



IB DIPLOMA

# Business Management

IBID Press - Version 1.0 - July 2014

This resource supplements the text:

Business Management 3rd Edition by Paul Hoang

ISBN: 978 – 1 – 921917 – 24 – 0

published in print form by IBID Press.

It is not intended to be a stand alone resource for the IB Diploma Course.

We have produced this resource to provide a few of the things that are difficult to include in print media:

- Video material.
- Additional photographs.
- Enlargements of the more detailed diagrams from the text.
- Internet links.

The main intention of this resource is to support the cross-curricular objectives of the IB Diploma courses. Students will be challenged to address the historical aspects of business and the over-arching principle that the pursuit of knowledge is a powerful human drive.





# Preface





Chapter 1

---

# Business Organization and Environment

---





# Introduction to business management

## CONTENTS

---

1. **Introduction to business management**
2. Types of organizations
3. Organizational objectives
4. Stakeholders
5. External environment
6. Growth and evolution
7. Organizational planning tools (HL only)

This supplement is intended to be used with *Business Management* by Paul Hoang. It is not an exhaustive resource covering the course.

## Introduction to business management

Perth, Western Australia. One of the remotest business centres on Earth.





**Gallery 1.1** Business thrives (and struggles) in a variety of environments.



*Food stall in Japan*



## Shop for Lease

This is a small shop for lease in a suburban shopping 'strip'.



What thoughts might occur to you before thinking seriously about constructing a business plan and seriously considering taking out a lease?

It is in the middle of the strip.

How are the other businesses doing?





What about the range of businesses there?



Will people get a wide range of goods from this small line of shops?

What about that bakery? How about taking a look at lunchtime to see how much 'passing trade' it attracts.

The same thing for the Fish and Chip shop and pizza shop that are likely to be more active in the early evening.

What type of business will 'slot in' nicely?

## Business Risk - Marble Halls

Australian business entrepreneur Dick Smith once advised people considering setting up a business to wander around a shopping centre looking for a business that gives lousy service. He suggested that people should set up a similar business next door and give excellent service!

What leads businesses to set up these very expensive 'Head Offices'?





## CUEGIS and a sole trader in Marovo Lagoon, Solomon Islands

Marovo Lagoon is a classic tropical paradise.

Food - in the form of fish and tropical fruit is plentiful and the inhabitants have a healthy diet.

Goods are exchanged by barter and using money.

There are functioning health and education systems.

There are no roads or cars.  
Transport is by canoe, often of the wooden dugout type.

There is no mains electricity.





Connection to the outside world is by ship or aeroplane. If the airport has seen better days, there is nothing wrong with the aeroplanes or the pilots.





## CUEGIS - Change

So how has life changed for the Marovo Trader?

Before the arrival of seafarers, the Islands were a tribal society.

The most significant cultural import has been Christianity.

However, the islands are still tribal and recent violence between the inhabitants of Guadalcanal and those of Malaita has seen the presence of an international force of peace keepers.

This has had very little impact on the people of Marovo Lagoon.





## CUEGIS - Culture

The introduction of Christianity, money and the arrival of travellers from all over the world has had an effect on the islanders. For example, education has made it possible for people to leave the islands and seek employment elsewhere.

As with many other societies, clothing has been 'westernised'.



There is a locally staffed police force.

However, housing has remained mostly unchanged. The wood frame with light cladding is particularly good at surviving the tropical storms that are a fact of life for the islanders. The cladding (often palm leaves) blows away. The frame survives and the cladding is easily replaced.



## CUEGIS - Ethics

Tribal societies generally have strictly enforced codes of behaviour.

Can you see why this has advantages and disadvantages?

Dishonesty is unlikely to be much of a problem in the exchange of goods in Marovo Lagoon.





## CUEGIS - Globalization

The arrival of tourists in the lagoon (almost exclusively scuba divers) has been the most pervasive change experienced by the traders of Marovo.

The tourists stay at a specialist resort on Uepi Island (pronounced 'oopy'). The island is western owned but substantially staffed by islanders. The dive specialists are all islanders and they are amongst the best in the world - the islanders have been 'water-people' for aeons!

See:

<http://www.uepi.com>





## CUEGIS - Innovation

For the traders of Marovo Lagoon, the tourists have not affected the goods traded or the means of trading.

Most of the tourists are 'eco-minded' and are there to experience the ambience of the area.

The islanders trade some wood carvings and, of course, food.

The major innovation has been the training of islanders as tourism workers, scuba instructors and divemasters.





## CUEGIS - Strategy

So, is there a growth strategy for our representative lagoon trader?

Probably not!

### **Movie 1.1** Marovo Lagoon



But if you live here, who cares!



# Types of organizations

## CONTENTS

---

1. Introduction to business management
2. Types of organizations
3. Organizational objectives
4. Stakeholders
5. External environment
6. Growth and evolution
7. Organizational planning tools (HL only)





**Gallery 1.2** Business Sectors and Types (Can you spot images of tourism and hospitality? Public services?)



*What type of business is this?*



One very important thought that should occur to all aspiring business people is that it is not necessary to follow established models.

Many of the great business inspirations came from unlikely origins.

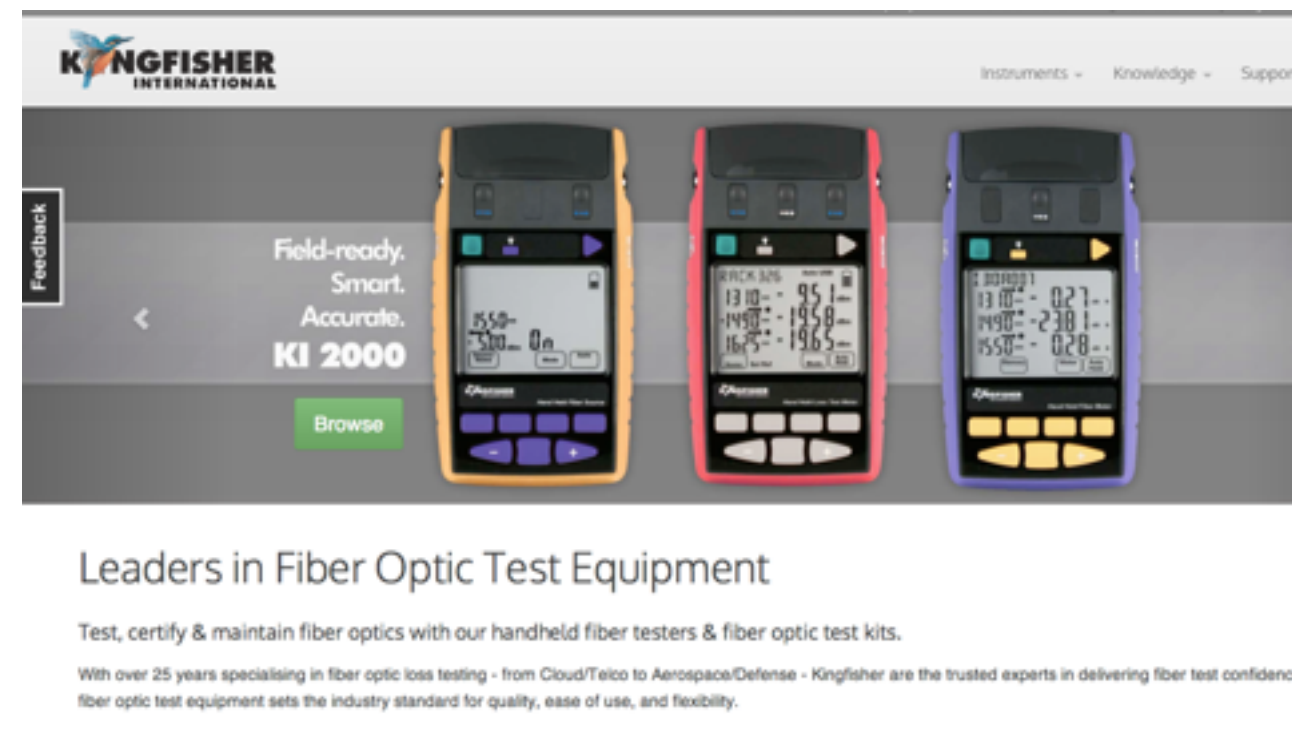
Wright Brothers - the first powered flight business started in a bicycle repair shop.



Apple - The business started in a garage.



Kingfisher, a leader in fibre optic technology - started in a garage a few doors down from IBID Press.





# Organizational objectives

## CONTENTS

---

1. Introduction to business management
2. Types of organizations
3. **Organizational objectives**
4. Stakeholders
5. External environment
6. Growth and evolution
7. Organizational planning tools (HL only)



The original Smithsonian Institution, Washington DC. Its objective might be described as 'Public Education'.



# Organizational objectives

## Educational Institutions

Not all educational institutions have the same objectives. This may surprise you.

Most value intellectual achievement. However, others specialise in more specific skills.

You should seek some out for yourself. These URLs were active at the time of writing. You will need an internet connection.

### SPORTS

<http://millfieldschool.com>

### RELIGION

<http://www.kings-school.co.uk>

### OUTDOOR

<http://www.gordonstoun.org.uk>

### MUSIC

<http://www.stmaryak.school.nz>

There are many other categories and many excellent schools in each category.

How do these specialisms affect the way in which the school is marketed and managed?

What values would your ideal school espouse?





## Publishers

Most publishers specialise.

IBID Press specialises in education and the IB in particular.

Here are a few others. Again, we do not list all categories or all publishers in each category. You should expand the list yourself.

MUSIC

<http://www.boosey.com>

CHILDREN

<http://www.candlewick.com>

SPORT

<http://www.bloomsbury.com/uk/special-interest/wisden/>

5

Vorspiel.

Richard Wagner

Sehr langsam. (♩ = 120)

3 Flöten.

3 Hoboen.

Althoboe.  
(Englisches Horn.)

3 Klarinetten  
in B.

Baßklarinette  
in B.

3 Fagotte.

Kontrafagott.

4 Hörner  
in F.

3 Trompeten  
in F.

(2 Tenor-)  
3 Posaunen.  
(1 Baß-)

Baßtuba.

Pauken.

I.  
Violinen.

II.  
Violinen.

Bratschen.  
(Altgeigen.)

Violoncelle.

Kontrabässe.

\* An jedem Fulte nur der erste Spieler.  
\*\* B. Die Sechzehntel immer ruhig und getragen.

Broude Brothers  
New York

1026

Printed in U. S. A.



## Retail

We are all familiar with the specialist shop.

Here are some links to retailers large and small for you to investigate.

<http://www.walmart.com>

<http://www.harrods.com>

<http://www.carnaby.co.uk>

<http://www.harryramsdens.co.uk>

<http://www.clarks.com>

<http://www.jimthompson.com/index.asp>

<http://www.mccarthycars.co.uk>

<http://www.oddbins.com>

<http://www.turnbullandasser.co.uk>

<http://www.antiqueprints.com.au>

<http://www.oillamps.com.au>



# Stakeholders

## CONTENTS

---

1. Introduction to business management
2. Types of organizations
3. Organizational objectives
4. **Stakeholders**
5. External environment
6. Growth and evolution
7. Organizational planning tools (HL only)



The New York Stock Exchange.

Shareholders represent a wide group of 'Stakeholders'.



**Gallery 1.3** Who are the stakeholders for these businesses?





## Stakeholding - a wider view

*No man is an Iland, intire of it selfe; every man is a peece of the Continent, a part of the maine; if a Clod bee washed away by the Sea, Europe is the lesse, as well as if a Promontorie were, as well as if a Mannor of thy friends or of thine owne were; any mans death diminishes me, because I am involved in Mankinde; And therefore never send to know for whom the bell tolls; It tolls for thee.*

John Donne (1624) expresses the view that we are all part of a giant enterprise. We are all stakeholders in every enterprise.

The modern version is:

*No man is an island, entire of itself; every man is a piece of the continent, a part of the main; if a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as if a manor of thy friends or of thine own were; any man's death diminishes me, because I am involved in mankind; and therefore never send to know for whom the bell tolls; it tolls for thee.*

Micro-finance is an opportunity for anyone to take an actual stake in an new enterprise.

Kiva is an example of such a facilitator: <http://www.kiva.org>

Here is an example of a Kiva loan application (for\$175).

LOAN OVERVIEW

REPAYMENT SCHEDULE



Ma. Salome is 52 years old and is a widow. She is a very hardworking entrepreneur.

Ma. Salome has a business selling personal products in the Philippines. Ma. Salome requested a PHP 7,500 loan amount through NWTF in order to buy more personal products to sell.

Ma. Salome has been in this business for eight years. In the future, Ma. Salome would like to save enough money to expand her business.

Experience suggests that this lady will repay her loan and build her business. Anyone can 'take a stake' for around \$25. Take a look for yourself.



# Shareholdings

A common way for individuals to take a stake in a business is to buy shares in it.

Share markets do not exist in all countries!

There are several ways of going about this.

One of these is to open an on-line trading account. This will usually involve identity formalities, but it is the easiest way to buy shares.

Shareholders obtain two types of financial benefit from their holdings:

- 1. Capital Gains. The value of the share will rise (and fall!) with the market. Shareholders aim to sell for more than they bought it for - thus making a **capital gain**.
- 2. Dividends. These are profits made by the company that are shared pro rata with each shareholding. The more shares you have, the more your dividend will be.

These online share traders offer their subscribers some information about companies that help them make their buying and selling decisions.

Some examples follow.



This graph shows the share price over a two month period. An investor who bought at the start of the period has made a capital gain of about \$1 per share. But is it the time to sell? Is that a downturn beginning. The lower graph is the level of trading. Looks like a few people think it a good time to sell!

The site should also show you the level of dividend paid. Can you see where it is?

## Key Measures

Value 3 Average	Risk 2 Below Average	Growth 3 Average	Income 3 Average
Value	Company	Market	Sector
Earnings	1.33	1.06	0.77
P/E Ratio	13.10	15.86	10.00
P/B Ratio	2.59	1.26	0.62
P/E Growth	1.38	2.00	0.70
P/S Ratio	2.77	1.61	4.74
Income	Company	Market	Sector
Dividend	3.4%	4.5%	3.6%
Franking	100.0%		
Tax adj	2.7%	3.1%	2.2%
Stability	95.9%	91.4%	91.4%

As you will have seen, there is a bit to learn before most people could feel confident in managing a share portfolio on their own.

An alternative is to employ a stockbroker. These people are experts and are paid to advise their clients.

A phone consultation sounds a bit like this.

Broker: “Hello. (How are you...) I suggest you sell half your holding in BigTelco and park it in Plutobank”.

Client: “Why”?

Broker: “You have made a 2.3% capital gain since you bought them 6 months ago and have just collected a 3.1% dividend. Plutobank have just reported a healthy profit and have just taken a 20% interest in the new City Airport”.

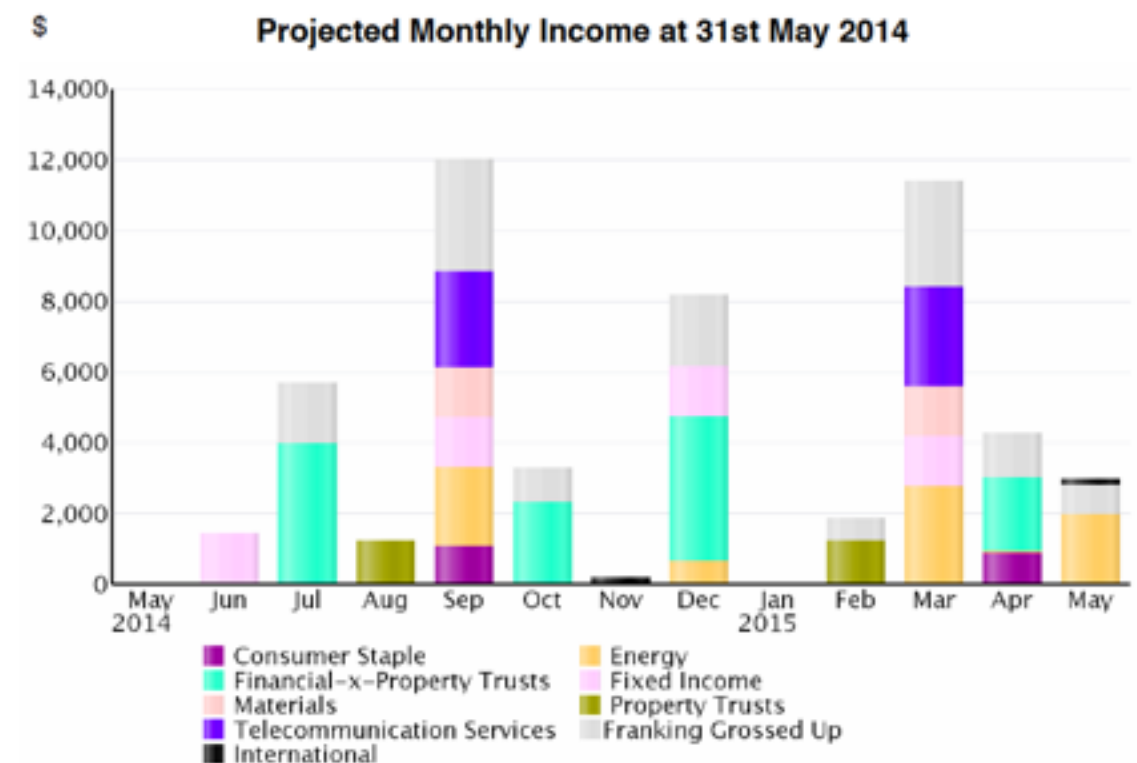
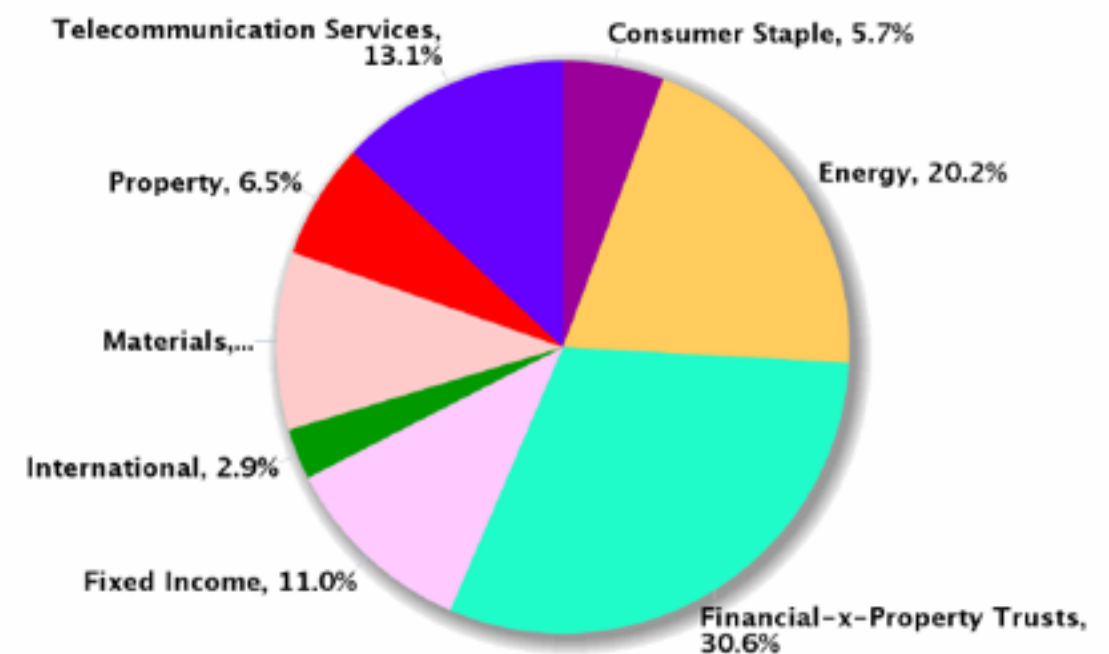
Client: “OK”.

