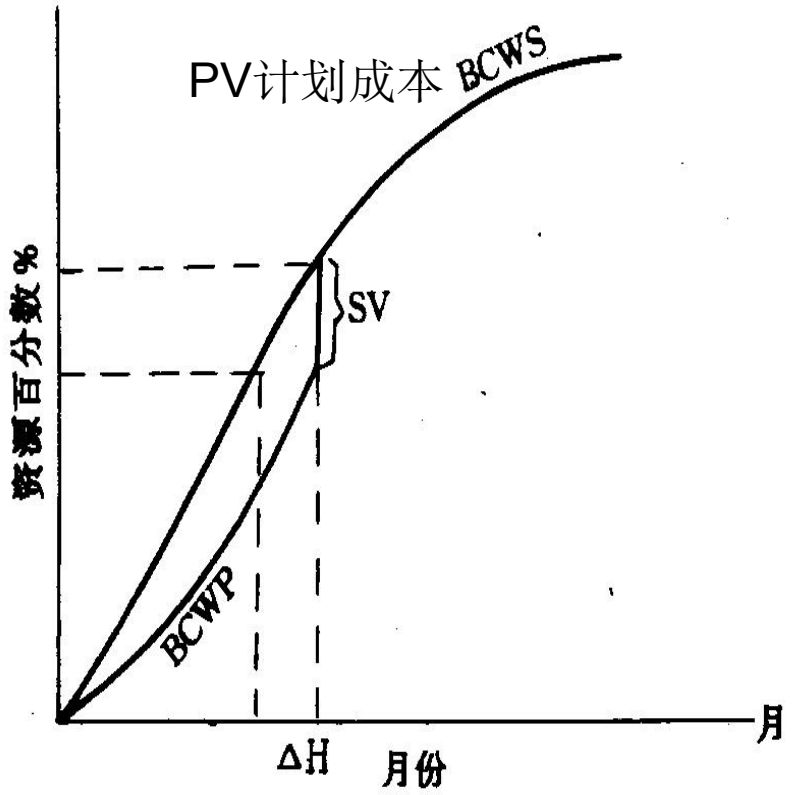


图 2.2-1

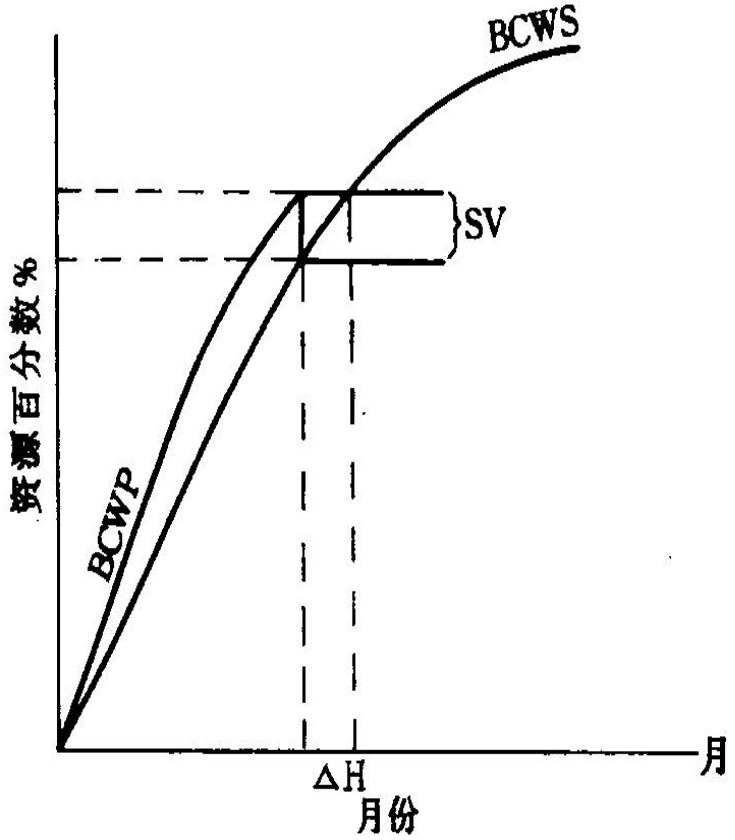


图 2.2-2

SV＞0　表示实际完成工作量超过计划预算值，即进度提前

SV＜0　表示实际完成工作量小于计划预算值，即进度拖延

SV＝0　表示实际完成工作量等于计划预算值，即符合计划进度

(3) 成本绩效指数(CPI, Cost Performance Index):挣值和实际费用的比

CPI=EV/AC.

