

ENGINEUITY TUTORIAL



Overview Of Decision Making



Overview Of Decision Making

MAKING Financial decisions for period 5 in the Early Years

Change period | Key information | Help

	Before decisions	After decisions	
Cash account:	-249,890	-599,875	(The current overdraft)
Capital base:	4,383,088	4,646,073	
Investments:	719,767	702,767	
Company value:	4,852,965	4,748,965	

MAKING FINANCIAL DECISIONS

Financial management involves :-

- Looking after the **shareholders' interests**
- Trying to increase the value of the company by making the best use of the **company's assets**
- In all business areas **monitoring** performance to improve company profitability

DIVIDEND

Amount to pay shareholders: (2% of Equity of 5,200,000)

CAPITAL BASE

Increase by: (limited to 262,985)

Reduce by: (limited to 876,618)

INVESTMENTS

Name	Description	Initial Value	Increase by	Reduce by	Required
Dubai Bank Ltd	Banking services	102,900	0	102900	0
Emirate Solutions	Management consultants	208,067	90000	0	298,067
HSC Crossing	Travel company	102,100	0	102100	0
The JT Flower Partnership	Management consultants	102,700	100000	0	202,700
The Saxon Group	Management consultants	102,000	0	102000	0
Thermoguard	Suppliers	102,000	100000	0	202,000



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ASSET BASE			
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DIVIDEND

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CAPITAL

PAYING DIVIDEND TO SHAREHOLDERS

The company's was originally funded from a share issue, and shareholders expect a return on their investment, in the form of a dividend, related to how well the company is performing.

Any dividend paid comes out of the cash account, and reduces the value of the business.

The dividend paid to shareholders is one of the key factors that affects the company share price :-

- Insufficient dividend will disappoint the shareholders and have a negative affect on the share price
- Sufficient dividend will keep the shareholders 'content', with no change in the share price
- Ample dividend will make the shareholders happy, and have a positive affect on the share price

The affect on share price is determined by the % of the company's current equity value that is paid as a dividend.

The current equity value is the number of shares in circulation multiplied by the current share price.

Display details for Dubai Bank Ltd



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DIVIDEND

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CAPITAL BASE

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Reduce by: (limited to 876,618)

THE CAPITAL BASE

The capital base is the company's investment in infrastructure (plant, equipment, buildings etc), and determines the level of work that the company can have in progress at any point in time, which limits the value of work that can be won on the Procurement Screen.

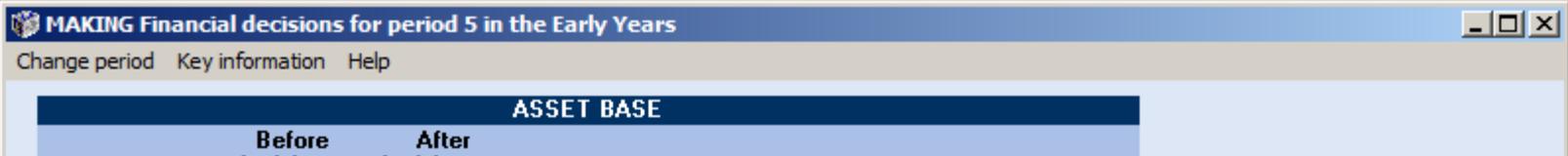
Any changes to the capital base affect the cash account.

The capital base can be :-

- **INCREASED**, reducing cash reserves, in order to support further growth, and to secure more new work on the Procurement Screen. There are limitations on the increase possible each period, which can vary by period.
- **DECREASED**, increasing cash reserves, which may be desirable if money is needed for other things, or if the capital base is not being fully utilised. There are limitations on the % of the capital base that can be sold off each period, which can vary by period.