Broker: “I’ll do it now”.

Both services charge fees and, of course, a broker service is the more expensive option.

A broker will also advise clients to maintain a balance of sectors in a portfolio.

Some examples of the sort of reporting produced by a reputable broker follow:





## Section 5

# External environment

### CONTENTS

---

1. Introduction to business management
2. Types of organizations
3. Organizational objectives
4. Stakeholders
5. External environment
6. Growth and evolution
7. Organizational planning tools (HL only)



Manhattan, New York, USA

# Environment

## Growth and evolution

### Economies and diseconomies of scale

Case Study on page 72

The case study asks some important questions about modern air travel.

The case study contains some facts about two of the newest aircraft. You might like to investigate some more.

How long is their expected life? What proportion of their lives is actually spent flying? You may be surprised to know that aircraft are expected to last at least 20 years and be actually flying for around half that time.

If you are travelling on a long haul sector, what is your share of the capital cost of the aircraft? How much do you pay for the fuel? How does this compare with doing the same trip in a family car? You may be surprised by the answers!





## Gallery 1.4 STEEPLE images from Sri Lanka



*Social - School Assembly in Kandy*

Here are some hyperlinks to a few large and small companies.  
Like all hyperlinks they may become inactive with time and you  
will need an internet connection.

<http://www.aswatson.com/eng/html/index.html>

<http://www.airbus.com>

<http://www.woodside.com.au/Pages/default.aspx>

<http://www.marksandspencer.com>

<http://www.kiva.org>

<http://harpersferryantiques.com>

<http://www.abercrombiekent.com>

<http://www.clactonandfrintongazette.co.uk>

<http://www.gardencentreguide.co.uk/old-withy-garden-nursery-gweek>

<http://www.outdoorgear.co.uk>



## Review 1.1 The Business Cycle

Drag the labels to the appropriate part of the graph.

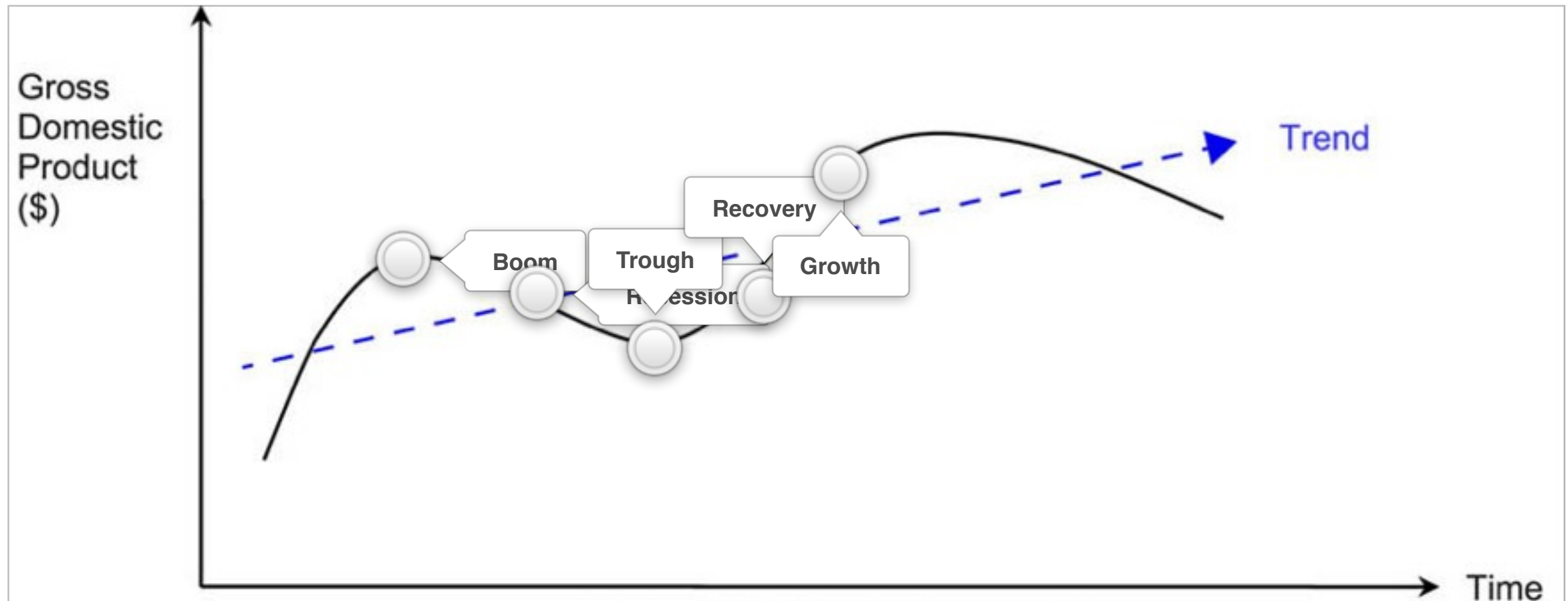


Figure 1.5.d The business cycle

Boom

Recession

Trough

Recovery

Growth

Check Answer

# Growth and evolution

## CONTENTS

1. Introduction to business management
2. Types of organizations
3. Organizational objectives
4. Stakeholders
5. External environment
6. Growth and evolution
7. Organizational planning tools (HL only)



From the Wright Flyer to the supersonic jet inside a lifetime.



## Interactive 1.1 IBID Press Ansoff Matrix



*How do you think this should look?*



**Gallery 1.5** “GROW THE BUSINESS”. Here are some unusual examples of marketing initiatives.



*Madama Butterfly (a character in an opera) has a house in Nagasaki, Japan. It is a popular attraction and venue for weddings. The opera was based on a true story.*





## An Unusual Paint Job

Why would Sir Richard Branson choose to fund this unusual re-painting of a small aircraft?

Gallery 1.6 Virgin - mini



• • • •

No, Virgin were not planning a “Travel in comfort with Virgin - not like these idiots” campaign. It was straight philanthropy!

## Medical Services

### The machine that goes PING!

This one for Monty Pythons.

The machine pictured at right is a deliverer of anaesthetic gases. It is used for short procedures (often dental) that, nevertheless, require a general anaesthetic. It is 10 years old and cost \$20,000.

Hospitals, whether public or private, have to be managed in a businesslike manner.

The money to pay staff and buy capital items such as this machine has to come from somewhere.

In the case of public hospitals, it comes from taxation - and we all know how much people love higher taxes!

In the case of private hospitals, funding comes from health insurance premiums, patient fees and, sometimes from taxation.

All told, health services face the same pressures as many other businesses. Demands for a high quality service force prices up and customer resistance forces prices down. In the case of health services 'customer resistance' can mean painful conditions such as wisdom teeth remaining untreated and dangerous conditions such as cancer going undiagnosed.





So what issues drove the hospital management to buy the new machine - which was installed yesterday and is still being 'bedded-down' with an expert from the manufacturer in full time attendance?

You are invited to discuss this.

The new machine cost three times as much as the old machine. It is more sophisticated. It checks itself before turning on for use. It monitors the gas mix continuously allowing staff to direct more of their attention towards the patient.

There is no suggestion that the machine will replace the anaesthetist - so there is no saving in staff costs.

In addition, the staff have decided that the old machine will be retained. They have reasoned that, if the new machine fails its own diagnostic test, it will not turn on and the 'list' will have to be cancelled.

The decision seems to rest entirely on the expectation that the new machine will enable them to deliver a better,

safer service.

As potential patients, you will probably agree.

What do you think?





# Organizational planning tools (HL only)

## CONTENTS

1. Introduction to business management
2. Types of organizations
3. Organizational objectives
4. Stakeholders
5. External environment
6. Growth and evolution
7. Organizational planning tools (HL only)





# Gantt chart for the Business Management Textbook

There are a number of people and processes involved in producing a school textbook.

The author produces a manuscript.

## Question 1.1.2 - Production Sectors

Study the data below and answer the questions that follow. A, B and C represent three countries: Germany, Pakistan and China (although not necessarily in that order).

Structure of employment (%)

	A	B	C
Agriculture	9	1	22
Manufacturing	47	28	24
Services	44	71	54

(a) Identify the countries for A, B and C.

A = China, B = Germany, C = Pakistan

[3 marks]

(b) Use the data in the table to justify your answer to Question 1.1.2 (a).

[7 marks]

The editor reads and refines this - rendering it into specialised software.

### 1.4 Stakeholders

Just because we aren't all the same doesn't mean we have nothing in common - Kirk Kerkorian, US entrepreneur

SL/HL Content	Assessment objective
• Interests of internal stakeholders	AO2
• Interests of external stakeholders	AO2
• Possible areas of mutual benefit and conflict between stakeholders' interests	AO3

© IBQ 2014

---

#### Internal stakeholders

The interests of internal stakeholders: AO2

© IBQ 2014

**A stakeholder** is any person or organization with a direct interest in, and is affected by, the activities and

(see Unit 2.6). For example, up to 40 000 BMW workers went on a prolonged labour strike at its South Africa car plant in late 2013 causing export sales to fall by 79%.

#### Managers and directors

Managers are the people who oversee the daily operations of a business. Directors are senior executives who have been elected by the company's shareholders to direct business operations on

Business Organization and Environment

This is then proofread and sent to the printer.



Then the binder.



...and then delivery to the warehouse.





## Interactive 1.2 Gantt Chart for the Textbook

GANTT CHART

A square play button icon with a dark gray border and a white right-pointing triangle in the center, positioned over the word "GANTT" in the text "GANTT CHART".



## Chapter 2

---

# Human Resource Management

---





# Functions and evolution of HR

## CONTENTS

---

1. Functions and evolution of human resource management
2. Organizational structure
3. Leadership and management
4. Motivation
5. Organizational (corporate) culture [HL Only]
6. Employer and employee relations [HL Only]



Roman ruins in Turkey. Early testament to the human talent for getting organised.

## An Example from History

One of the most extraordinary historical examples of Human Resource Management was “The Raj” - the period of British rule in India and some of Asia.

This is one of the most hotly debated issues in the whole of World History. Some maintain it was a dreadful example of forced imperialism, others that it helped development of the peoples it ruled.

Whatever your opinion of this, the facts of the organization of the Raj are quite extraordinary.

The British contingent of the civil service numbered about 1,000 individuals. These were selected by a competitive examination famous for its rigour. Candidates had to demonstrate a detailed knowledge of the cultures within which they were to work as well as a range of other attributes.

Beneath these were a much larger group of indigenous workers who attended to the details. These were also selected for their abilities.

This structure governed around 300 million citizens. Compare that with manning levels in modern government administrations!

The modern Indian Civil Service Exams retain much of the old style.

See: <http://www.civilserviceindia.com> for evidence that the tradition of high standards continues.

The architecture of the period reflects the fact that British Rule in Asia did not aim to stamp out local styles entirely.

Some was unashamedly ‘Gung-Ho’ (triumphalist). Viceroy’s residence, Delhi, India





Others are nostalgic. Nuwara Eliya, Sri Lanka



And many reflect local styles.

Kuala Lumpur Railway Station





...and Old Government House





# Organizational structure

## CONTENTS

1. Functions and evolution of human resource management
2. **Organizational structure**
3. Leadership and management
4. Motivation
5. Organizational (corporate) culture [HL Only]
6. Employer and employee relations [HL Only]



The Tower of London.

The many castles of Europe are testament to the hierarchical nature of the society of the time.



## A top down business from the Tudor Period

Paycocke's House



This House is now maintained by the National Trust. It is in the small town of Coggeshall, Essex UK and was built during the 1400s.

The house was both the home and the place of business of the Paycocke family who were wool merchants.

In the Tudor period, wool was big business. There were no artificial fibres and cotton was a rarity. Almost everyone wore woolen clothes.

The house adjoins a pub called *The Fleece* and *The Woolpack* is at the other end of town, near the church.

As further testament to the importance of the wool trade to the British economy, the leader of the House of Lords (the Upper House of the British Parliament) still sits on 'The Woolsack'.

This wonderful old house was home to one of IBID's editors during the 1960s and '70s.

It is worth remembering that, at the time Paycocke's was built, most people lived in one roomed hovels. A two storey house with a street frontage meant that you had 'made it'.



The structure of the house very much reflects the structure of the business that ran in it.



These are the ornamental gates through which products entered and left the premises.

There are impressive rooms on the ground floor where clients could be both impressed and entertained.

The second floor has bedrooms that clearly reflect the status of their occupants. There is a large room at the front for the *pater familias*. Elsewhere there are much smaller rooms and a large dormitory for the lesser employees.

The apprentices slept in the attic!





# Leadership and management

## CONTENTS

1. Functions and evolution of human resource management
2. Organizational structure
3. Leadership and management
4. Motivation
5. Organizational (corporate) culture [HL Only]
6. Employer and employee relations [HL Only]

When considering leadership qualities, bear in mind that they can be a 'two-edged sword'.

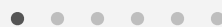




## Gallery 2.1 Leadership Styles vary



*Abraham Lincoln - a man of words*



The armed forces present the most extreme challenges for leaders. It is not natural for humans to risk their lives.

*There is many a boy here today who looks on war as all glory, but, boys, it is all Hell.* William Tecumseh Sherman (1820 – 1891)



The structure of most armed forces are very hierarchical as reflected in the ranks that are so characteristic of most armies.

However, many soldiers will tell you that what matters is the camaraderie within each rank - soldiers don't fight for armies, they fight for their comrades. Fostering this is a major tool of this form of leadership.





# Motivation

## CONTENTS

---

1. Functions and evolution of human resource management
2. Organizational structure
3. Leadership and management
4. **Motivation**
5. Organizational (corporate) culture [HL Only]
6. Employer and employee relations [HL Only]





## Saltaire

Victorian Cotton Mills could be grim places.

Sir Titus Salt, 1st Baronet (1803 – 1876) believed that they did not have to be.

He built the ‘model town’ Saltaire in Yorkshire, UK. He believed that if he treated his workers well, he would not only be doing the ‘right thing’, he would win their loyalty and his business would run effectively. Good housing, schools, a library etc. were a key part of his business plan.

Saltaire is a World Heritage Area in memory of this initiative.

A gallery of some of the buildings of Saltaire follows.

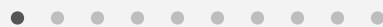




## Gallery 2.2 Saltaire



*Workers' Housing - fronts*





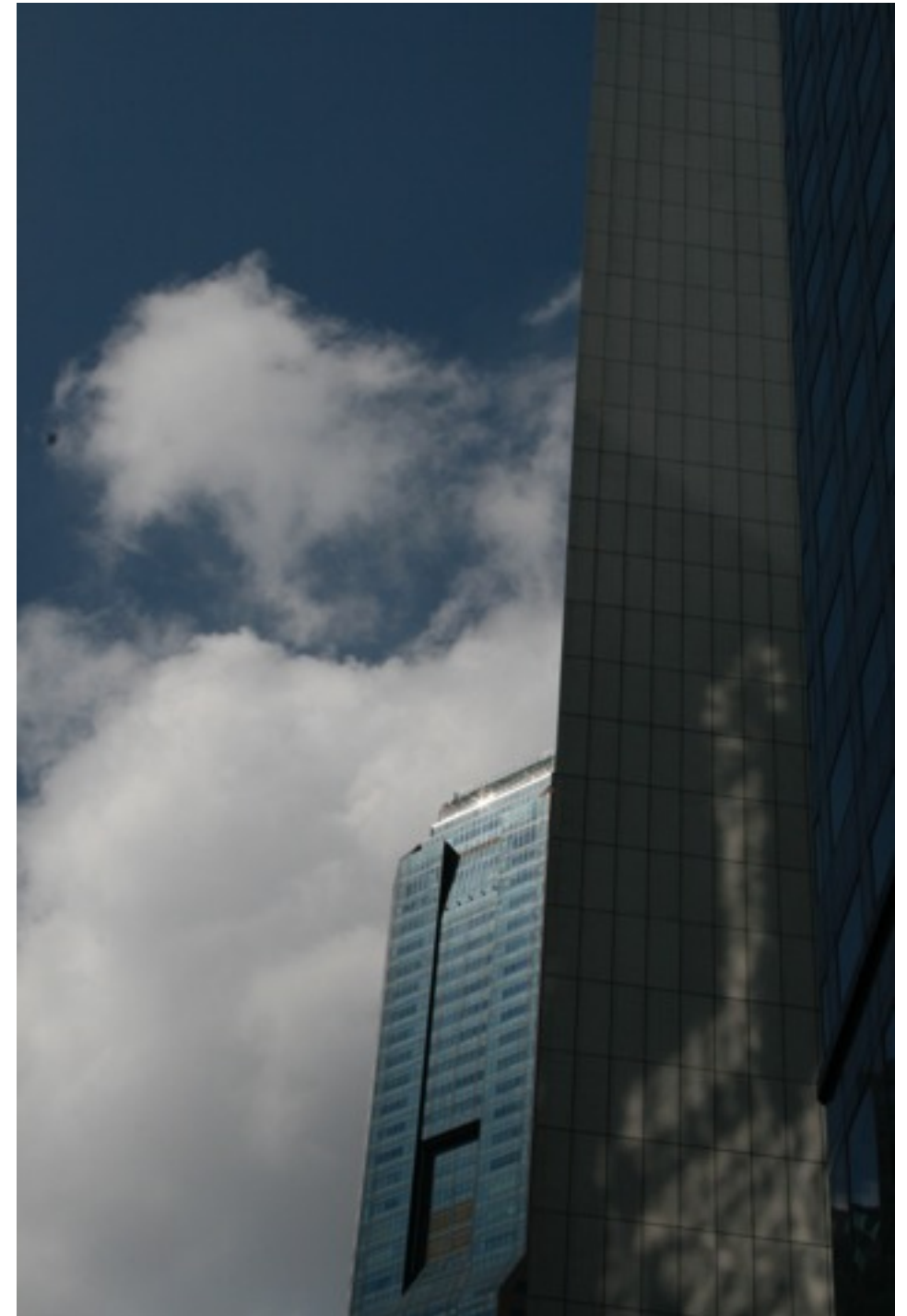
# Organizational (corporate) culture [HL Only]

## CONTENTS

---

1. Functions and evolution of human resource management
2. Organizational structure
3. Leadership and management
4. Motivation
5. **Organizational (corporate) culture [HL Only]**
6. Employer and employee relations [HL Only]

Towers of power.

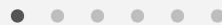




**Gallery 2.3** What was it like working in these environments?



*Stately Homes required large numbers of servants working in highly structured and repetitive jobs.*





# Employer and employee relations [HL Only]

## CONTENTS

---

1. Functions and evolution of human resource management
2. Organizational structure
3. Leadership and management
4. Motivation
5. Organizational (corporate) culture [HL Only]
6. **Employer and employee relations [HL Only]**



A smiling Sri Lankan tea picker.



## Happy Workers?

Body language can say a lot.

Are these workers 'happy' and are they projecting a welcoming image to potential customers?



A traditional 'gondolier' in Venice faces some traffic congestion.





There must be millions of these fruit stall holders in the world!





The hairdresser does a job that will almost certainly never be automated!





Some jobs require elaborate uniforms...





...and they are not all in  
entertainment!

This one is a wax-work.





And, of course, many jobs are dangerous.







Some jobs are glamorous (the flying doctors) and others surprising (the flying priest).