CPI=950/1100=0.864(实际花一元完成了0.864元的工作量,成本与绩效之比)

CPI=1.0:　表明资金使用效率一般

CPI>1.0:　表明资金使用效率较高,成本节余

CPI<1.0:　表明资金使用效率低.成本超支.

(4) 进度绩效指数(SPI: Schedule Performance Index): SPI=EV/PV

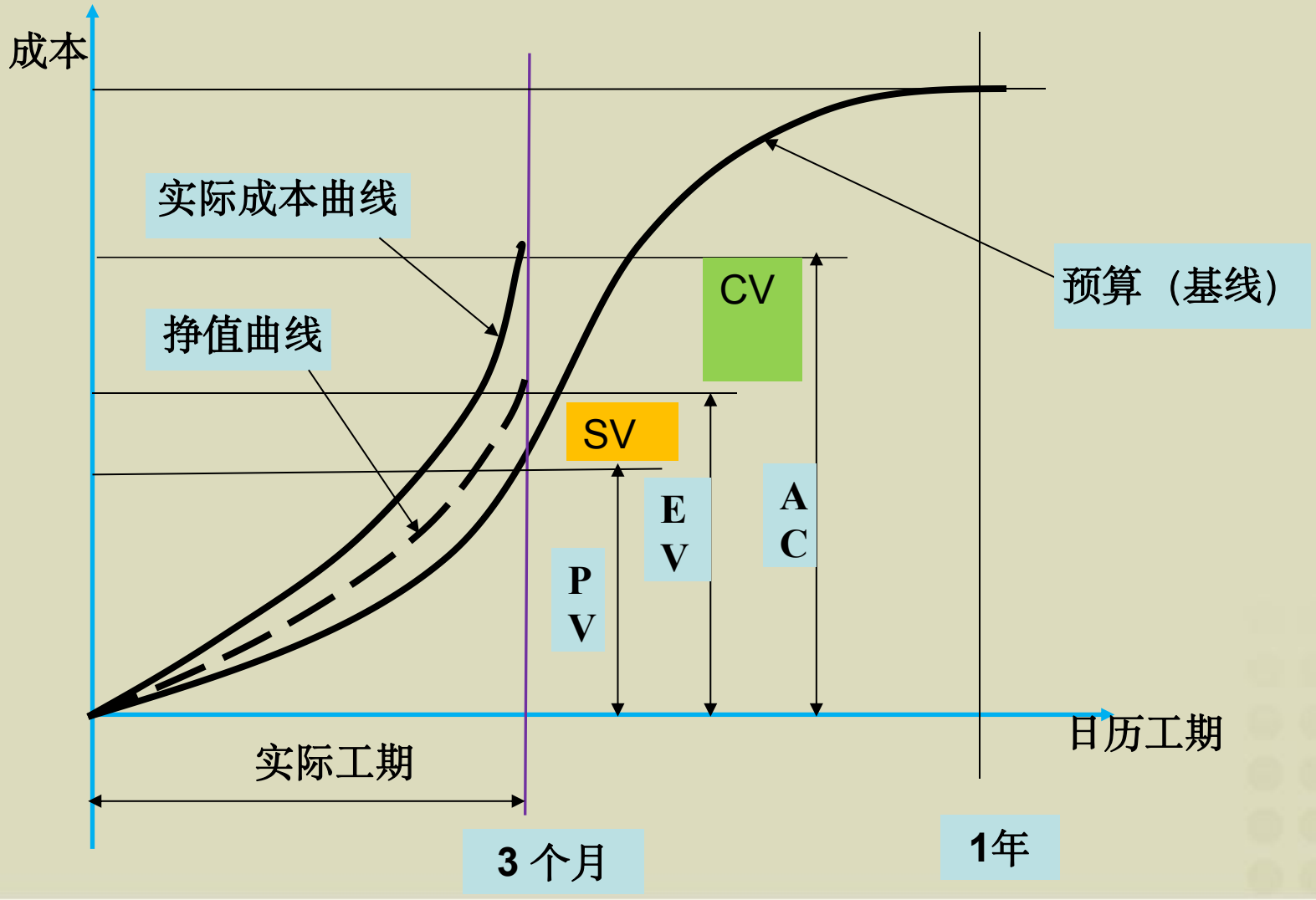
SPI=950/1000=0.95(计划完成1元的工作量,实际完成了0.95元的工作量,进度绩效之比).