Overview Of Decision Making

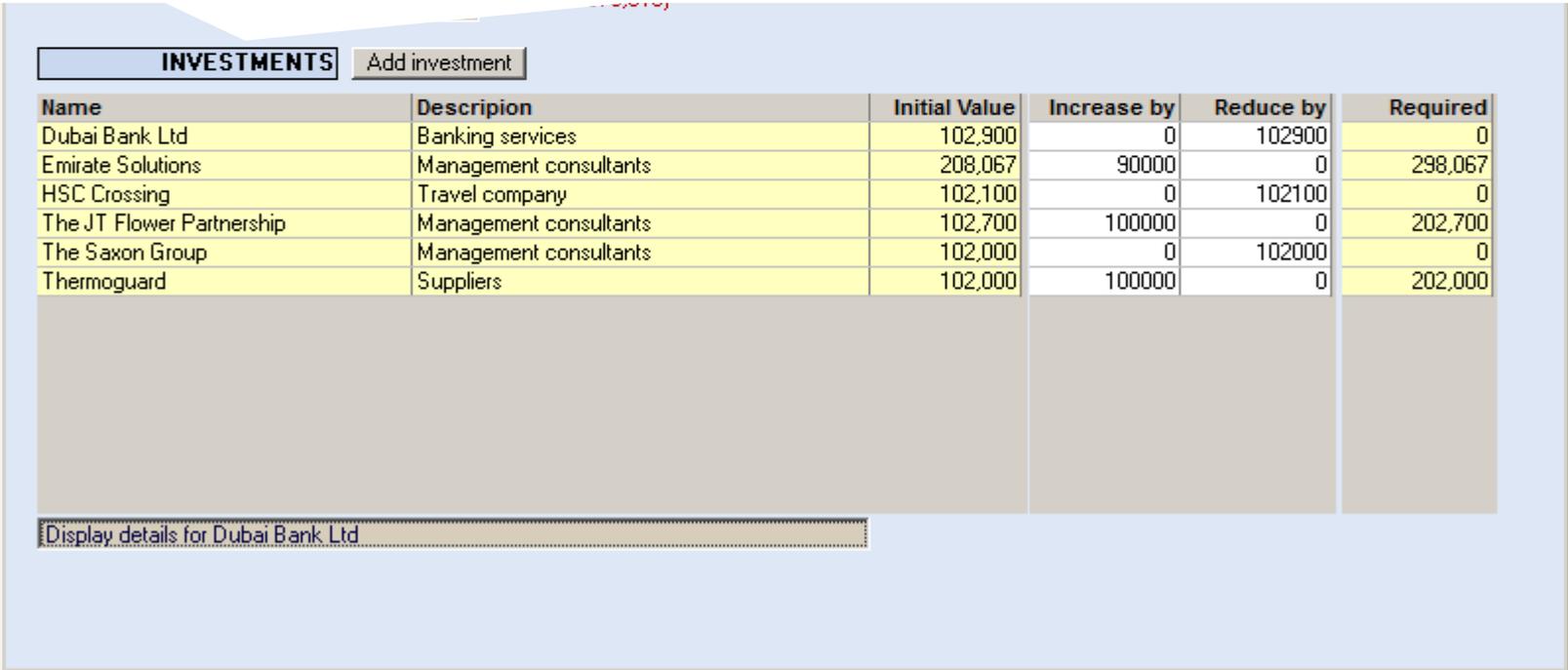


INVESTMENTS

The core business of the company is procuring and progressing contracts, and if done successfully the company will report a healthy operating profit, and increase the company's value. However, there are alternative ways of increasing the value of the company, such as by investing in other concerns, which may or may not be construction-related.

There are **two ways** of increasing the company's value through investments :-

- **INVESTMENT RETURNS**, depending upon how well the investment is performing.
- **INVESTMENT BENEFITS**, that can reduce reduce costs on jobs in progress, namely build or risk costs.





Overview Of Decision Making

MAKING Overhead decisions for period 5 in the Early Years

Change period Key information

MARKETING DEPARTMENT

STAFFING LEVEL

Last period	
Company staff	Company staff
2	4

MARKETING EFFORT

Sector	% split
Industrial	10 %
Building & Commercial	46 %
Transport	31 %
Energy	7 %
Water & Sewage	6 %

OTHER DEPARTMENTS

STAFFING LEVEL

Department	Last period	This period	
	Company staff	Company staff	Agency staff
Head Office	3	4	0
QHSE	2	3	0
Measurement	2	3	0

MAKING OVERHEAD DECISIONS

Overheads are the non-contract based support services required to enable the company to identify, procure and and progress work.

They consist of :-

- 4 key departments; Marketing, Head Office, QHSE and Measurement
- Non-departmental overheads, such as idle labour and idle project managers

The Overhead Manager is responsible for :-

- Setting appropriate **staffing levels** for each department
- Directing **marketing effort** into the 5 market sectors

The non-departmental overheads are the responsibility of others, and are related to jobs in progress.

The staffing levels for the Head Office, QHSE and Measurement Departments for the current period can only be set once appropriate labour has been allocated to jobs in progress on the Job Progression (Labour) Decisions Screen

Calculate projected turnover for jobs in progress



Overview Of Decision Making

MAKING Overhead decisions for period 5 in the Early Years

Change period Key information Help

MARKETING DEPARTMENT

STAFFING LEVEL

Last period	This period
Company staff	Company staff
2	4

MARKETING EFFORT

Sector	% split	Last period		This period		
		Country preference	Job size preference	% Split	Country preference	Job Size Preference
Industrial	10 %	No preference	No preference	9	No preference	No preference
Building & Commercial	46 %	No preference	No preference	37	No preference	No preference
Transport	31 %	No preference	No preference	21	No preference	No preference
Energy	7 %	No preference	No preference	17	No preference	No preference
Water & Sewage	6 %	No preference	No preference	16	No preference	No preference
				100 %	No preference Prefer UK jobs Prefer Overseas jobs	No preference Prefer large jobs Prefer medium jobs Prefer small jobs

MARKETING

The Marketing Department are on the ladder to winning and progressing contracts.