## Chapter 3

# Finance and Accounts





# Sources of finance

## CONTENTS

---

1. Sources of finance
2. Costs and revenues
3. Break-even analysis
4. Final accounts
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. Cash flow
8. Investment appraisal
9. Budgets [HL Only]

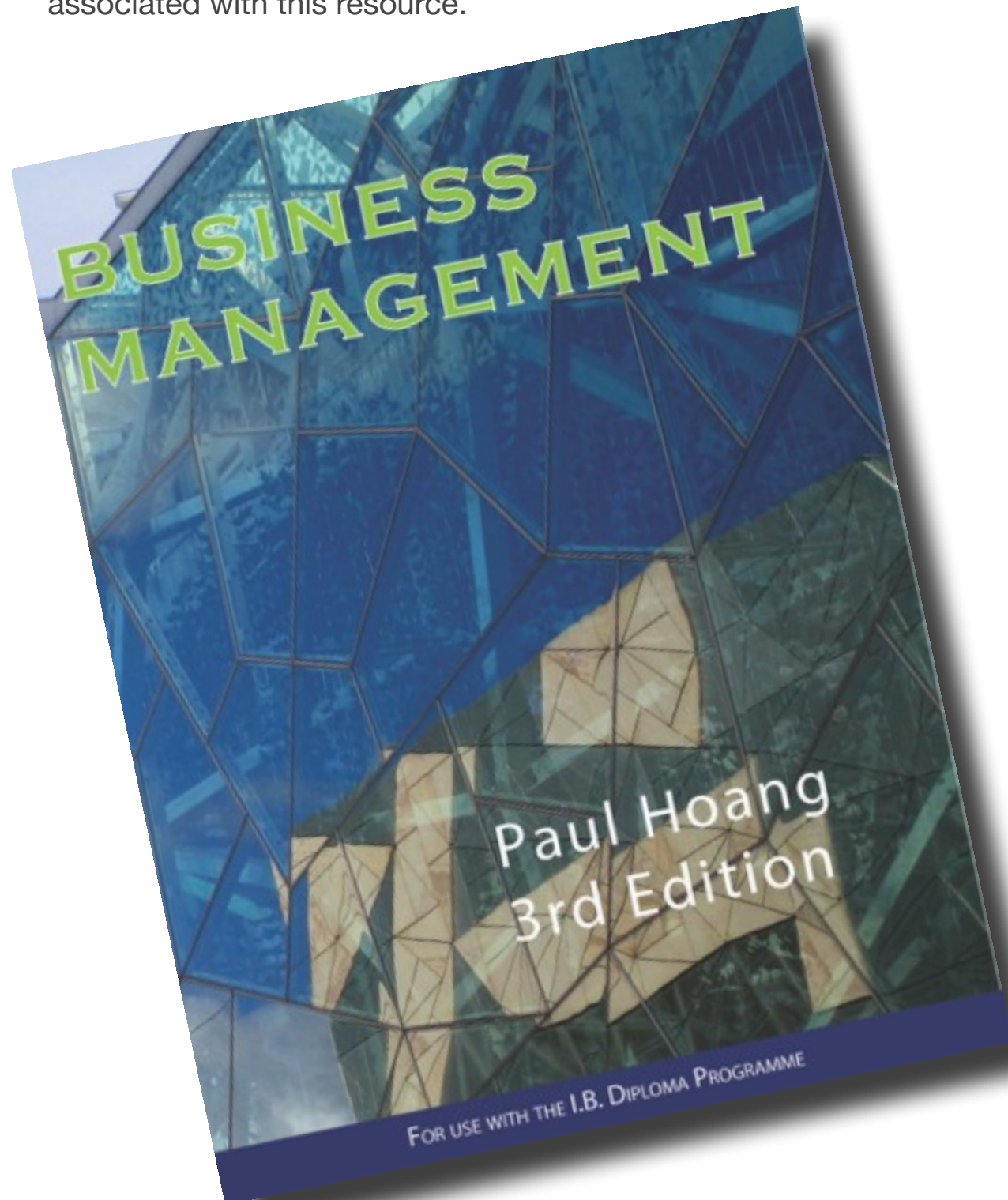


Venice was constructed as a refuge for the persecuted. It became prosperous on the back of a vibrant banking sector - mainly run by Jews.



## Case Study

Throughout this chapter, we will look at the business decisions required during the production of a school textbook such as that associated with this resource.



However, the figures given in later sections are not those of this actual text.

Why?

One of the reasons is that it is not a good idea for a business (or an army!) to give away details of its plans and operations to competitors!

So we begin with the fact that these sorts of projects are almost always COLLABORATIVE.

Most publishers have a stable of skilled people who perform the necessary tasks. These generally begin with a project manager.

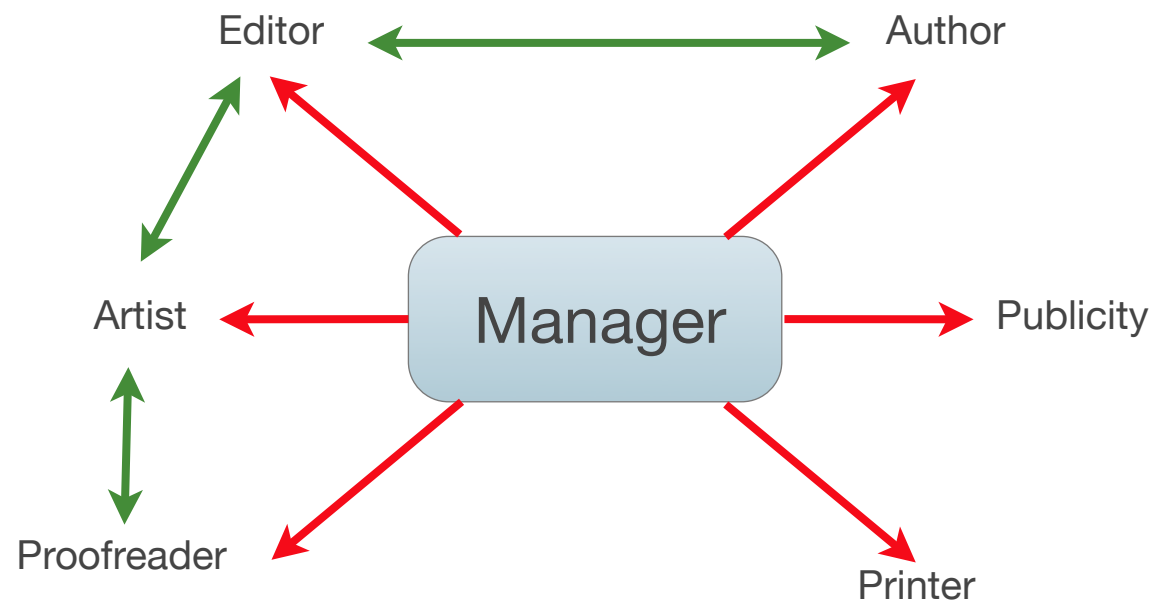
These are not always employees. They are often 'freelancers'. These are self-employed specialists - artists, editors etc.

Manager

The manager's first job is to look at a publishing proposal, assess its viability and to assemble the necessary team to perform the tasks.

In the case of an academic textbook, the team will look a bit like this tree diagram.





Which comes first - assessing the viability of the proposal or assembling the team?

Usually, the viability is assessed first. For an educational textbook there are a number of relevant questions:

How many students take the course?

Are there existing books?

If there are, is there an established market leader that may be difficult to 'displace'.

If the book is assessed as 'viable', the team can be assembled and the likely costs assessed and budgeted for.

So where does the money come from?

It was said of the ill-fated 'Spanish Armada' that it had sailed "In the confident hope of a miracle". That sort of thinking is not a good idea in business!

In the case of a major textbook, the work will take from around 6 months to a year (from inception to books in the warehouse). The finance must be secured before any work begins.

It is irresponsible (and in some countries illegal) to commission work that you cannot pay for.

There are three main sources of funding:

1. Using revenues from previous books.
2. Shareholders (by floating new shares).
3. Borrowing from a bank or other source.

IBID Press uses method 1. It requires the shareholders to forgo use of the money as profit, but the advantage is that the money can be placed in an interest bearing account.

If using method 3, interest is paid to the bank. Interest rates vary from time to time and from place to place. IBID estimates that the

way it raises finance affords a 5-10% cost advantage over competitors who borrow their finance.

The objective is to arrive at a point where we have the 'real thing'...

The story continues in the next section.





# Costs and revenues

### CONTENTS

---

1. Sources of finance
2. **Costs and revenues**
3. Break-even analysis
4. Final accounts
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. Cash flow
8. Investment appraisal
9. Budgets [HL Only]

Most of the inhabitants of Coober Pedy (in the Australian desert) live underground in old opal mining tunnels.

Aside from the obvious savings in construction costs, there is no need for air-conditioning as the tunnels are at a steady and very pleasant temperature.

There are no window cleaning costs either!



## Case Study - continued

In the previous section we looked at the genesis of a project to produce a major school textbook.

This included finance and assembling a team to actually do the work.

We will now have a look at the costs and likely revenues.

### Costs

Most business projects have two types of costs.

1. Fixed costs.
2. Costs that depend on how many units are manufactured.

In the current case, the fixed costs are:

The editor's fee.

The proofreader's fee.

The manager's fee.

The artist's fee.

There may be other such fees.  
For example, there may be some complex mathematical expressions that need a specialist to 'set' them.

Note that 'fee' means 'salary' if the person is an employee.

Next there are the variable costs. The principle ones are:

Printing. This depends on the number of copies PRINTED.

Author royalty. This depends on the number of copies SOLD.

The steps to assess 'break-even' are discussed in the next section. We have already (Section 1.7) covered the Gantt Chart.

The next step is to brief the contributors and set the project rolling. IBID uses a subscription service called *Basecamp*. This allows file exchange (our author and editor are often in different countries) and scheduling etc.

The screenshot shows a Basecamp project page for 'Business Management 3rd ed. IBID PRESS'. The page has a dark blue header with navigation links: 'Back to Dashboard', 'Switch to a different project', 'Project Settings', 'My Info', 'Sign out', and 'HELP'. Below the header is a yellow navigation bar with tabs: 'Overview', 'Messages', 'To-Dos', 'Calendar', 'Whiteboards', and 'Files'. The main content area is titled 'Project overview & activity' and shows a list of messages and files. The messages are dated 'WEDNESDAY, 7 MAY 2014' and 'TUESDAY, 6 MAY 2014'. The files include 'BM Front pages print.pdf' and 'BM Cover image'. On the right side, there is a sidebar with the IBID PRESS logo and a section titled 'Stay up to date on this project' with links for 'Turn on email updates' and 'Project RSS feed'.



Here are some other enterprises.

Can you list their main costs and revenues?

Bungee Jumping at  
Kawarau Bridge, New  
Zealand.

Aside from the money  
charged to the  
jumpers, the facility  
attracts spectators  
(who are not charged)  
and there is a shop  
and bistro.





Sumo wrestling in Japan.

The events attract capacity crowds, but the wrestlers are highly paid superstars!





Ryokan - a Japanese bed and breakfast.

There are many features particular to the ryokan. The rooms are generally immaculate and are designed to convert between day use (as shown) and night use (when there are beds). Dining and bathing is often communal.

The tariffs are very reasonable because costs are kept down.





And finally...

Two types of entertainment: The cruise liner and the Opera House. How do costs, revenues and clientele differ between these two very different businesses?





# Break-even analysis

## CONTENTS

---

1. Sources of finance
2. Costs and revenues
3. Break-even analysis
4. Final accounts
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. Cash flow
8. Investment appraisal
9. Budgets [HL Only]



The *Casa Rosada* in Buenos Aires.

A bit more breaking even here would help.

# Case Study - continued.

Having identified the costs and revenues, proceed to look at the break even point. In this case, the question is ‘How many books do we need to sell to make a profit’?

In the previous section we identified the fixed and variable costs.

As there are variable costs, this is not going to be a ‘back of the envelope’ calculation. A spreadsheet is a good solution.

This is divided into two parts - costs and revenues.

The fixed costs go in first: these figures are FICTIONAL!

11	Editorial	\$12,500.00
12	Proofreading	\$2,000.00
13	Management	\$1,200.00
14	Marketing	\$2,500.00
15	Sundry	
16	Sundry	
17	Sundry	

The first of the variable costs is that of printing and binding the book.

There are two features here. The first is that the unit cost (the cost of printing one book) is dependent on the number of books printed. This is because there is a high ‘set-up cost’. The printer prepares a ‘plate’ for each group (usually of 16 pages) and this has to be set up on the press. This is a time consuming and skilled job. Once this has been done, the actual printing is rapid. The unit cost of printing 1,000 books is typically twice that of printing 4,000.

The break-even spreadsheet uses a formula to calculate the print costs.

	A	B
1	Break-even analysis	
2	Subject	Textbook
3		
4	Print Run	3000
5	Unit Cost	\$12.75
6	Seller's margin	30%
7	Author royalty	15%
8		
9	Costs	
10	Printing	\$38,250.00

Cell B10 contains the formula =B4\*B5.



The author royalty is usually expressed as a percentage of nett sales. The publisher fixes a ‘recommended retail price (rrp)’. Booksellers then buy from the publisher at a discount (typically 30%) so that they can sell to buyers at the rrp.

The next step is to calculate the nett selling price. The seller’s margin is expressed (in cell B6) as a percentage and this effects the way the formula for cell E6 which is  $=(1-B6)*E5$

	A	B	C	D	E
1	Break-even analysis				
2	Subject	Textbook			
3					
4	Print Run	3000			
5	Unit Cost	\$12.75		Sale price	\$70.00
6	Seller's margin	30%		Nett price	\$49.00
7	Author royalty	15%		Increment	100

The author royalty is determined by the author contract.

This specifies the general terms of the arrangement, not just the royalties due on sales. These include obligations on both the author and publisher relating to new editions etc.

Because the author royalty is based on sales, not on the print-run, this cast has to be handled differently.

IBID uses the following method:

	A	B	C	D	E
1	Break-even analysis				
2	Subject	Textbook			
3					
4	Print Run	3000			
5	Unit Cost	\$12.75		Sale price	\$70.00
6	Seller's margin	30%		Nett price	\$49.00
7	Author royalty	15%		Increment	100
8					
9	Costs			Sales	Revenue
10	Printing	\$38,250.00		0	\$0.00
11	Editorial	\$12,500.00		100	\$4,900.00
12	Proofreading	\$2,000.00		200	\$9,800.00
13	Management	\$1,200.00		300	\$14,700.00
14	Marketing	\$2,500.00		400	\$19,600.00
15	Sundry			500	\$24,500.00

This is set up so that we can enter a variety of sales numbers easily and rapidly. The start figure is entered into cell D10. This is then incremented by an amount entered in cell E7. The formula in D11 (which is then copied to the cells below it) is  $=D10+E7$ .

This is a mixture of relative (the cell addresses update with each copy) and absolute (the cell address is copied unaltered) cell addressing. By entering different numbers into E7 and D10 it is possible to edit the entire sales column rapidly.

Download the actual spreadsheet from [\\*\\*\\*\\*\\*](#) to see exactly how it works.

The revenue is the number of sales times the nett selling price.

The formula in cell E10 is =D10\*\$E\$6. Again note the use of a mixture of relative and absolute cell addressing that enables copying down the column. =D10\*\$E\$6 would have done just as well - can you see why?

The next step is to calculate the author royalty which is 15% of sales. This is done in column F with the formula (in cell F10) =E10\*\$B\$7 which is copied down the column.

The final steps are to total the costs in cell B20 using the function SUM() and then calculate the profit with = E10-\$B\$20-F10 in cell G10.

	A	B	C	D	E	F	G
1	Break-even analysis						
2	Subject	Textbook					
3							
4	Print Run	3000					
5	Unit Cost	\$12.75					
6	Seller's margin	30%					
7	Author royalty	15%					
8							
9	Costs			Sales	Revenue	Author	Profit
10	Printing	\$38,250.00		0	\$0.00	\$0.00	-\$56,450.00
11	Editorial	\$12,500.00		100	\$4,900.00	\$735.00	-\$52,285.00
12	Proofreading	\$2,000.00		200	\$9,800.00	\$1,470.00	-\$48,120.00
13	Management	\$1,200.00		300	\$14,700.00	\$2,205.00	-\$43,955.00
14	Marketing	\$2,500.00		400	\$19,600.00	\$2,940.00	-\$39,790.00
15	Sundry			500	\$24,500.00	\$3,675.00	-\$35,625.00
16	Sundry			600	\$29,400.00	\$4,410.00	-\$31,460.00
17	Sundry			700	\$34,300.00	\$5,145.00	-\$27,295.00
18				800	\$39,200.00	\$5,880.00	-\$23,130.00
19				900	\$44,100.00	\$6,615.00	-\$18,965.00
20	Total	\$56,450.00		1000	\$49,000.00	\$7,350.00	-\$14,800.00

As things stand, we are only seeing losses. To 'home-in' on the break-even point, adjust the entries in cells D10 and E7.

	A	B	C	D	E	F	G
1	Break-even analysis						
2	Subject	Textbook					
3							
4	Print Run	3000					
5	Unit Cost	\$12.75					
6	Seller's margin	30%					
7	Author royalty	15%					
8							
9	Costs			Sales	Revenue	Author	Profit
10	Printing	\$38,250.00		1000	\$49,000.00	\$7,350.00	-\$14,800.00
11	Editorial	\$12,500.00		1100	\$53,900.00	\$8,085.00	-\$10,635.00
12	Proofreading	\$2,000.00		1200	\$58,800.00	\$8,820.00	-\$6,470.00
13	Management	\$1,200.00		1300	\$63,700.00	\$9,555.00	-\$2,305.00
14	Marketing	\$2,500.00		1400	\$68,600.00	\$10,290.00	\$1,860.00
15	Sundry			1500	\$73,500.00	\$11,025.00	\$6,025.00
16	Sundry			1600	\$78,400.00	\$11,760.00	\$10,190.00
17	Sundry			1700	\$83,300.00	\$12,495.00	\$14,355.00
18				1800	\$88,200.00	\$13,230.00	\$18,520.00
19				1900	\$93,100.00	\$13,965.00	\$22,685.00
20	Total	\$56,450.00		2000	\$98,000.00	\$14,700.00	\$26,850.00
21				2100	\$102,900.00	\$15,435.00	\$31,015.00

And finally, break-even is at about 1,360 copies.

	A	B	C	D	E	F	G
1	Break-even analysis						
2	Subject	Textbook					
3							
4	Print Run	3000					
5	Unit Cost	\$12.75					
6	Seller's margin	30%					
7	Author royalty	15%					
8							
9	Costs			Sales	Revenue	Author	Profit
10	Printing	\$38,250.00		1300	\$63,700.00	\$9,555.00	-\$2,305.00
11	Editorial	\$12,500.00		1310	\$64,190.00	\$9,628.50	-\$1,888.50
12	Proofreading	\$2,000.00		1320	\$64,680.00	\$9,702.00	-\$1,472.00
13	Management	\$1,200.00		1330	\$65,170.00	\$9,775.50	-\$1,055.50
14	Marketing	\$2,500.00		1340	\$65,660.00	\$9,849.00	-\$639.00
15	Sundry			1350	\$66,150.00	\$9,922.50	-\$222.50
16	Sundry			1360	\$66,640.00	\$9,996.00	\$194.00
17	Sundry			1370	\$67,130.00	\$10,069.50	\$610.50
18				1380	\$67,620.00	\$10,143.00	\$1,027.00
19				1390	\$68,110.00	\$10,216.50	\$1,443.50
20	Total	\$56,450.00		1400	\$68,600.00	\$10,290.00	\$1,860.00



Should the project go ahead with this break-even figure?