SPI=1.0: 表明进度效率与计划相符

SPI>1.0: 表明进度效率较高,进度超前

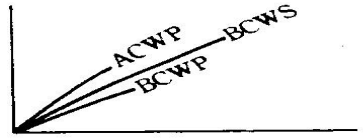
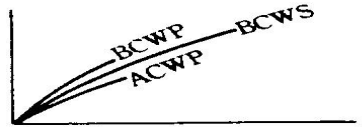
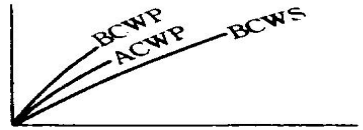
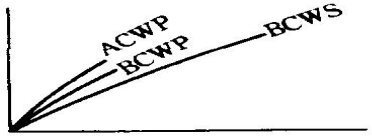
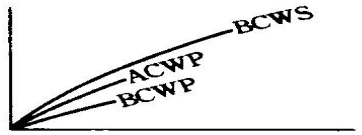
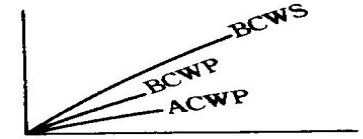
SPI<1.0: 表明进度效率较低,进度滞后

挣值曲线示意图



信息系统成本收益分析表

参数关系	偏差指标	绩效指标	调整措施
AC>PV>EV	CV=EV-AC<0,资金投入超前, SV=EV-PV<0, 进度拖延	**CPI=EV/-AC<1.0,资金使用效率低 SPI=EV/PV<1.0,进度效率低**	加强成本监控,赶工\工作并行以追赶进度， 提高工作效率
PV>AC>=EV	CV=EV-AC<=0,成本支出适当, SV=EV-PV<0, 进度拖延	CPI=EV/AC<=1.0,资金使用效率一般. SPI=EV/PV<1.0,进度效率低	加大成本投入,赶工\工作并行以追赶进度， 增加高效率工作人员
AC>=EV>PV	CV=EV-AC<=0,成本支出适当, SV=EV-PV>0, 进度提前	CPI=EV/AC<=1.0,资金使用效率一般.SPI=EV/PV>1.0,进度效率高	加大成本投入,提高整体效率,加强人员培训和质量控制
EV>PV>AC	CV=EV-AC>0,资金投入延后, SV=EV-PV>0, 进度提前	CPI=EV/AC>1.0,资金使用效率一般.配 SPI=EV/PV>1.0,进度效率高	加强质量控制,密切监控

序号	图型	三参数关系	分析	措施
1		ACWP＞BCWS＞BCWP SV＜0　　CV＜0	效率低 进度较慢 投入超前	用工作效率高的人员更换一批工作效率低的人员
2		BCWP＞BCWS＞ACWP SV＞0　　CV＞0	效率高 进度较快 投入延后	若偏离不大，维持现状
3		BCWP＞ACWP＞BCWS SV＞0　　CV＞0	效率较高 进度快 投入超前	抽出部分人员，放慢进度
4		ACWP＞BCWP＞BCWS SV＞0　　CV＜0	效率较低 进度较快 投入超前	抽出部分人员，增加少量骨干人员
5		BCWS＞ACWP＞BCWP SV＜0　　CV＜0	效率较低 进度慢 投入延后	增加高效人员投入
6		BCWS＞BCWP＞ACWP SV＜0　　CV＞0	效率较高 进度较慢 投入延后	迅速增加人员投入

运用挣值分析进行项目成本预测

预测项目完工成本（EAC，Estimate At Completion），即最终成本，有三种方法：

- 假定项目未完工部分按目前实际效率预测方法

  EAC=AC+(BAC-EV)/CPI = BAC/CPI

  其中，BAC（Budget At Completion）= 总预算（Total Budget）。

- 假定项目未完工部分按计划效率的预测方法

  EAC=AC+BAC – EV

- 全面重新估算剩余工作成本的预测方法

  EAC=AC+ETC

  其中ETC (Estimate To Completion)是全面重新估算项目剩余工作的成本。

自学

4. 完工偏差VAC (Variance at Completion): 即全部工作预算(BAC)与全部工作概算价值(EAC)之差:

VAC=BAC-EAC

正值是项目组追求的目标，表明成本比预计情况要好。VAC=2000-2315=-315

5. 绩效指数TCPI (To Complete Performance Index):为按预算完成项目,从现在开始每一元钱要产生的价值

TCPI=(BAC-EV)/(BAC-AC)