Each period the marketing staff identify new construction jobs in the global market, known as prequalification, which the company may then decide to try and win through the procurement process.

All jobs belong to one of 5 market sectors: Industrial, Building and Commercial, Transport, Energy, Water and Sewage.

The value and number of jobs that the company can prequalify for in any period is governed by a number of factors :-

- The size of the Marketing Department (number of company staff)
- The size of the global market (value and number of jobs available)
- Where the marketing effort is directed (5 potential sectors of work)



Overview Of Decision Making

HEAD OFFICE, QHSE AND MEASUREMENT DEPARTMENTS

The staff in these departments perform tasks related to the company's jobs in progress :-

- **Head Office** staff deal with buying, accounting and IT issues
- **QHSE** staff deal with quality, health & safety and environmental issues
- **Measurement** staff (quantity surveyors) ensure that money is recovered from the client

The task of the Overhead Manager is to ensure that the level of staff in each department each period is able to manage the company's jobs in progress without any deterioration in the performance of the jobs.

As the company does more work, or turnover, so the staffing levels in the Head Office, QHSE and Measurement departments will need to be increased to cope with the additional workload.

Prefer Overseas jobs Prefer medium jobs
Prefer small jobs

OTHER DEPARTMENTS

STAFFING LEVEL

Department	Last period	This period	
	Company staff	Company staff	Agency staff
Head Office	3	4	0
QHSE	2	3	0
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Overview Of Decision Making

MAKING Procurement decisions for period 5 in the Early Years

Change period Key information Help

PROCUREMENT RESTRICTIONS

Company Based Limitations

NUMBER OF JOBS IN PROGRESS

At the start of the period, the number of jobs in progress is: 5 (job progression screen)
 The number of jobs in progress after bidding cannot exceed: 10 jobs
 Hence, the maximum number of jobs that can be won is: 5 jobs during bidding

AMOUNT OF WORK THAT CAN BE WON

The initial forward workload is: 20,831,500 (job progression screen)
 The current value of the capital base is: 4,646,073 (financial decision screen)
 The current capital base can support forward workload of: 46,460,730 (10 x capital base)
 Hence, the value of work that can be won cannot exceed: 25,629,230 during bidding

Job	Country	Type	BIM	Size	App Value	Duration	Description	Sector	Client	Job	Bid	Bid value
74	United Kingdom	DB	Yes	Medium	12,000,000	4	New aircraft hangar	Building & Commercial	The Defence Agency	74	Yes	13,166,790
75	United States	BO	No	Medium	9,000,000	4	Upgrading of road network	Transport	FIFA North America 2026	75	Yes	9,867,307
79	United Kingdom	BO	No	Medium	8,000,000	3	Tunnel work for HS2	Transport	HS Rail Connection Group	79	No	0
81	United Kingdom	BO	Yes	Medium	11,000,000	4	Extension to head office	Building & Commercial	Madison Bank	81	Yes	11,600,420
83	United Kingdom	BO	Yes	Small	3,000,000	2	Redevelopment at strip mills	Industrial	National Steel	83	No	0
87	United Kingdom	BO	No	Small	1,000,000	3	New moorings on Grand Union canal	Water & Sewage	English Water	87	Yes	1,317,564

MAKING PROCUREMENT DECISIONS

Each period the company is offered a number of jobs for which a bid is invited.

The jobs were identified by the marketing department in the previous period depending upon the sectors into which the marketing effort was directed.

There are two types of jobs that can be bid for :-

- **Build Only**, where the client has already had the design produced, and the contractor is only responsible for the build
- **Design and Build**, where the contractor has responsibility for both the design and the build

In both cases it is assumed that the estimators have produced an accurate assessment of the costs to be incurred in completing the job, along with planned labour levels for each period of the planned duration of the job.