What considerations are important in answering this question?

To what extent will 'gut-feeling' ("gee, this is a good book!") be relevant?

Remember the ultimate clients!





# Final accounts

## CONTENTS

1. Sources of finance
2. Costs and revenues
3. Break-even analysis
4. **Final accounts**
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. Cash flow
8. Investment appraisal
9. Budgets [HL Only]

Jan. 1<sup>st</sup> 1895.

Assets		Liabilities	
Mdce	21568 13	Capital %	42497 50
Furniture	2276 81	91.2% 100.00	109097 39
Machinery	9		
Salaries & Wages	5744 43		
" & % 100.00	6422 62		
Bills Rec.	938 49		
Notes "	105438 59		
Cash	4969 14		
	145497 49		
Janick & Landon %	6097 38		
	151594 87		151594 87
Profit & Loss			
S. Morton	298 46	Mdce %	46803 53
S. A. Phelps	82 57	Janick & Landon	6097 38
Expense	19541 04		
Trav. Expense	5357 24		
Salaries & Wages %	6500		
" Com. and	5383 96		
Disc.	1302 71		
Suspense %	9202 90		
Interest	5238 16		
	52900 91		52900 91

This splendid document is part of the accounting archive of the classic US company Sears & Roebuck.

It displays the careful approach to accounting that has seen the company survive and grow.

2012 revenues exceeded \$20 billion.



## Case Study - continued

The production of a school textbook.

IBID Press approaches accounting at two distinct levels.

One is the immediate issue of managing the working capital.

Recall that the business model is that enough money is set aside in a 'war-chest' to cover the project before it starts. What matters is ensuring that all such projects have such provision made for them in advance.

To monitor this we prepare monthly financial plans that list all the assets and all the budgetary provisions for current and future projects. If the assets exceed the expenditure provisions, a profit is declared and a dividend is distributed. If this balance is in the 'red' there are no dividends until the balance is restored.

Not as big as Sears, but we like to think we have the same mindset!

Our accounts are kept at a bank and we enter all transactions onto a subscription accounting package (Xero) that we have tailored to fit our business.

A key task is to ensure that the transactions on Xero match the bank statements - a process known as reconciliation.

At the end of each financial year, the Xero file goes to a professional accountant who prepares the official accounts.

An important part of this is ensuring that we have fulfilled all our statutory requirements. This means ensuring that IBID has paid the correct amount of tax, been fair to shareholders etc.

Section 3 Finance and accounts

**Exam tip !**  
What's the correct format?  
Different firms and different countries use slightly different methods to present their balance sheets. In the IB exams, use the format presented in Figure 3.4.g. Remember to place an appropriate title at the top of the balance sheet.

**Exam tip !**  
The main difference between the balance sheet of incorporated and unincorporated businesses is that share capital does not appear as part of their equity, because the latter do not have shareholders. The vast majority of examination questions will ask you to interpret the balance sheet of a limited liability company.

Finance and accounts

**CORE**

Balance sheet for (Company Name) as at (Date)

	\$m	\$m
<b>Fixed assets</b>		
Less accumulated depreciation	500	
Net fixed assets	20	480
<b>Current assets</b>		
Cash		
Debtors	10	
Stocks	12	
Total current assets	35	
	57	
<b>Current liabilities</b>		
Overdraft		
Creditors	5	
Short-term loans	15	
Total current liabilities	22	
	42	
Net current assets (working capital)		15
Total assets less current liabilities		495
Less Long-term liabilities (debt)	300	
<b>Net assets</b>		195
<b>Financed by:</b>		
Share capital		
Retained profit	110	
	85	
<b>Equity</b>		195

© IBOL 2014

Figure 3.4.g Format of the balance sheet

262

# Profitability and ratio analysis

## CONTENTS

---

1. Sources of finance
2. Costs and revenues
3. Break-even analysis
4. Final accounts
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. Cash flow
8. Investment appraisal
9. Budgets [HL Only]



Public transport in Sydney. Should a service such as this be profitable?



## Case Study - continued

The production of a school textbook.

The process of producing the textbook associated with this resource has been discussed in previous sections.

What about profitability?

This can often be heard as if it were a dirty word! Often on the lips of people who have never really stopped to think where the money to pay their own salaries comes from!

How should a school textbook be judged?

It seems simple, but publishing is a world of its own.

Most books that are published struggle to break even!

What happens is that many publishers rely on keeping up a good 'list' and they hope for the occasional 'blockbuster'.

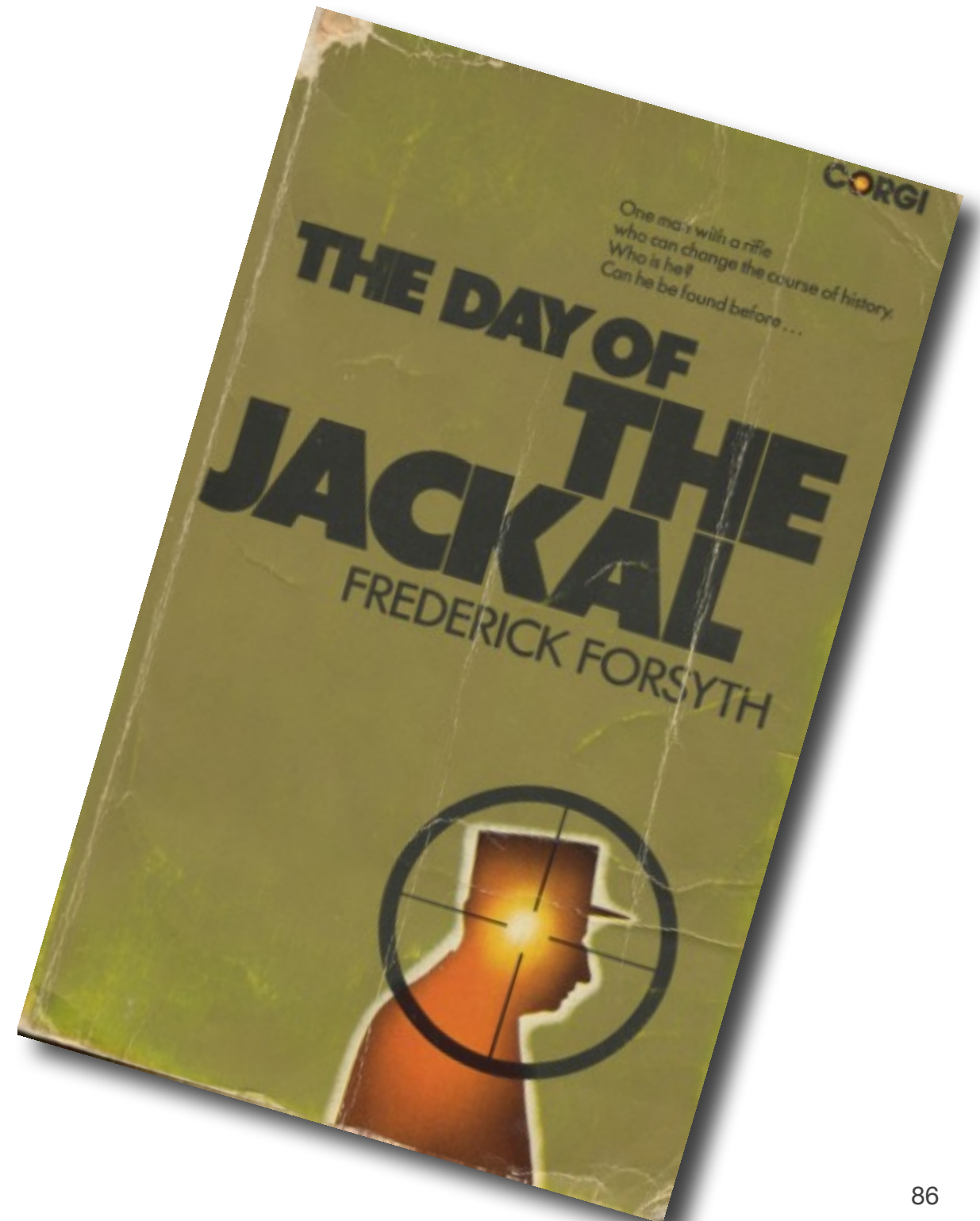
*The Day of the Jackal* - a debut novel by Frederick Forsyth had been rejected by several publishers (or so the myth has it) before becoming a best-seller for Hutchinson Books.

It remains, 50 years later, a 'rattling good read'.

The point is that publishers find identifying these super-books a real puzzle!

This is a much read 'vintage edition' - the second reprint of the first paperback edition (1973).

Now that I have got it off the shelf, I think I might....



**Gallery 3.1** A gallery of 'businesses' - look at each of these and consider if they need to be profitable.





# Efficiency ratio analysis [HL Only]

## CONTENTS

---

1. Sources of finance
2. Costs and revenues
3. Break-even analysis
4. Final accounts
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. Cash flow
8. Investment appraisal
9. Budgets [HL Only]



Tea has a colourful history. Imperialism, drug trafficking, crime.

It is a perishable (slightly) commodity that required a complex growing and distribution network. To what extent did the concepts discussed in this chapter influence the spread of tea growing from China to India and other places?



### Gallery 3.2 Tea - a global obsession?





# Cash flow

## CONTENTS

---

1. Sources of finance
2. Costs and revenues
3. Break-even analysis
4. Final accounts
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. **Cash flow**
8. Investment appraisal
9. Budgets [HL Only]

Money does not flow like water.

It has a very annoying tendency to stick to people's hands!



## Case Study - continued.

As we have said, it is IBID's practice to pay bills as they are received. Cash flow is not an issue.

It is true that if we delayed payment by a few weeks, we might earn a bit more interest on the money. It is, however, our view that the gains made by developing a reputation as a prompt payer far outweigh this small extra income.

We believe that this places us in a good position to ask favours of our subcontractors.

Our editors are busy freelancers. They make choices as to which jobs they take. Having a reputation as a 'payer' helps them choose IBID's job ahead of others.

## The Excuses Game

Many business managers keep an unofficial diary of excuses people give for not paying bills on time.

Here are a few from ours...

"Cynthia pays all the bills and she has just got back from holiday".

"I will pay it by Friday" (the 'Friday' is critical to this excuse).

"I had a family commitment".

"I am too busy".

"My internet is down".

"You are harassing me".

and the all time favourite:

"It's in the post".

Be warned, making these sorts of excuses damages your reputation!



## Two warnings from history...

Partly to solve a problem of providing a male heir to the throne, but also to solve a cash flow problem of epic proportions, English King Henry VIII embarked on the 'Dissolution of the Monasteries'. This included appropriating all their wealth.





## The American Civil War

Despite having a worthless cause (the retention of slavery), the southern states (or Confederacy) came very close to inflicting military defeat on the Union during the US Civil war of the 1860s.

Brilliant generals such as Robert E. Lee and brave soldiers almost brought off a remarkable victory against a stronger enemy.

In the end, the Confederacy simply ran out of money. And lost.

Here, Robert E. Lee and some of his 'Virginians' overlook the battlefield of Gettysburg.

As Abraham Lincoln said in his second inaugural address shortly before he was assassinated:

“With malice toward none, with charity for all, with firmness in the right as God gives us to see the right, let us strive on to finish the work we are in, to bind up the nation's wounds, to care for him who shall have borne the battle and for his widow and his orphan, to do all which may achieve and cherish a just and lasting peace among ourselves and with all nations.”





# Investment appraisal

## CONTENTS

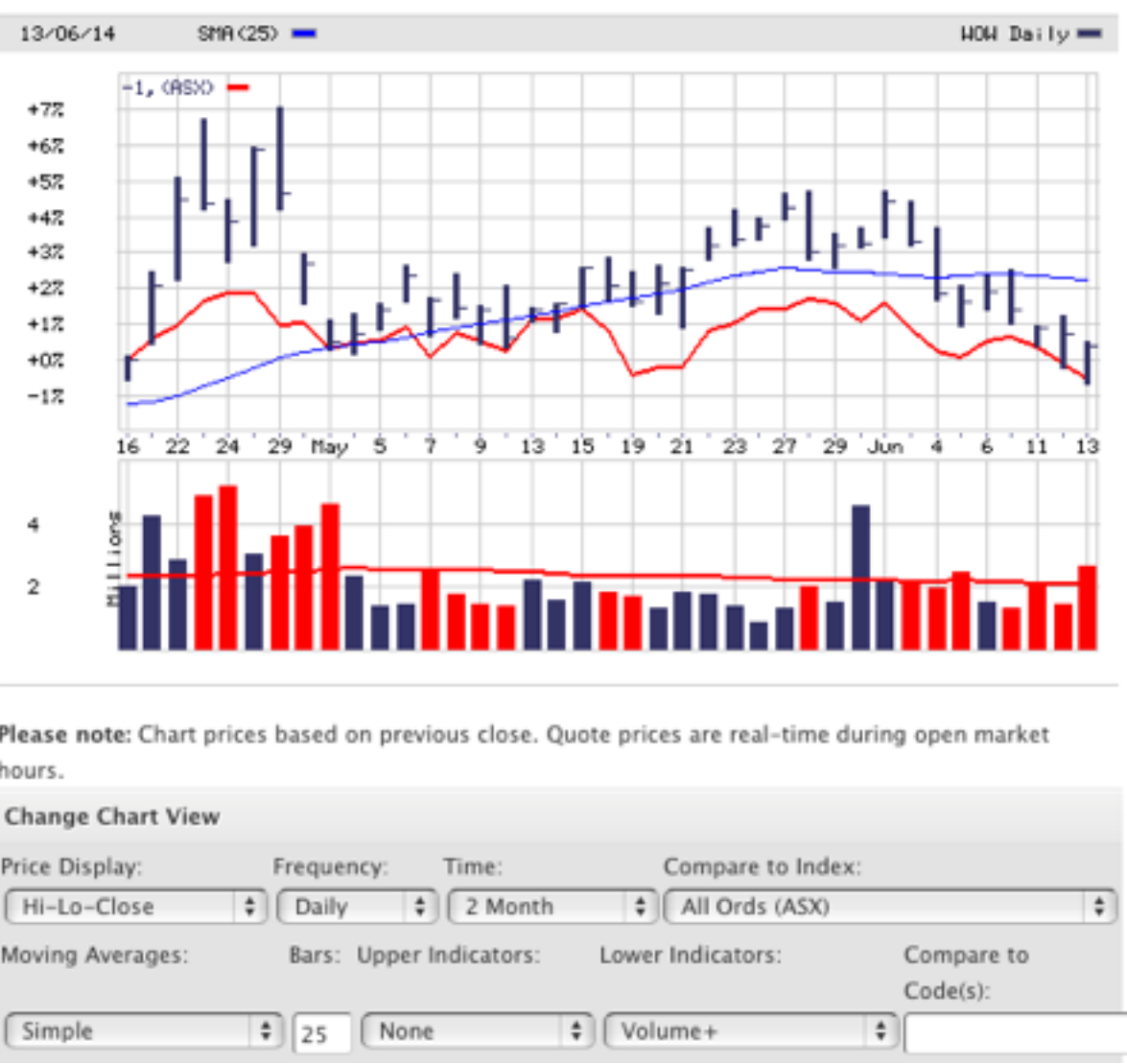
1. Sources of finance
2. Costs and revenues
3. Break-even analysis
4. Final accounts
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. Cash flow
8. **Investment appraisal**
9. Budgets [HL Only]



# How to look at a possible share buy

This is the basic chart of a 'blue chip' company. This means that the investment is deemed 'safe'. Your chance of losing all your money is small, but then, so is the chance that you will get a large short-term profit - as happens when a company finds a big new oil field.

Can you read it and understand what the data are telling you?



The upper graph shows the share price over a 2 month period. The blue line is the moving average of the price.

The red line is the 'share index'. The comparison between the two lines allows you to compare the company with the average of others.

The navy bars show the daily share price low, high and close of business.

The lower graph relates to the volume of trades.

These are the recent trading details.

Last Trade	Today's Change	Volume	Trades	Open	Today's High	Prev. Close	Today's Low	Trading Basis	BUY	SELL
36.175	-0.305 -0.840%	1120268	4339	36.400	36.430	36.480	36.010	Normal		
<a href="#">Live Quote</a>   <a href="#">Market Depth</a>   <a href="#">Charts</a>   <a href="#">Interactive Charts</a>   <a href="#">News</a>   <a href="#">Company Profile</a>   <a href="#">Recommendations</a>										
Buyers			Sellers			Last 10 Trades				
No.	Quantity	Price	#	Price	Quantity	No.	Time	Price	Quantity	Mkt
10	5966	36.170	1	36.180	1793	9	01:01:24 PM	36.175	1	ASX
3	833	36.160	2	36.190	4055	13	01:01:17 PM	36.170	108	ASX
8	2331	36.150	3	36.200	7258	11	01:01:17 PM	36.170	63	ASX
8	32005	36.140	4	36.210	1979	4	01:01:10 PM	36.175	15	ASX
5	2591	36.130	5	36.220	2253	3	01:01:09 PM	36.180	3	ASX
6	3050	36.120	6	36.230	675	1	01:01:09 PM	36.170	1,121	ASX
1	592	36.110	7	36.240	2366	2	01:01:09 PM	36.175	1,879	ASX
5	3604	36.100	8	36.250	1104	1	01:01:09 PM	36.175	7	ASX
2	559	36.090	9	36.340	1006	1	01:00:56 PM	36.170	55	ASX
1	276	36.080	10	36.350	1000	1	01:00:38 PM	36.175	2	ASX



The share price tends to reflect what other investors think. A shrewd investor thinks for her/himself! This means looking at the company and what it does. Businesses come and go. Arrow makers lose out to gunsmiths!

Here is some 'depth' for this blue chip company.