=(2000-950)/(2000-1100)=1.17

每花费一元要完成1.17元的价值,以便用预计剩下的资金完成余下的工作。

（自学）例：项目计划在7月份完成，总的项目预算是 70700元。下表是前5个月个项目绩效的测量参数：

	PV	EV	AC	SV	CV	SPI	CPI
1月	0	0	0	0	0		
2月	2500	3600	6000	1100	-2400	144%	60%
3月	8000	8000	8000	0	0	100%	100%
4月	13000	10000	8000	-3000	2000	77%	125%
5月	42000	35000	51000	-7000	-16000	83%	69%
6月	62000						
7月	70700						

预测：自学

从项目绩效测量参数可以看出，该项目在5月份时的SV和CV都为负，SPI和CPI都小于1，因此可以预测该项目的进度将延迟，成本将超支。

最终成本EAC=BAC/CPI=70700 / 69% = 102464

完工成本偏差：

VAC=BAC – EAC = 70700 – 102464 = – 31764

得出结论：该项目的完工估算比最初的计划将超支31764元，并将延期才能完成。

自学

6. 任务完成百分比PC (Percent Complete), 即已完成的工作占总工作量的比例.

PC=EV/BAC=950/2000=47.5%

7. 成本消耗百分比PS (Percent Spent):已消耗的成本占项目总预算的比例.

PS=1100/2000=55%

所有的价值,无论是计划的还是实际的,都用货币值表示偏差.这会使大家认为挣值与货币有关,但它反应的是项目绩效.因此挣值是沟通管理的一个重要工具,也是项目绩效度量的一个非常有帮助的工具.

Feasibility Analysis Matrix

Feasibility Analysis Matrix – a tool used to rank candidate systems.

	Weighting	Candidate 1	Candidate 2	Candidate 3
Description				
Operational Feasibility				
Cultural Feasibility				
Technical Feasibility				
Schedule Feasibility				
Economic Feasibility				
Legal Feasibility				
Ranking				

Sample Feasibility Analysis Matrix

	Wt	Candidate 1	Candidate 2	Candidate 3
Description		Purchase commercial off-the-shelf package for member services.	Write new application in-house using new company standard VB.NET and SQL Server database	Rewrite current in-house application using Powerbuilder.
Operational feasibility	15%	Supports only Member Services requirements. Current business process would have to be modified to take advantage of software functionality. Also there is concern about security in the system. Score: 60	Fully supports user-required functionality. Score: 100	Fully supports user-required functionality. Score: 100
Cultural Feasibility	15%	Possible user resistance to non-standard user interface of proposed purchased package. Score: 70	No foreseeable problems. Score: 100	No foreseeable problems. Score: 100

Sample Feasibility Analysis Matrix (cont.)

	Wt	Candidate 1	Candidate 2	Candidate 3
Technical feasibility	20%	Current production release of Platinum Plus package is version 1.0 and has been on the market for only 6 weeks. Maturity of product is a risk, and company charges and additional monthly fee for technical support. Required to hire or train Java J2EE expertise to perform modifications for integration requirements. Score: 50	Solution requires writing application in VB .NET. Although current technical staff has only Powerbuilder experience, it should be relatively easy to find programmers with VB .NET experience. Score: 95	Although current technical staff is comfortable with Powerbuilder, management is concerned about acquisition of Powerbuilder by Sybase Inc. MS SQL Server is the current company standard for database, which competes with Sybase DBMS. We have no guarantee that future versions of Powerbuilder will "play well" with our current version of SQL Server. Score: 60

Sample Feasibility Analysis Matrix (cont.)

	Wt	Candidate 1	Candidate 2	Candidate 3
Economic feasibility	30%			
Cost to develop:		Approx. $350.000	Approx. $418.000	Approx. $400.000
Payback (discounted):		Approx. 4.5 years	Approx. 3.5 years	Approx. 3.3 years
Net present value:		Approx. $210,000	Approx. $307,000	Approx. $325,000
Detailed calculations:		See Attachment A	See Attachment A	See Attachment A
		Score: 60	Score: 85	Score: 90

Sample Feasibility Analysis Matrix (cont.)

	Wt	Candidate 1	Candidate 2	Candidate 3
Schedule feasibility	10%	Less than 3 months Score: 95	9-12 months Score: 80	9 months Score: 85
Legal feasibility	10%	No foreseeable problems Score: 100	No foreseeable problems Score: 100	No foreseeable problems Score: 100
Weighted score	100%	67	92.5	87.5

The System Proposal(看书自学)

System proposal – a report or presentation of a recommended solution.

- Usually formal written report or oral presentation
- Intended for system owners and users