Overview Of Decision Making

Setting the Bid for Job 74

Help

ESTIMATED COSTS

Design cost (% of build cost): 10 %
 Build cost: 9,499,724
 Site cost: 1,899,946
Total estimated costs: 12,349,640

DESIGN CONSULTANT

BIM experience requi

Design consultant allocated: The PW Partnership \$

ONCOSTS

Project manager allowance: 49980 (for

Risk register	Likelihood occurs	Impact cost	Risk Contingency
Structural defects	Medium (40 to 50 % chance)	130,000	58500
Personnel issues	High (70 to 80 % chance)	48,000	36000
Changes in legal requirements	Low (20 to 30 % chance)	135,000	33750

128,250

Total oncost: 178,230

MARKUP

Markup: 5.1 %

BID SUBMITTED

Bid submitted: 13,166,790

USEFUL INFORMATION

- The job is in the Building & Commercial sector
- The job is based in United Kingdom
- The planned duration of the job is 4 periods
- The annual salary for project managers ranges from 27,000 to 64,000

KNOWN RIVAL BIDDERS

Bailey Developments
 CNS-Mevalin
 Horizon Group

Based in United Kingdom

BIDDING FOR A JOB

A number of elements make up a bid.

ESTIMATED COSTS

The estimated design, build and site costs, which cannot be altered.

DESIGN CONSULTANT

Allocating an appropriate design consultant for Design and Build (DB) jobs.

ONCOSTS

Additional costs added to a bid to cover the contract costs over and above the design, build and site costs, and includes :-

- Project manager allowance
- Contingency for risk

MARK UP

The margin, or mark up, is the profit to be made on the job.

The competition for each job comes from a number of known, and unknown, rival companies. Each one has their own unique profile and bidding history, and a careful assessment of them is required to determine the margin to be added.



Overview Of Decision Making

MAKING Job progression decisions (Labour) for period 5 in the Early Years

Change period Key information Help

IDLE LABOUR POOL

START OF PERIOD

Number in the idle pool: 0

Number to layoff: 0

Number available for jobs in progress: 28

AFTER DECISIONS

Net transfers: -28

Number left in the idle pool: 0

MAKING JOB PROGRESSION DECISIONS

Progressing a job awarded to the company involves :-

- Allocating an appropriate **project manager** to oversee the job
- Allocating **labour** to progress the job through to completion

JOBS IN PROGRESS

Job	Country	Sector	Plan Dur	Remaining planned periods	Progress so far	Status	Plan lab	Own Labour					Subcontract Labour				Total		
								This period		To site		From site		On site	End last	Take on		Lay off	On site
								Last per	From ILP	New	To ILP	Paid off							
1	UK	Building & Commercial	4	2 planned periods remaining	Ahead of schedule	3rd period	87	117	0	0	44	0	73	0	0	0	0	73	
25	US	Transport	2	FINAL planned period	Ahead of schedule	2nd period	84	53	0	0	0	0	53	28	0	19	9	62	
29	UK	Industrial	3	2 planned periods remaining	Ahead of schedule	2nd period	33	27	13	0	0	0	40	0	0	0	0	40	
56	UK	Building & Commercial	4	4 planned periods remaining		1st period	33	0	45	0	0	0	45	0	0	0	0	45	
69	UK	Energy	2	2 planned periods remaining		1st period	29	0	14	20	0	0	34	0	0	0	0	34	

Display details for job 1



Overview Of Decision Making

MAKING Job progression decisions (Project managers) for period 5 in the Early Years

Change period Key information Help

IDLE PROJECT MANAGER POOL

Last period		This period		
Name	Base	Name	Base	New
Yi Zhou	UK			

Recruit from the agency

JOBS IN PROGRESS

Job	Country	Sector	Status	Last period		This period			
				Name	Base	Name	Base	New	% bonus
1	UK	Building & Commercial	3rd period	Gordon Simcoe	UK	Gordon Simcoe	UK	No	4
25	US	Transport	2nd period	Doug Fordham	UK	Doug			

PROJECT MANAGERS

Project managers are concerned with the overall planning and co-ordination of a project from inception to completion aimed at meeting the client's requirements and ensuring completion on time, within cost and to the required quality standards.

A project manager with well-matched experience for a particular type of job will handle available resources more efficiently, whilst a project manager with inappropriate experience will impair contract efficiency.

There are a number of project managers that can be recruited with differing levels of expertise in each market sector, as defined by the career profile.

Project managers that are employed by the company are either :-

- In the Idle Project Manager Pool awaiting allocation to a job
- Allocated to an ongoing job



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LABOUR

It is vital to ensure the workforce (labour) on the sites is sufficient to progress jobs in line with the company's strategy for job completion.

A well-managed job will be one that either completes either early or on time, and not late.

There are two types of labour that can be employed on a job :-

- The company's own labour
- Subcontract labour

Planned labour levels each period were assessed during the estimating stage in order to complete the contracts on time, and they can be used as guidelines in setting the labour levels.