#### Balance Sheet

Capital Structure (\$ 000s)		
Total Debt	4,451,900	Interest: 410,100
Long Term Debt	4,282,500	(32% of capital)
Preferred Stock	0	
Shareholders Equity	9,028,400	(68% of capital)

#### Key Measures

Value 3 Average	Risk 1 Lowest	Growth 3 Average	Income 3 Average
--------------------	------------------	---------------------	---------------------

Value	Company	Market	Sector
Earnings	0.84	0.96	0.71
P/E Ratio	18.83	15.66	18.01
P/B Ratio	5.05	1.22	3.14
P/E Growth	3.94	1.92	3.94
P/S Ratio	0.77	1.57	0.79

Income	Company	Market	Sector
Dividend	3.7%	4.7%	4.5%
Franking	100.0%		
Tax adj	2.9%	3.2%	3.5%
Stability	100.0%	91.4%	96.8%

Risk	Company	Market	Sector
Beta	0.66	1.10	0.66
Current ratio	0.91	1.60	1.01
Quick ratio	0.23	1.05	0.48
Debt/Equity	49.3%	28.3%	28.1%
EarningsStability	81.9%	53.3%	67.2%
Income coverage	9.10	5.94	12.50

Growth Rates	10 yr	5 yr	1 yr	2 yr Fcast
Sales	6.2%	4.1%	4.9%	
Cashflow	6.7%	0.1%	-6.5%	
Earnings	12.3%	7.2%	-15.5%	4.8%
Dividends	12.8%	7.6%	5.6%	5.0%
Book Value	15.3%	7.8%	8.6%	

Capital Structure (\$ 000s)			
Total Debt	4,451,900	Interest: 410,100	
Long Term Debt	4,282,500	(32% of capital)	
Preferred Stock	0		
Shareholders Equity	9,028,400	(68% of capital)	

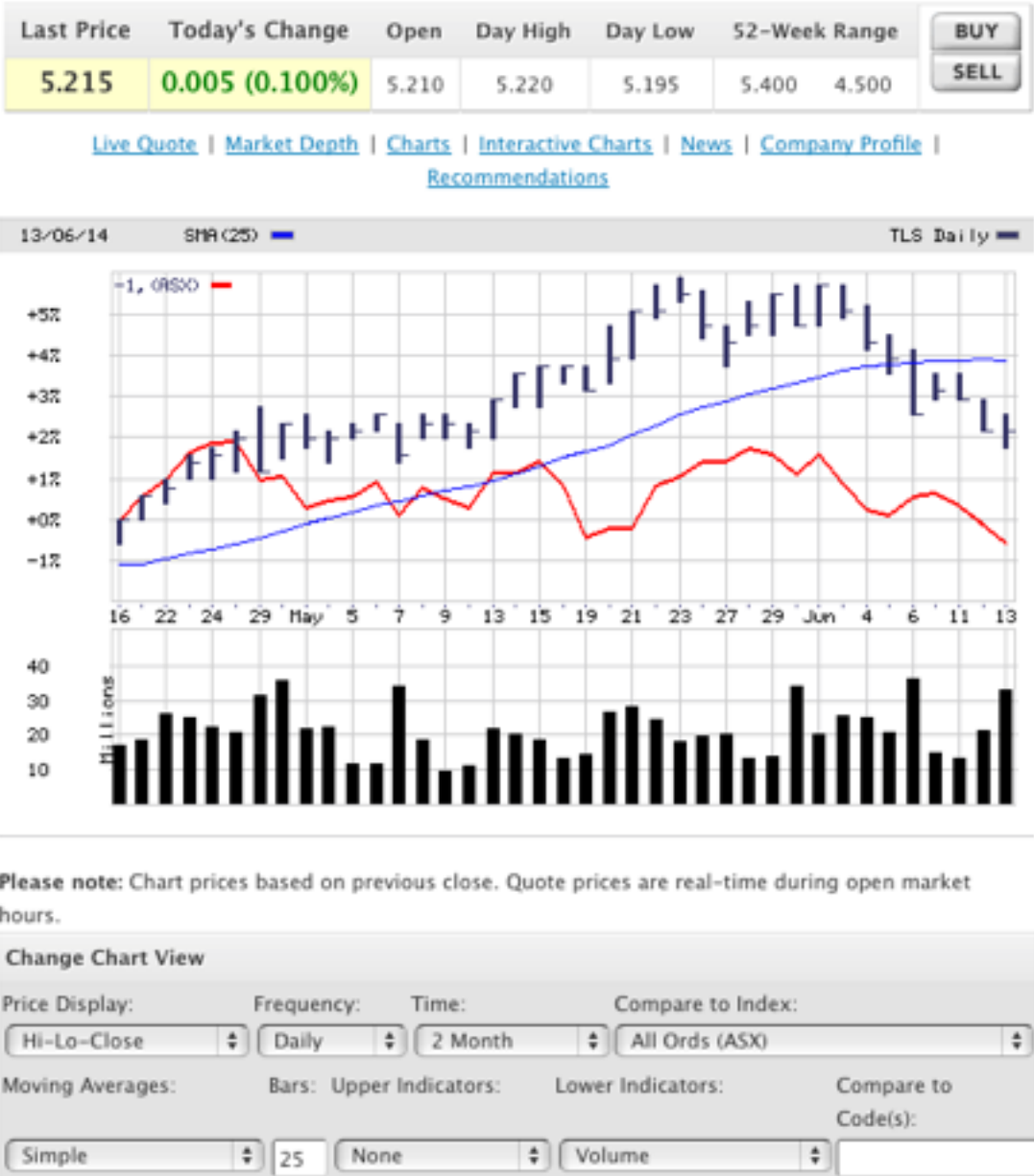
Current Position (\$ 000)				
	2011	2012	2013	
Cash Assets		1,519,600	833,400	849,200
Receivables		889,200	603,300	698,500
Inventory		3,736,500	3,698,300	4,205,400
Others		447,700	667,100	473,000
Total Current Assets		6,593,000	5,802,100	6,226,100
Accounts Payable		5,420,700	5,124,600	5,280,000
Debt Due		1,471,100	54,400	169,400
Others		1,396,500	1,587,200	1,416,600
Total Current Liabilities		8,288,300	6,766,200	6,866,000

Discuss these figures and what they mean.

Dividends Per Share (cents)			
Period Ending	First Half	Second Half	Full Year
2014-06-30	65.0	--	--
2013-06-30	62.0	71.0	133.0
2012-06-30	59.0	67.0	126.0
2011-06-30	57.0	65.0	122.0
2010-06-30	53.0	62.0	115.0
2009-06-30	48.0	56.0	104.0
2008-06-30	44.0	48.0	92.0
2007-06-30	35.0	39.0	74.0
2006-06-30	28.0	31.0	59.0
2005-06-30	24.0	27.0	51.0
2004-06-30	21.0	24.0	45.0
2003-06-30	18.0	21.0	39.0
2002-06-30	15.0	18.0	33.0
2001-06-30	12.0	15.0	27.0
2000-06-30	10.0	13.0	23.0
1999-06-30	8.0	10.0	18.0
1998-06-30	8.0	9.0	17.0
1997-06-30	7.0	9.0	16.0



Next, here is the corresponding information for a second company. This has less of a reputation for capital growth and more of a one for paying good dividends.



Last Trade	Today's Change	Volume	Trades	Open	Today's High	Prev. Close	Today's Low	Trading Basis	<div>BUY</div> <div>SELL</div>
5.215	0.005 0.100%	12596538	2594	5.210	5.220	5.210	5.195	Normal	

[Live Quote](#) | [Market Depth](#) | [Charts](#) | [Interactive Charts](#) | [News](#) | [Company Profile](#) | [Recommendations](#)

Buyers				Sellers			Last 10 Trades			
No.	Quantity	Price	#	Price	Quantity	No.	Time	Price	Quantity	Mkt
42	579262	5.210	1	5.220	556184	67	01:48:13 PM	5.215	40	ASX
95	1749028	5.200	2	5.230	785697	37	01:48:11 PM	5.215	162	ASX
90	1457831	5.190	3	5.240	744151	33	01:48:11 PM	5.220	1,000	ASX
80	1797436	5.180	4	5.250	1107255	46	01:48:01 PM	5.210	799	ASX
42	964471	5.170	5	5.260	664662	16	01:48:01 PM	5.210	176	ASX
37	1007956	5.160	6	5.270	666446	19	01:47:53 PM	5.210	176	ASX
101	1036862	5.150	7	5.280	919577	31	01:47:53 PM	5.210	299	ASX
21	827174	5.140	8	5.290	693457	20	01:47:19 PM	5.215	64	ASX
14	437991	5.130	9	5.300	546204	46	01:46:54 PM	5.210	900	ASX
21	532825	5.120	10	5.310	468607	13	01:46:41 PM	5.210	1,350	ASX

## Balance Sheet

Capital Structure (\$ 000s)		
Total Debt	15,064,000	Interest: 1,128,000
Long Term Debt	14,313,000	(53% of capital)
Preferred Stock	0	
Shareholders Equity	12,611,000	(47% of capital)

## Key Measures

Value 3 Average	Risk 1 Lowest	Growth 3 Average	Income 1 Highest
--------------------	------------------	---------------------	---------------------

Value	Company	Market	Sector
Earnings	0.81	0.96	0.30
P/E Ratio	16.22	15.66	16.30
P/B Ratio	5.14	1.22	3.54
P/E Growth	3.12	1.92	1.60
P/S Ratio	2.54	1.57	1.59

Income	Company	Market	Sector
Dividend	5.5%	4.7%	4.8%
Franking	100.0%		
Tax adj	4.3%	3.2%	3.0%
Stability	93.6%	91.4%	93.6%

Risk	Company	Market	Sector
Beta	0.50	1.10	0.37
Current ratio	1.05	1.60	0.83
Quick ratio	0.94	1.05	0.63
Debt/Equity	119.4%	28.3%	47.5%
EarningsStability	78.5%	53.3%	56.7%
Income coverage	5.67	5.94	8.03

Growth Rates	10 yr	5 yr	1 yr	2 yr Fcast
Sales	2.5%	0.4%	0.4%	
Cashflow	1.6%	-1.2%	-10.1%	
Earnings	-0.7%	0.5%	-2.9%	5.2%
Dividends	0.8%	0.0%	0.0%	1.8%
Book Value	-2.0%	1.0%	9.8%	



Capital Structure (\$ 000s)		
Total Debt	15,064,000	Interest: 1,128,000
Long Term Debt	14,313,000	(53% of capital)
Preferred Stock	0	
Shareholders Equity	12,611,000	(47% of capital)

Current Position (\$ 000)			
	2011	2012	2013
Cash Assets	2,630,000	3,945,000	2,479,000
Receivables	4,137,000	4,346,000	4,557,000
Inventory	283,000	260,000	431,000
Others	403,000	1,399,000	436,000
Total Current Assets	7,453,000	9,950,000	7,903,000
Accounts Payable	4,093,000	4,131,000	4,241,000
Debt Due	1,990,000	3,306,000	751,000
Others	2,455,000	3,247,000	2,530,000
Total Current Liabilities	8,538,000	10,684,000	7,522,000

Dividends Per Share (cents)			
Period Ending	First Half	Second Half	Full Year
2014-06-30	14.5	--	--
2013-06-30	14.0	14.0	28.0
2012-06-30	14.0	14.0	28.0
2011-06-30	14.0	14.0	28.0
2010-06-30	14.0	14.0	28.0
2009-06-30	14.0	14.0	28.0
2008-06-30	14.0	14.0	28.0
2007-06-30	14.0	14.0	28.0
2006-06-30	14.0	14.0	28.0
2005-06-30	14.0	14.0	28.0
2004-06-30	13.0	13.0	26.0
2003-06-30	12.0	12.0	24.0
2002-06-30	11.0	11.0	22.0
2001-06-30	8.0	11.0	19.0
2000-06-30	8.0	10.0	18.0
1999-06-30	7.0	10.0	17.0
1998-06-30	7.0	7.0	14.0
1997-06-30	0.0	4.0	4.0

# Budgets [HL Only]

## CONTENTS

---

1. Sources of finance
2. Costs and revenues
3. Break-even analysis
4. Final accounts
5. Profitability and ratio analysis
6. Efficiency ratio analysis [HL Only]
7. Cash flow
8. Investment appraisal
9. Budgets [HL Only]

## Example

The multi-national meets the local community group in an area of outstanding natural beauty





## Some background - the 'players'

Woodside Petroleum is a large oil exploration company based in Perth, Western Australia.



They have a variety of exploration leases.

<http://www.woodside.com.au/our-business/browse/Pages/default.aspx>

A key lease is known as the Browse Field.

This is located 425 km north of the Town of Broome in the Timor Sea.



The right to develop the oil and gas fields is the subject of international treaties such as: [http://en.wikipedia.org/wiki/Timor\\_Sea\\_Treaty](http://en.wikipedia.org/wiki/Timor_Sea_Treaty)



The other interested parties include the shareholders of Woodside.

However, in order to 'land' the gas, Woodside were intending to build a facility and jetty at James Price Point, to the north of Broome. This land is the subject of 'native title' and there have been negotiations with the Kimberley Land Council over payment for the rights to do this.



Lombadina aboriginal settlement in the 'disputed area'.

Another key player has been the 'Greens' who oppose fossil fuel use. These are a minority political party. The group of 'environmentalists' is much larger, particularly when it comes to preserving remote areas such as this.



The 'horizontal fall' - a tide driven waterfall in the area.



As a direct result of this opposition, Woodside will very likely load the gas at an off-shore facility at the Browse field itself.

## CUEGIS

### Change

Oil exploration companies have moved from oil towards natural gas. What are the reasons for this?

There are a few. For example, LNG has a lower carbon content than oil and coal and produces more water and less carbon dioxide when burnt. Its use reduces Greenhouse gas emissions.

The gas is more widely distributed. Many governments are concerned about reliance on the Middle East, which they view as politically unstable.

### Culture

This project has seen a head on clash between the corporate culture of Woodside and its shareholders with Aboriginal Land Rights and Environmentalists.

### Ethics

What are the ethical issues here? Global Warming - which might be said to support Woodside?

The politics of resources won from international waters?

Other issues?

### Globalization

The energy trade is perhaps the most globalized of all major businesses.

### Innovation

The building of offshore exploration and production platforms for oil and gas is advanced. Will a major facility at which large LNG carriers dock be a step too far, particularly a Browse is in an area prone to tropical storms?

### Strategy

Some Woodside watchers believe the proposal to build an onshore facility in The Kimberleys was a feint which they hoped would be blocked by land rights and environmental issues. This view has it that the more risky offshore option would be difficult to put to shareholders without the more conventional options having been explored and failed.

What do you think?



## Chapter 4

# Marketing





# The role of marketing

## CONTENTS

---

1. **The role of marketing**
2. Marketing planning
3. Sales forecasting [HL Only]
4. Market research
5. The four Ps (product, price, promotion, place)
6. The extended marketing mix [HL Only]
7. International marketing [HL Only]
8. E-commerce



It can pay to advertise!



The Bellagio Hotel & Casino in Las Vegas advertises itself with regular sound, light and fountain shows in its forecourt.







The great cathedrals of Europe are impressive even to the modern eye. This is Canterbury in England.

To mediaeval people who lived in small one roomed houses, they must have been staggering.

A huge investment by the communities that built them.

Was this marketing?



Modern street signage, Japan.





The modern way - sponsoring a big event!



And, finally - for those who think big when it comes to greetings cards...





# Marketing planning

## CONTENTS

---

1. The role of marketing
2. **Marketing planning**
3. Sales forecasting [HL Only]
4. Market research
5. The four Ps (product, price, promotion, place)
6. The extended marketing mix [HL Only]
7. International marketing [HL Only]
8. E-commerce



The most basic form of marketing, Quito, Ecuador.

A Jumbo jet packed with flowers leaves Quito daily for the US market,

## Marketing classics on YouTube

You will need an internet connection. Also, bear in mind that these entries come and go. We give you a search hint in case they have 'gone'.

### Herding Cats

Search: herding cats eds commercial. This commercial has the message that the company achieves the impossible.

<http://www.youtube.com/watch?v=Pk7yqlTMvp8>

### Beer

Search: Carlsberg commercial ice cold in alex

A Carlsberg TV commercial that uses footage from the classic film *Ice Cold in Alex*.

<http://www.youtube.com/watch?v=gsqZDI99PNk>

### The Advertising Jingle

Search: esso sign means happy motoring

An advert from the 1950s when using petrol was still fun!

<http://www.youtube.com/watch?v=dyZ62oFDwcs>

### Cigarettes

Search: marlboro cigarettes commercial

Advertising cigarettes is now illegal in many countries. This example comes from the 1970s when it was still acceptable to claim that smoking is healthy (it is not!).

<http://www.youtube.com/watch?v=aPN3C3LenjU>

### Hope

"In our factory we make lipstick, in our advertising we sell hope" - variously attributed!

Search: lipstick ads

<http://www.youtube.com/watch?v=Ui-ulCWmpOU>

### Travel

Search: qantas i still call australia home

Wonderful destinations, children singing, national pride. This QANTAS commercial is another classic.

<http://www.youtube.com/watch?v=r0mcjdbT4Hg>



# Sales forecasting [HL Only]

## CONTENTS

---

1. The role of marketing
2. Marketing planning
3. Sales forecasting [HL Only]
4. Market research
5. The four Ps (product, price, promotion, place)
6. The extended marketing mix [HL Only]
7. International marketing [HL Only]
8. E-commerce



Rule one of marketing - attract attention!

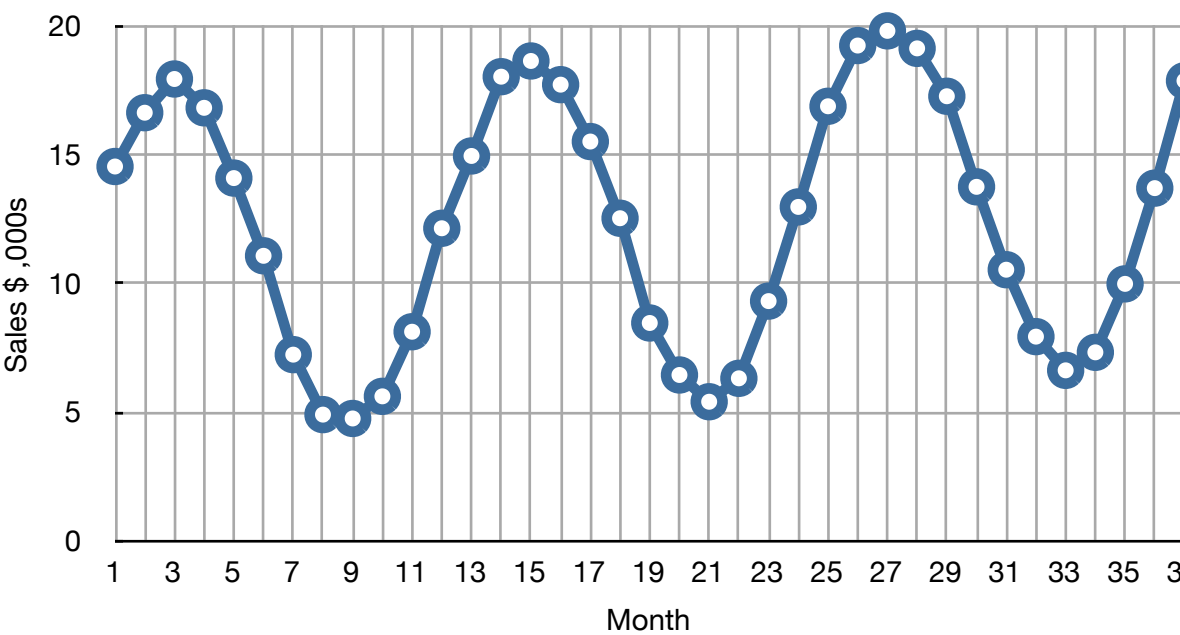
# Sales Forecasting

The difficulties created by seasonal sales are covered in the text.

The obvious way to complete the arithmetic necessary to achieve moving point smoothing are best conducted using a spreadsheet.

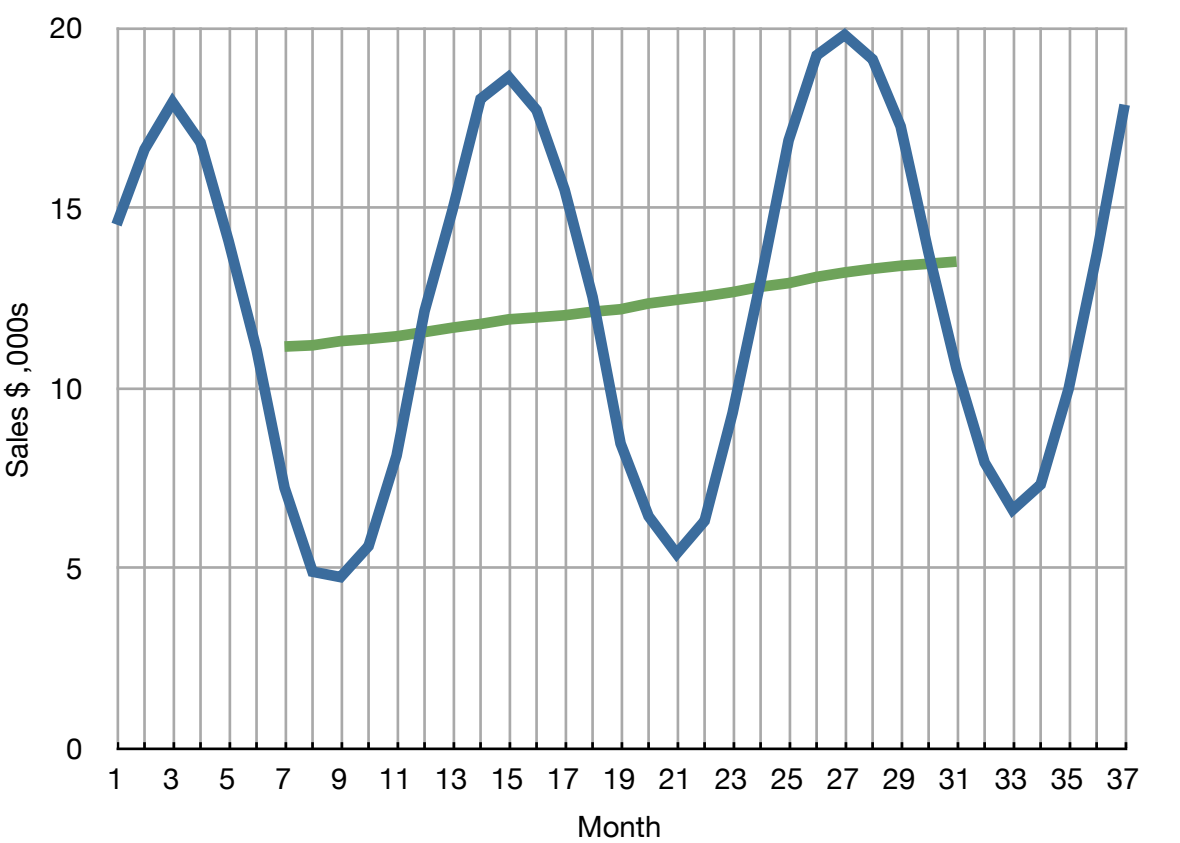
The link \*\*\*\* is to a spreadsheet that performs twelve point smoothing suitable for annual periods.

The file contains some fictitious data which, when graphed, show annual variation.



The 12 month cycle is obvious and can be smoothed out in a 12 point moving average. This one is centred.

Whilst the course only requires 4 point smoothing, it is worth pointing out that the best results when smoothing cyclical data are obtained by smoothing over an entire cycle.



The smoothed line is green.

Having smoothed the seasonal aspects, the upward trend is more obvious.

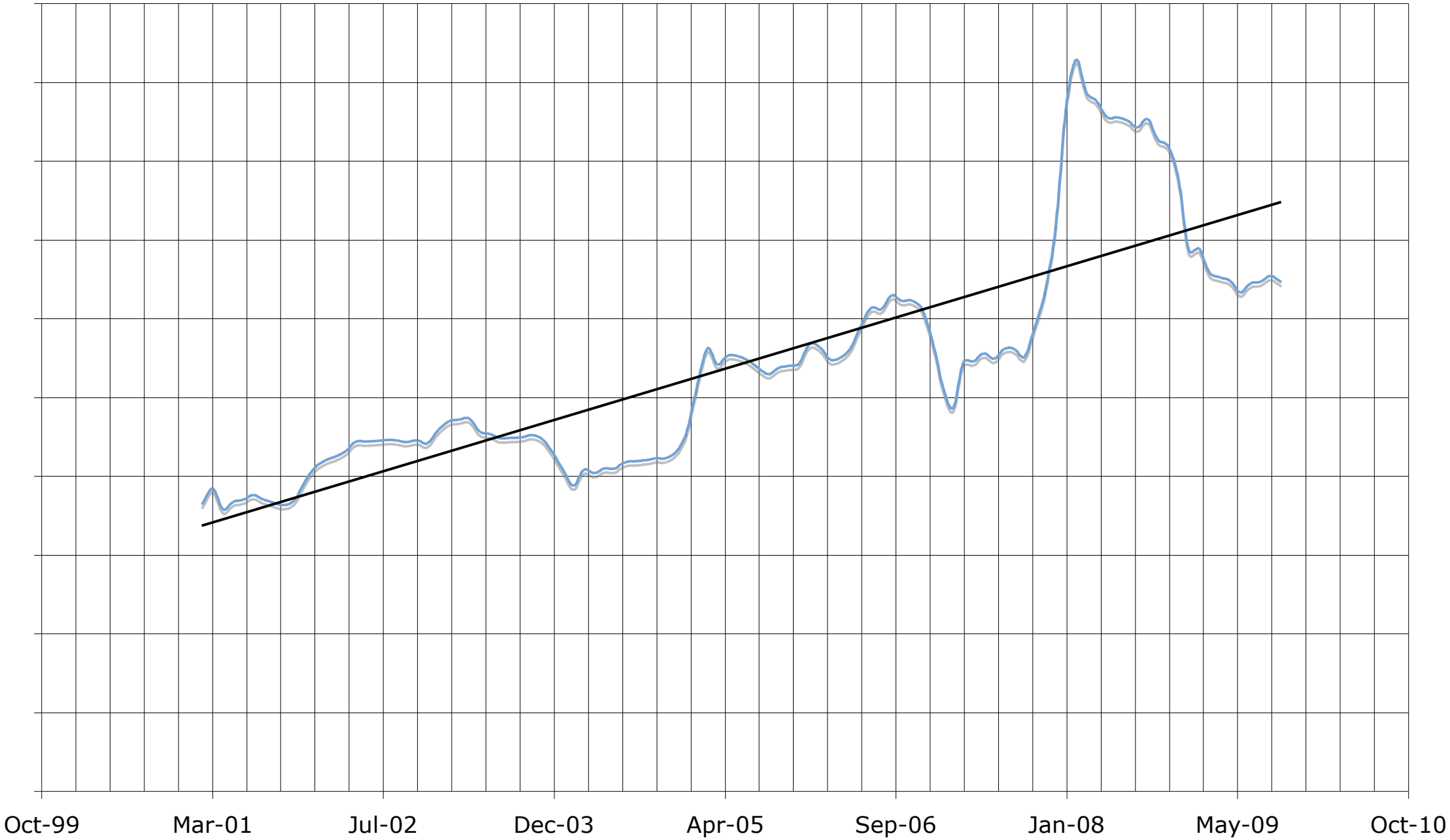
But enough of fictitious data!

The graph on the next page was presented to a marketing meeting of an office equipment supply company. The graph shows the smoothed data and a trendline. Only the company



identities and the sales amounts have been removed. During the discussion, the market experts said that it showed growth. A dissenting director said it showed a downturn. Who was right?

**12 point Smoothed Income**



# Market research

## CONTENTS

---

1. The role of marketing
2. Marketing planning
3. Sales forecasting [HL Only]
4. **Market research**
5. The four Ps (product, price, promotion, place)
6. The extended marketing mix [HL Only]
7. International marketing [HL Only]
8. E-commerce





## So what do you do with a new product?

Halinka Panzera is an experienced business executive and consultant.

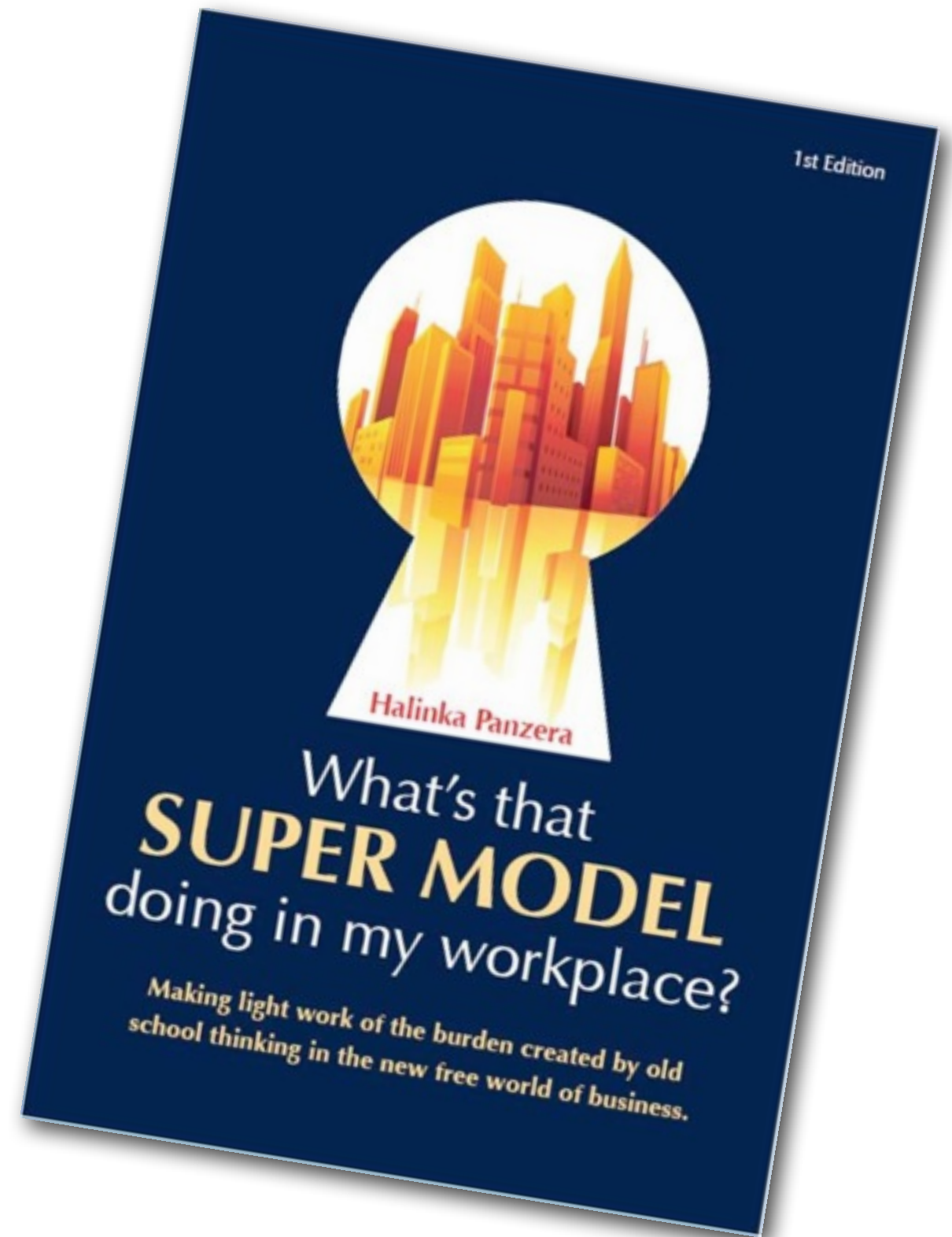
She has written a book about modern business. The outline is on the following two pages. These explain the author's background and the contents and objectives of her book.

The book has a catchy title that draws on the double meaning of 'super-model'. In many countries, pension funds are called superannuation funds, or 'super' for short. Is this enough to make you want to buy it?

What is the likely market for this book? Is it of interest to aspiring business people, established businesses or both?

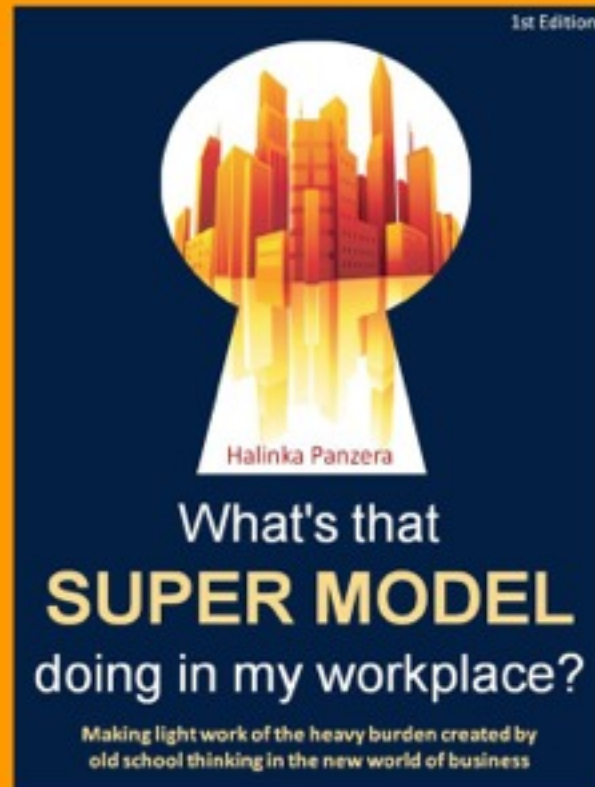
What should the publishers do to promote the book?

What is suggested by the cover design?





## What's that SUPER MODEL doing in my workplace? By Halinka Panzera



Helping business  
realise their full potential



**Halinka Panzera**  
halinka@thekey2.net  
+61 0412 853 471  
www.thekey2.net

### *How corporations can actively invest in the future of society.*

In What's that Super Model doing in my Workplace?, author Halinka Panzera explains why Globalisation and faltering economies we need to seek leaders with different characteristics.

Social and economic change means that business behaviour needs to adapt. A profit-only, homogeneous male-dominated, institutionalised, single-minded approach to business will no longer secure business success in the future. We are already seeing decline in corporate performance among companies that are adhering to older models.

A more broad-minded, balanced outlook that incorporates wider societal characteristics and priorities is needed. An organisation needs to develop a wide range of solutions to any given problem. Says Halinka Panzera, "When organisations try to replicate the type of leadership they have had in the past, they don't maximise their problem solving. This 'dinosaur' style has had its day".

The Super Model has been created by research insights and provides a new approach for problem solving for CEO's, HR, Management, and New Leaders. Corporate evolution is possible, with insightful, evolving and confident people leading the way and willing to embrace change by contributing diverse thoughts, ideas and perspectives.

This book shows you how.

**Trim Size:** 6" x 9" (15.24 x 22.86 cm)  
**Format:** Black & White on White paper  
**Page Count :** 168 pages

**ISBN-13:** 978-1470049614 (CreateSpace - Assigned)  
**ISBN-10:** 1470049619

**BISAC:** Business & Economics / Women in Business  
**RRP:** \$24.88



### **Author Bio**

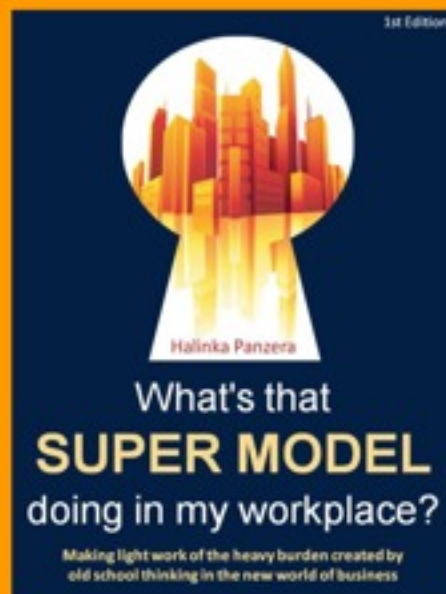
Creator of the Super series, Halinka Panzera BBus (Mktg), BA (Psych), MBA is an author, marketer, researcher, international speaker/ facilitator, lecturer, mother, wife and creator of TheKey2 business model.

Her education gave her the first taste of authority and power. As a corporate woman she was used to power. The problem was not one of powerlessness, the problem was as a woman she was not allowed to be as powerful as she could have been without taking on the persona of a man. Feminism does not address this conflict adequately from a corporate perspective.

"What's that supermodel doing in my workplace?" addresses this gap. Halinka is deeply involved in society values, combining her understanding of psychology, sociology and politics, with passions for the environment, art, culture and society. It is this dedication to observation, learning and understanding the key role of organisations in creating societal change that underpins Halinka's market research company.

It is the same drive that motivates her to write on a number of topics including social equity, human rights, health and nutrition, society, the environment and sustainably principles. She also regularly contributes as a corporate speaker and panel member on a range of topics. Corporate social responsibility will not translate into anything real under the current corporate framework and it is finding ways to change this that drives Halinka in her daily life.





### Reviews

A pithy and thought-provoking book, which unmask dinosaur leaders within dinosaur businesses who just do not 'get it' when it comes to unlocking fresh thinking on diversity and the gender dividend.

This book gets to the core of what is currently holding back business. Poor leadership, dysfunctional culture, bad management practices and resistance to change no longer have a place in progressive management ... gender diversity is a business issue not a gender issue. The book's call to action for a better way is appropriate, but it requires more progressive leadership at the top.

If the gender diversity dividend is to be delivered, new leaders must create a culture that not only is seen to foster diversity, but actually does it. This book makes it clear that 30% critical mass within senior management is the key to achieving gender diversity at board level...This is the dual challenge for business.

**Graham Robertson**

**CEO 23 years' experience / Current Board Member**

Former Vice-President and Managing Director - McCORMICK Foods Australia

## What's that Super Model doing in my workplace? TheKey2.net - business

### Why this book is important

"There is not a lot of literature about social-based change in business; how to drive it, how to implement it and how successful people have challenged the status quo and successfully implemented social changes.

There is little written about empowerment and being true to yourself in the context of the corporation. Many books are filled with the right words, they know how to 'talk the talk', but change is not a step-by-step approach to personal wealth and happiness.

Change is about overcoming the obstacles in your life and getting on with your life without dragging any baggage around with you."

**Halinka Panzera**





## Section 5

# The four Ps (product, price, promotion, place)

### CONTENTS

---

1. The role of marketing
2. Marketing planning
3. Sales forecasting [HL Only]
4. Market research
5. The four Ps (product, price, promotion, place)
6. The extended marketing mix [HL Only]
7. International marketing [HL Only]
8. E-commerce





## Gallery 4.1 Product



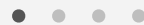
*What are the products here?*



## Gallery 4.2 Price



*Price competition amongst airlines is fierce.*





## Gallery 4.3 Promotion



Signage





## Gallery 4.4 Place



*The classic place to do business - the high street.*





## Do you understand the difference between price and value?

The owner of this farmhouse in the UK has a small keepsake from his childhood that he values and which he keeps in a glass case. It is a hand-drawn postcard of a weeping bull that was sent to him one summer when he had to miss his holiday to study for exams.



How much is this postcard worth - to him? - to you?

If I add the piece of information that the postcard was drawn by Pablo Picasso, would this change your answers?

## Gallery4.1

1. Tourism - pleasure craft in Japan
2. Transport - Vietnam
3. Fishing - UK
4. Health - the Royal Flying Doctors in Outback Australia
5. The Arts - the Shakespeare Theatre, Stratford-upon-Avon, UK
6. Knowledge - Arctowski Base (Polish), Antarctica

# The extended marketing mix [HL Only]

## CONTENTS

1. The role of marketing
2. Marketing planning
3. Sales forecasting [HL Only]
4. Market research
5. The four Ps (product, price, promotion, place)
6. **The extended marketing mix [HL Only]**
7. International marketing [HL Only]
8. E-commerce



Good people - good service

The picture shows a teacher who loves his job



A stylish service of coffee.



One of the oldest trades in the world - Mahout or elephant rider





Good service often accompanies good presentation.

A Japanese meal.

Raffles Hotel - Singapore. A legend in the hotel industry





# International marketing [HL Only]

## CONTENTS

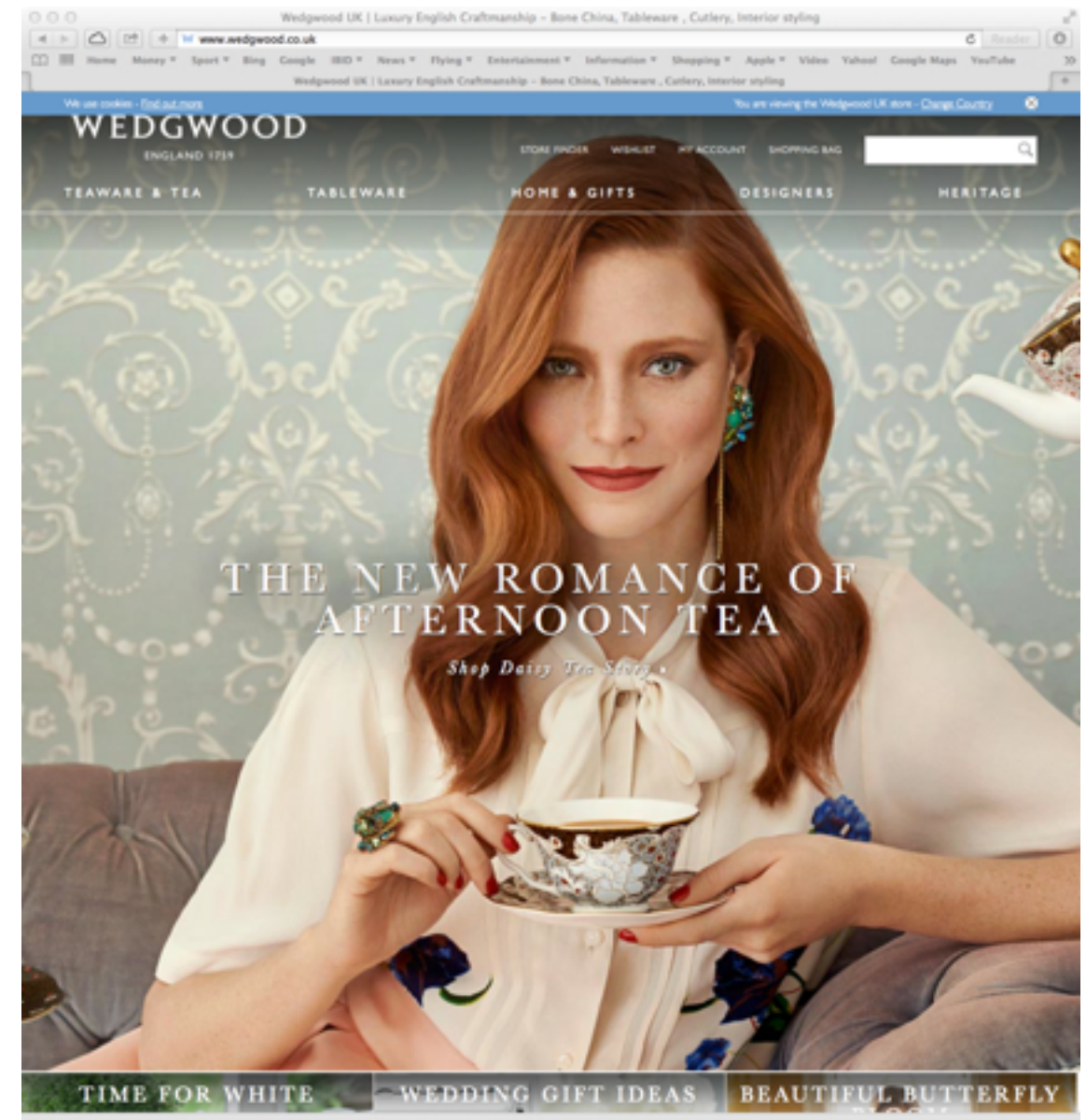
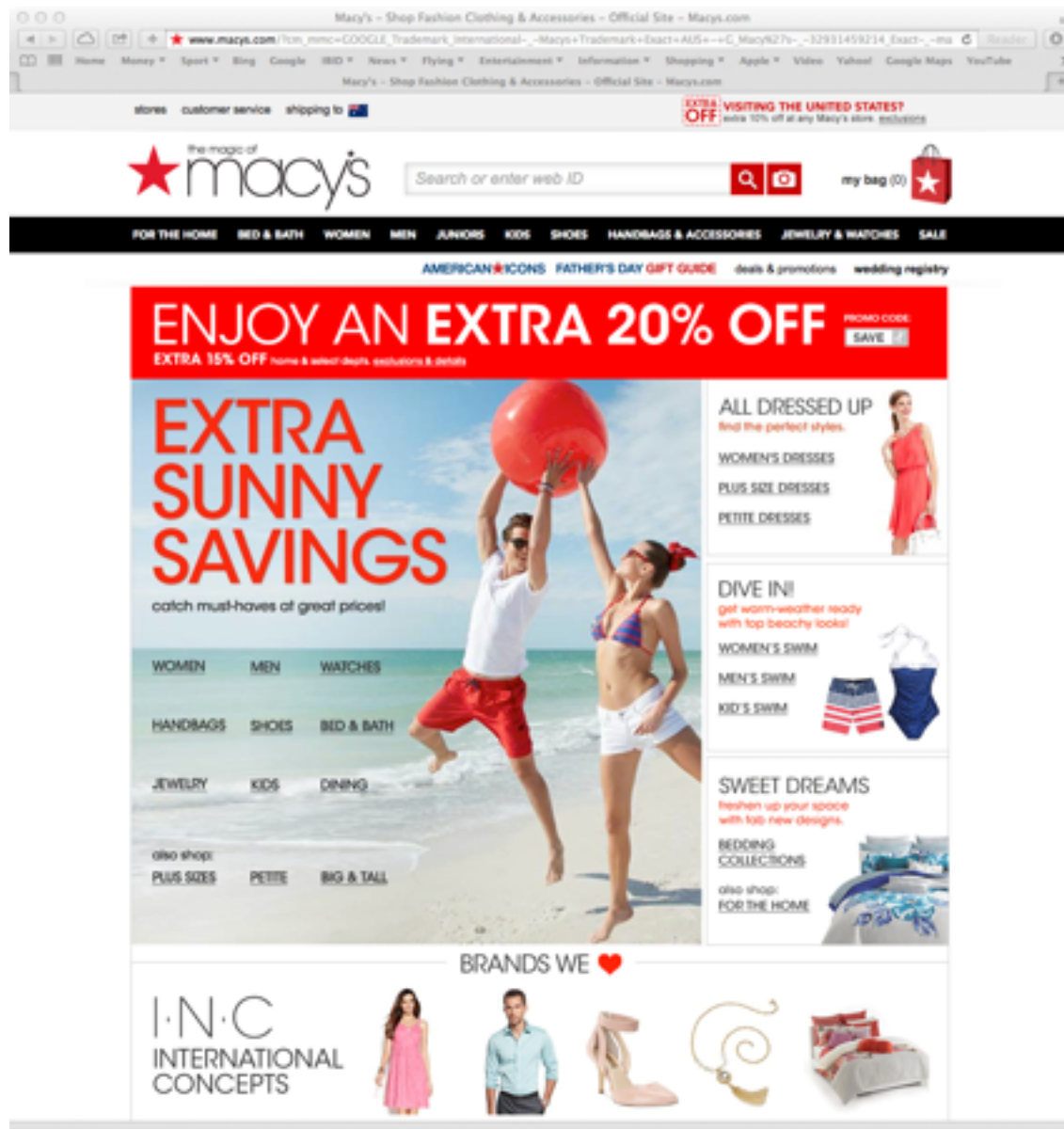
---

1. The role of marketing
2. Marketing planning
3. Sales forecasting [HL Only]
4. Market research
5. The four Ps (product, price, promotion, place)
6. The extended marketing mix [HL Only]
7. [International marketing \[HL Only\]](#)
8. E-commerce





The internet has allowed cheap access to worldwide marketing.



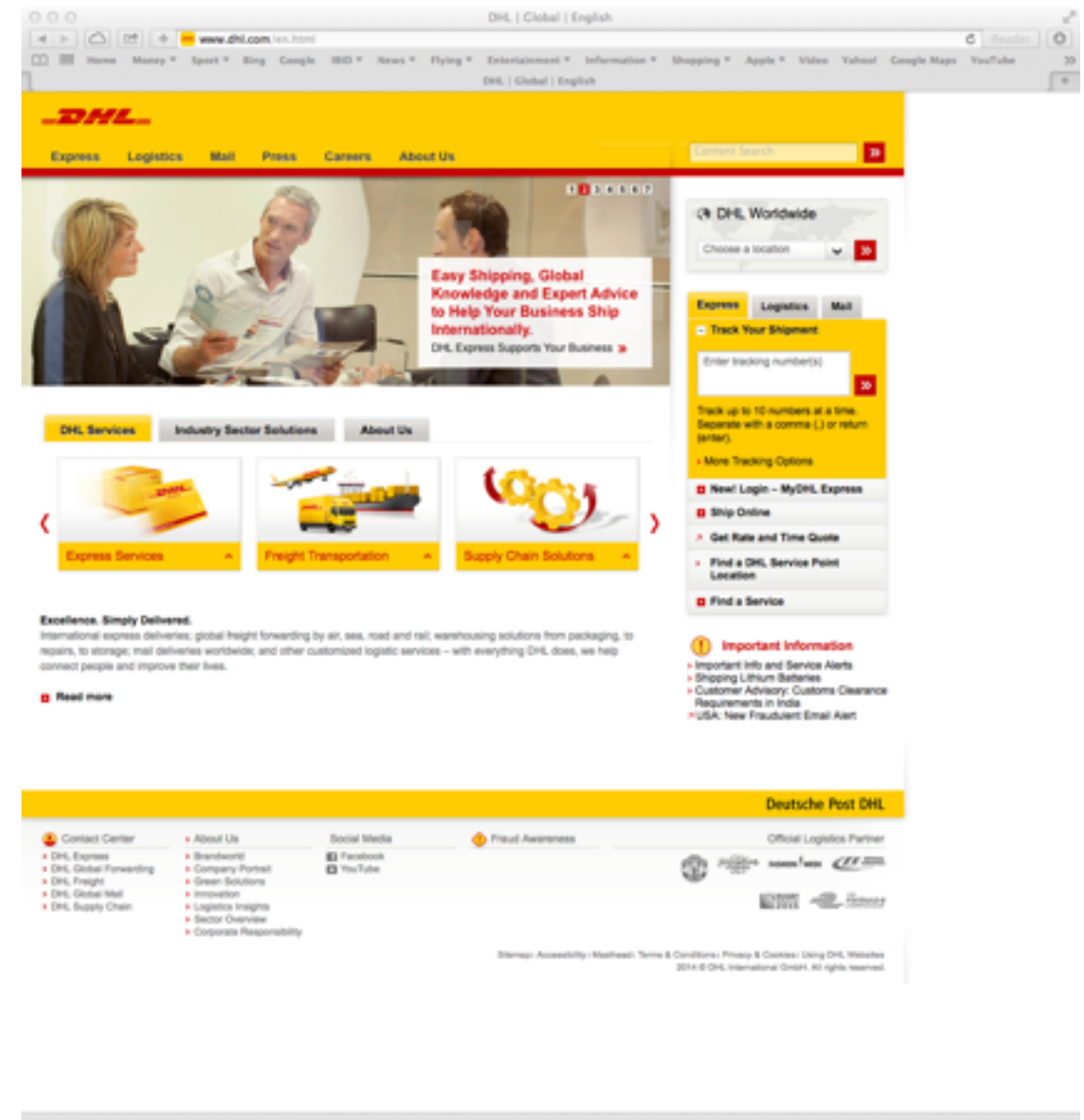


Improved physical communications help international marketers.

Giant container ships have brought huge reductions in the cost of shipping bulk goods.



Air couriers deliver in very short time periods.



And finally...

An otherwise good tourism commercial that failed because of its last sentence. Don't assume local cultural norms apply worldwide!

[http://www.youtube.com/watch?v=H-j-xD\\_Kel8](http://www.youtube.com/watch?v=H-j-xD_Kel8)

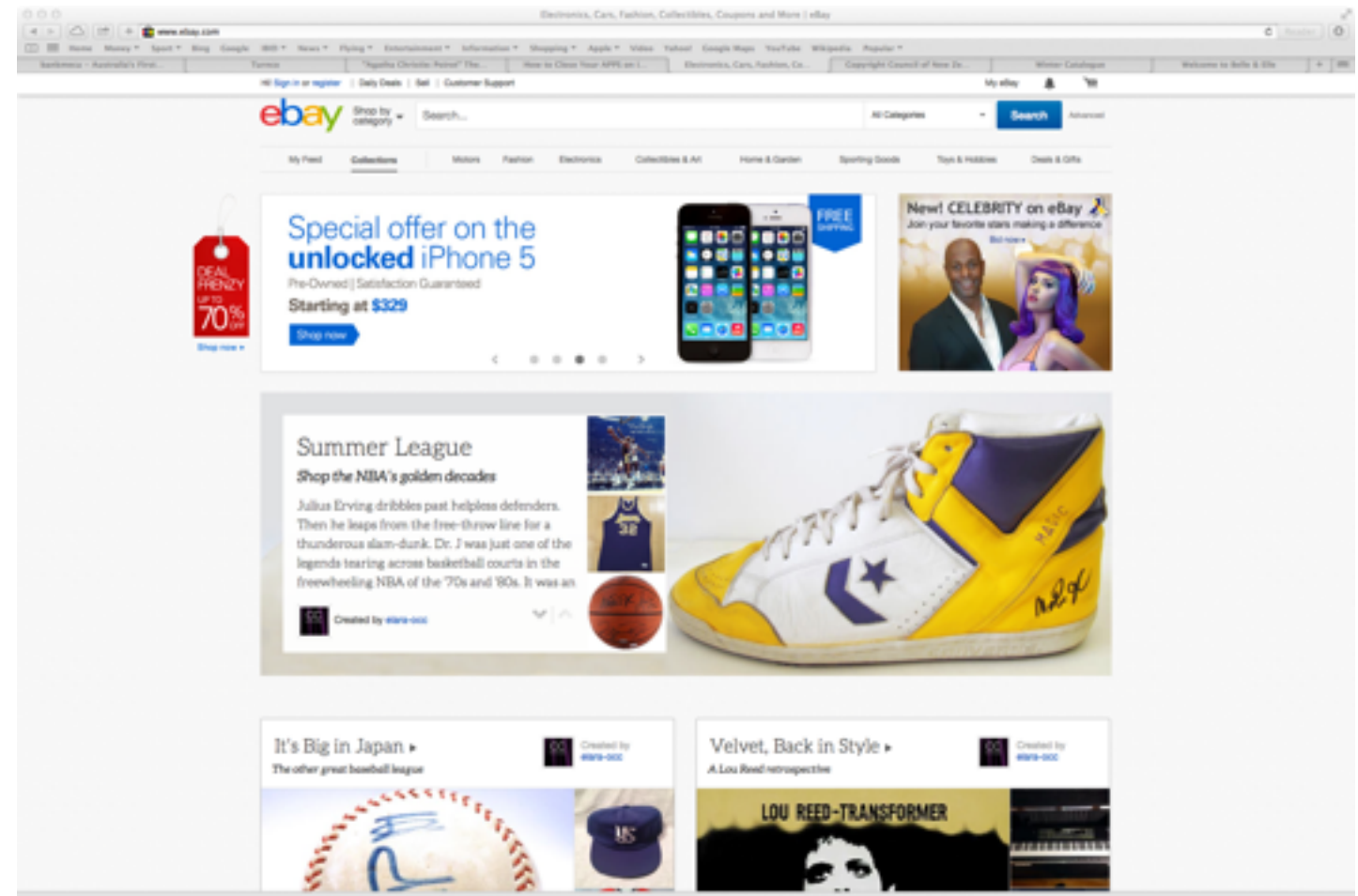


# E-commerce

## CONTENTS

1. The role of marketing
2. Marketing planning
3. Sales forecasting [HL Only]
4. Market research
5. The four Ps (product, price, promotion, place)
6. The extended marketing mix [HL Only]
7. International marketing [HL Only]
8. E-commerce

## E-commerce - an entirely new way of trading



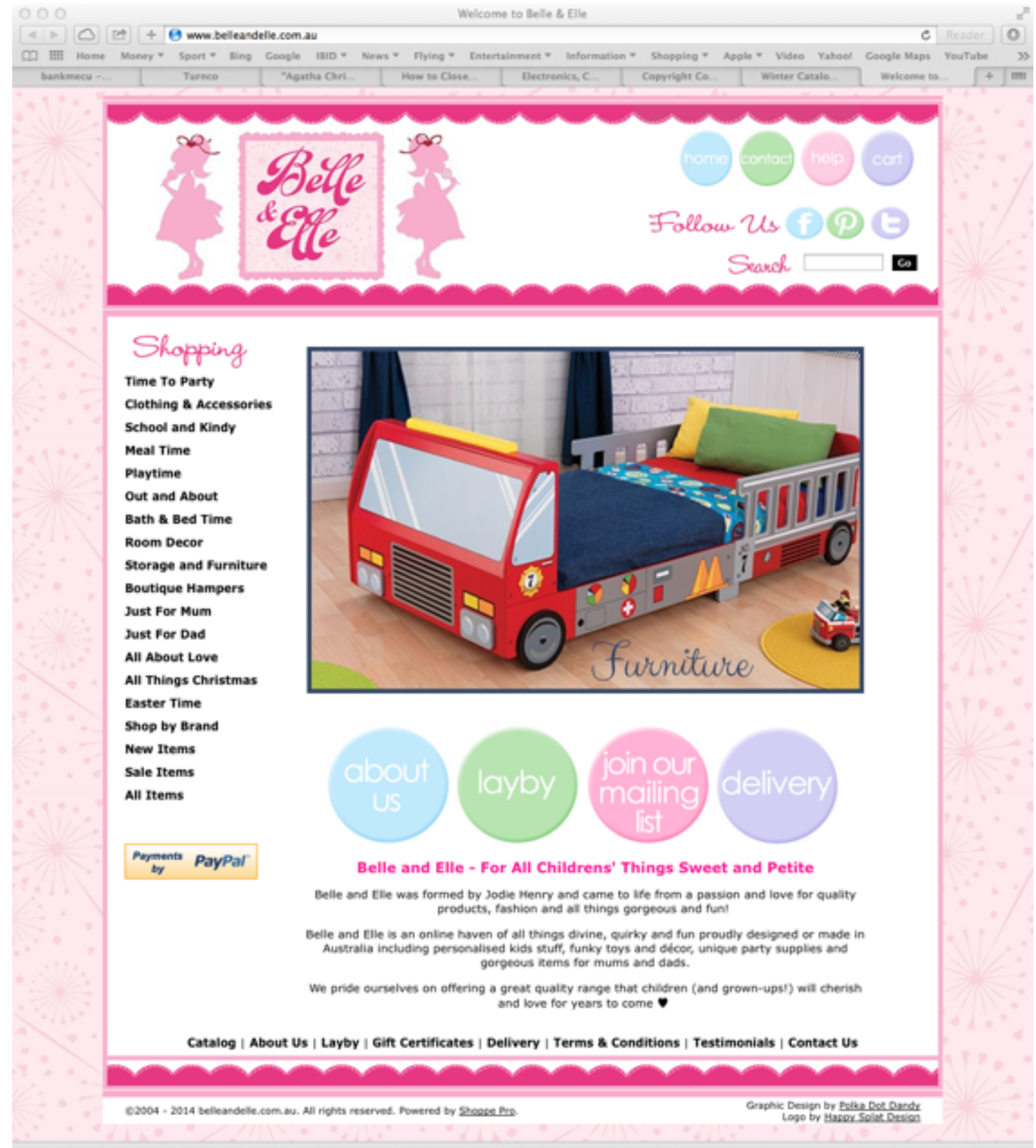
EBay - one of the earliest online trading resources.

## Case Study

The two businesses featured here required very small amounts of capital to set up. The main expenditures were the websites.

The goods featured are not kept in stock. When an order is received, it is passed to the manufacturer who actually fills it. The business charges a fee for generating the business.

<http://belleandelle.com.au>





The second business runs a slightly different model with freelance sales staff running 'parties' along the lines of 'Tupperware'.

The sales people have an incentive driven remuneration scale:

- Monthly personal sales volume Party sales from \$0 - \$1,000 earn 20% commission.
- Monthly personal sales volume Party sales from \$1,000.01\* - \$3,500 earn 25% commission.
- Monthly personal sales volume Party sales \$3,501\* and above earn 30% commission.

Again, there is no need to hold stock as orders are filled by manufacturers. This commonplace feature of ebusinesses overcomes one of the major 'barriers to entry' - the set up costs.



## Chapter 5

---

# Operations Management

---





# The role of operations management

## CONTENTS

---

1. The role of operations management
2. Production methods
3. Lean production and quality management [HL Only]
4. Location
5. Production planning [HL Only]
6. Research and development [HL Only]
7. Crisis management and contingency planning [HL Only]

Roof gardens in Singapore - a contribution to sustainability.

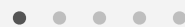




**Gallery 5.1** It's not just having stuff, it's using it effectively.



*Even small airlines must keep their planes flying. A jumbo jet spends around half its life in the air.*





# Production methods

## CONTENTS

---

1. The role of operations management
2. **Production methods**
3. Lean production and quality management [HL Only]
4. Location
5. Production planning [HL Only]
6. Research and development [HL Only]
7. Crisis management and contingency planning [HL Only]



There will always be a market for handmade goods even though they are more expensive than the mass produced article. A glass craftsman, Murano, Italy.

## The Humble Pin

Adam Smith in his *Wealth of Nations* was the first person to set down the principles of business and economic management as they existed in his time.

In a famous passage - which is worth quoting in full - he looks at the manufacture of pins and the way in which division of labour could make this more efficient.

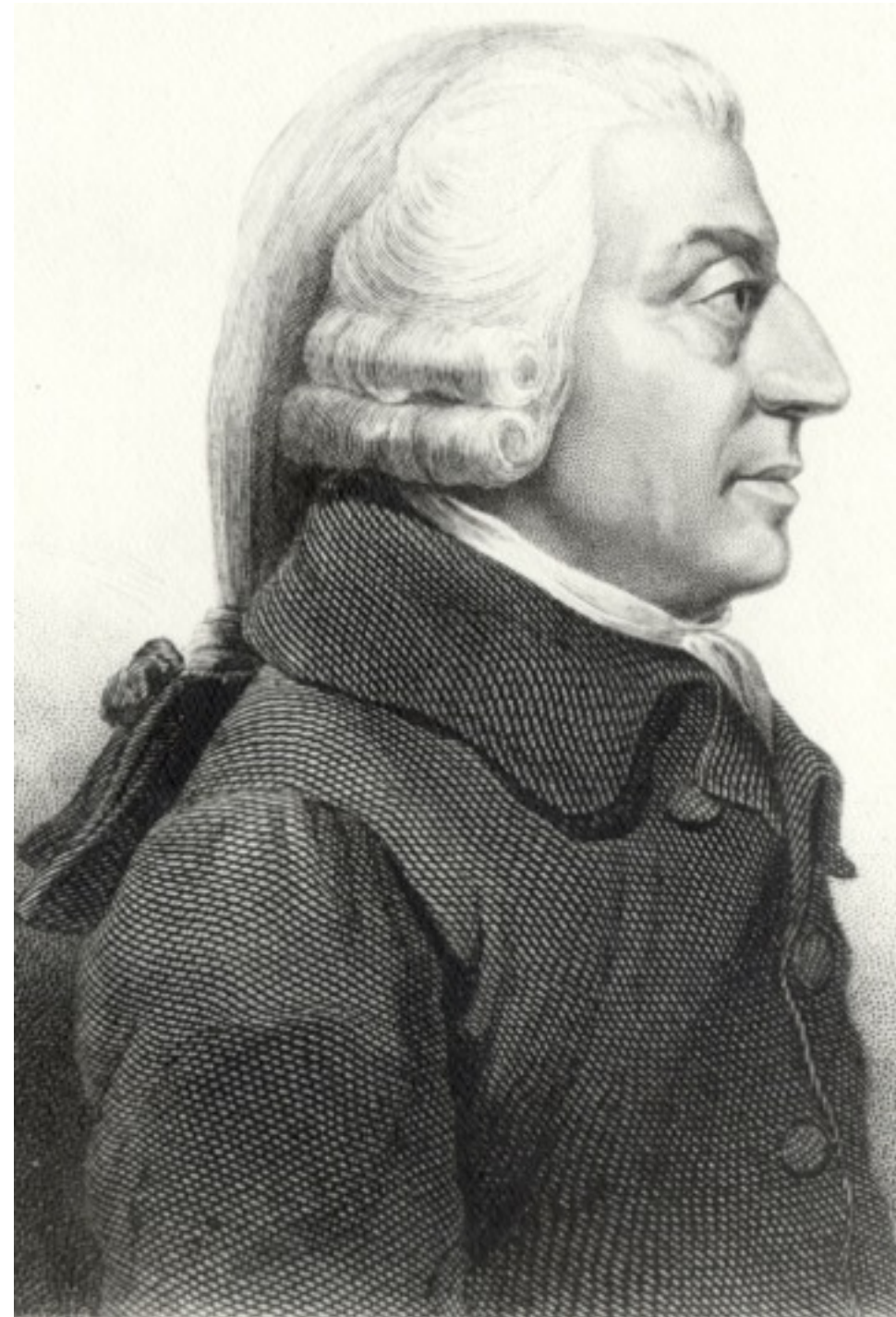
**To take an example, therefore, from a very trifling manufacture, but one in which the division of labour has been very often taken notice of, the trade of a pin-maker: a workman not educated to this business (which the division of labour has rendered a distinct trade, nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarce, perhaps, with his utmost industry, make one pin in a day, and certainly could not make twenty. But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire; another straightens it; a third cuts it; a fourth points it; a fifth grinds it at the top**

**for receiving the head; to make the head requires two or three distinct operations; to put it on is a peculiar business; to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations, which, in some manufactories, are all performed by distinct hands, though in others the same man will sometimes perform two or three of them. I have seen a small manufactory of this kind, where ten men only were employed, and where some of them consequently performed two or three distinct operations. But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins in a day. There are in a pound upwards of four thousand pins of a middling size. Those ten persons, therefore, could make among them upwards of forty-eight thousand pins in a day. Each person, therefore, making a tenth part of forty-eight thousand pins, might be considered as making four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them having been educated to this peculiar business, they**



**certainly could not each of them have made twenty, perhaps not one pin in a day; that is, certainly, not the two hundred and fortieth, perhaps not the four thousand eight hundredth, part of what they are at present capable of performing, in consequence of a proper division and combination of their different operations.**

Adam Smith (1723-1790)



# Lean production and quality management [HL Only]

## CONTENTS

---

1. The role of operations management
2. Production methods
3. Lean production and quality management [HL Only]
4. Location
5. Production planning [HL Only]
6. Research and development [HL Only]
7. Crisis management and contingency planning [HL Only]



Mining can still be profitable in remote areas.

This is an iron ore mine on Cockatoo Island in the Indian Ocean.



## The Saboteur and the Loom

The struggle between innovative production methods and workers who feel they might lose their jobs has a long history.

The issue has been the subject of comedy as in this example in which the threat of bronze to the stone age is satirised:

Search Youtube: That Mitchell and Webb Look (Bronze Age)

<http://www.youtube.com/watch?v=-EGAtLGDU7M>

However, the issue has seen some of the bitterest clashes between workers and management in recent years.

Examples include the Coal Miners strikes in the UK in the 1970s and '80s in which the issue was the replacement of coal by oil and gas.

There have been similarly bitter confrontations as the world's docks have been mechanised.

However, the confrontation between weavers and managements who introduced the Jacquard loom in the early 1800s represents one of the most significant of these.

The traditional loom requires skilled users - weavers. The check pattern shown on the loom opposite is made by stringing threads from left to right with two colours forming parallel lines. These are

known as the 'warp' of the cloth. The cross threads (the 'weft') are loaded into 'shuttles'. Alternating the colours of thread in the weft produces the check. Producing a more detailed pattern was a very skilled and time consuming job.





And then, along came Joseph Marie Jacquard and his automated loom.

This depended on punched cards to decide on the movements of the shuttles.



This was a brilliant innovation that enabled extremely detailed weaving to be completed automatically.

This image is woven using a Jacquard loom.





Understandably, the weavers feared that the loom would make them redundant. It did.

To try to prevent the adoption of the loom, the workers sometimes threw their wooden clogs (known as 'sabots') into the mechanisms thus damaging them.

From this, we get the word ... ?

More important than adding to the vocabulary, Jacquard gave us the punched card.

Those of us old enough to remember the days of computers that filled a room will remember that the main way of entering data was the punched card.

In the 1970s one sat at a punched card machine, not a computer. The cards were fed into card readers by trained operators. A day or so later, you got printed output returned. A single typing error and the program failed entirely.

It was tough in the old days!

# Location

## CONTENTS

---

1. The role of operations management
2. Production methods
3. Lean production and quality management [HL Only]
4. **Location**
5. Production planning [HL Only]
6. Research and development [HL Only]
7. Crisis management and contingency planning [HL Only]



Military aircraft are generally the only option for relief deliveries to remote areas.



## CUEGIS Case Study

IBID's distribution is handled by a logistics company.

The services offered by this company are:

\* Receival and storage of goods.

IBID's books occupy most of a lane in the warehouse. However, the SKU next to our ToK books contains Eczema cream produced by an entirely different company





The books are stored in locations known as 'SKUs' that are identified by barcodes



Electronic orders come either from the IBIDIRECT online store or as entered by our service staff. They go to a computerised terminal:





The orders are received in the warehouse and are uploaded to a mobile barcode gun.



Pick and Pack.

The barcode gun directs staff to the correct SKU for each product in the order. These are then placed in coded trays prior to packing, addressing and despatch.



\*

## CUEGIS aspects

A week before the third edition of Business Management arrived at the warehouse, the entire facility was moved about a kilometre to new premises.

This was achieved with almost no interruption of service.

The decision was made by a new management for the following reasons:

Money: the new premises are cheaper and still large enough.

Company culture: The new management has renamed the business (which has warehouses in the USA, UK and Australia) so that each location has its own name. The intention is to encourage each location to view itself as independent and to take responsibility for developing their part of the business.





# Production planning [HL Only]

## CONTENTS

---

1. The role of operations management
2. Production methods
3. Lean production and quality management [HL Only]
4. Location
5. **Production planning [HL Only]**
6. Research and development [HL Only]
7. Crisis management and contingency planning [HL Only]



# Re-stocking schedule

Frequently this relates to when a company should restock a particular product.

Here are some monthly sales figures:

SKU	Item Name	Quantity Sold (annual)	Average per month	SOH	Months Stock
9028	A	1139	94.92	1177	12.4
9080	B	1301	108.42	3747	34.56
9288	C	549	45.75	1163	25.42
7097	D	1549	154.9	1463	9.44
7103	E	1025	170.83	890	5.21
7110	F	586	97.67	1412	14.46
7028	G	592	118.4	4392	37.09
7196	H	294	98	1720	17.55
7004	I	771	64.25	753	11.72
9462	J	74	6.17	617	10
9813	K	68	5.67	867	153
9042	L	106	8.83	560	63.4

The company flags items that it considers will run out in fewer than 10 months. To calculate the time it expects the current stock will last, it adopts the following approach:

1. The sales over the previous year are recorded.
2. The average sales per month are calculated.
3. The Stock on Hand (SOH) is recorded.
4. The number of months the stock should last is calculated (SOH divided by monthly sales).

This approach does not make any allowance for seasonal variations in sales. How would you modify the approach to take this into account?



## Linear Programming

This is not a required component of the course. However, the technique helps managers solve problems of this sort. All business managers should know that it is there and what it does.

### The Oil Refinery Problem

Oil refineries buy crude oil from producers. They then process it using chemical processes (cracking) and physical processes (fractional distillation) to produce a range of products such as gasoline, diesel, jet A1, bunker fuel etc. They have a variety of sources of crude oil with pricing that fluctuates considerably.

They have a continuously varying order book with different amounts of each product required with variable selling prices.

How should the refinery be managed to fulfil its order book whilst maximising its profit?

The characteristics of this problem are that its component parts are linear (hence the name). Sell twice as much Jet A1 and the revenue it generates will double.

Real linear programming problems require skill to formulate and computers to solve. However, their solutions are (at least in theory) optimal. And that is always worth having!



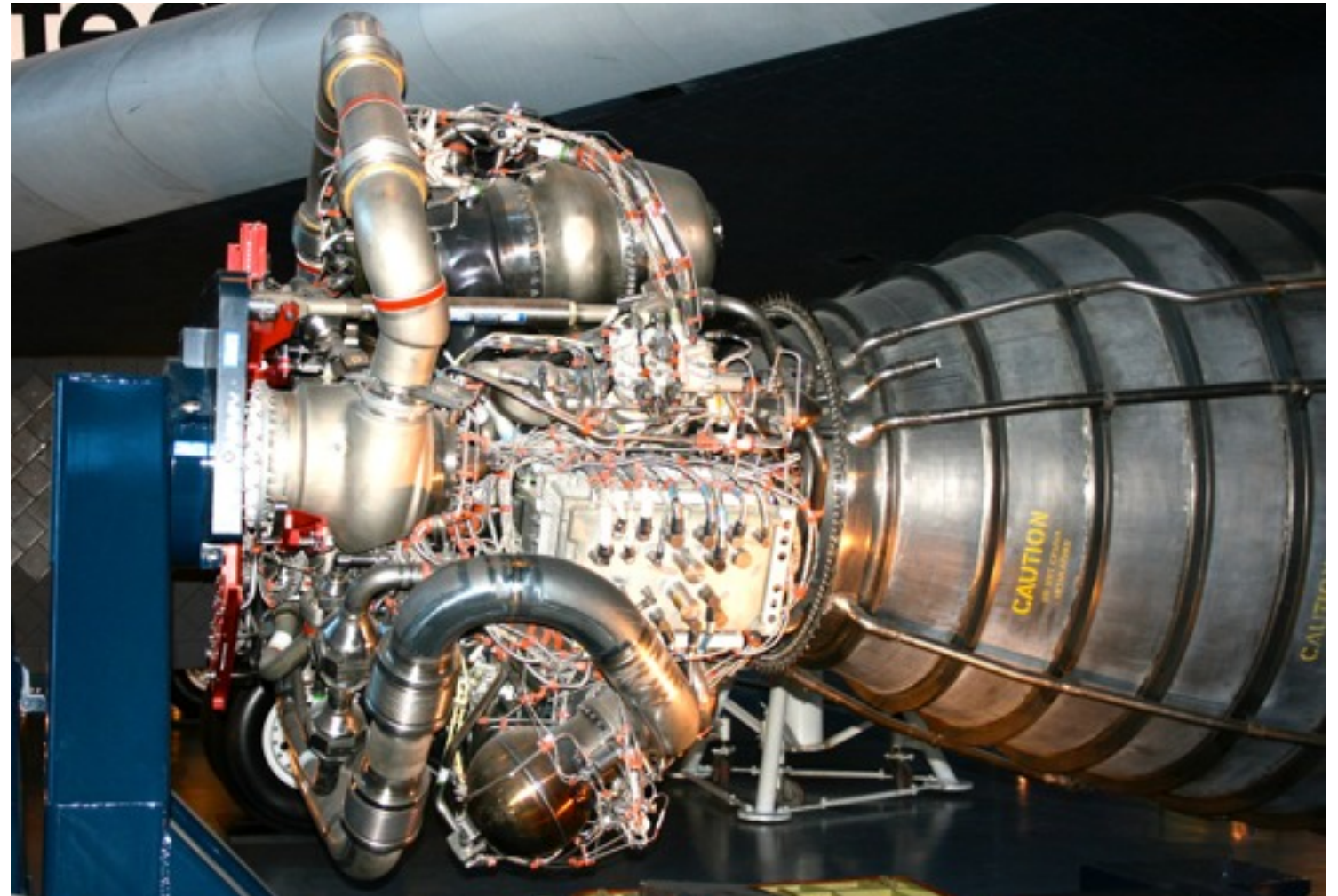


# Research and development [HL Only]

## CONTENTS

---

1. The role of operations management
2. Production methods
3. Lean production and quality management [HL Only]
4. Location
5. Production planning [HL Only]
6. Research and development [HL Only]
7. Crisis management and contingency planning [HL Only]



‘R&D’ tends to make us think of very ‘high-tech’ innovation. This is a space shuttle engine in the Smithsonian Institution.



We are all familiar with the development of new things such as the Boeing Dreamliner and penicillin. However, businesses are on a constant search for better ways of managing current resources.

A very common part of service provision is the queue.

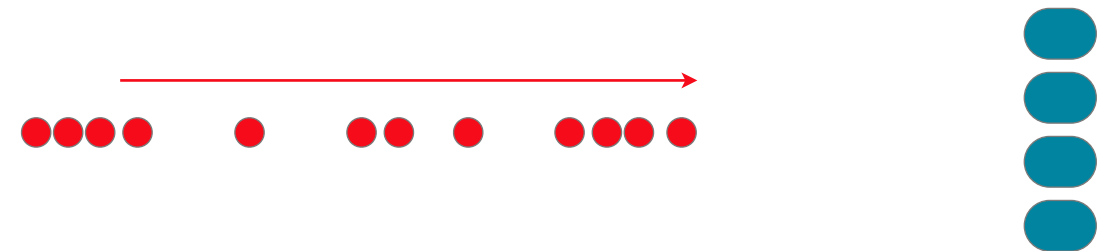
Why are there queues?



The main reason is that we have a service that a business provides. We have customers who want to access that service. The problem is that the customers do not arrive at nice regular intervals:

**Customers**

**Service Providers**



As far as the arrival of customers is concerned, there are busy times and quiet times. If there are too many service providers, the business has to pay staff to be idle and costs go up.

If there are too few, service providers, a queue forms, customers get annoyed and possibly go elsewhere.

The problem is that none of these things are entirely predictable. There is a substantial stochastic element. However, queue studies are an essential part of the R&D of many businesses.

Next time you are out and about, take a look for a queue and ask how the service is provided. Is there a 'quick-service queue'?

The next page shows you a queueing situation that is familiar to most of us. Most cities have specialists in traffic flow who decide on the timing of traffic lights. Interesting job?



**Movie 5.1** The traffic light in action!



*How do these queues form? This traffic light seems to be working well with good flow on the main road and short waits on the side road.*



# Crisis management and contingency planning [HL]

## CONTENTS

1. The role of operations management
2. Production methods
3. Lean production and quality management [HL Only]
4. Location
5. Production planning [HL Only]
6. Research and development [HL Only]
7. Crisis management and contingency planning [HL Only]



The Great Plague of the 1600s killed almost half the population of Europe. This grave is in the churchyard of the village Eyam in Derbyshire, UK. The village suffered a major outbreak of plague in 1665.

Not all crises are this serious - thankfully!





Explorer James Cook (here memorialised in the village of Marton, Yorkshire, UK where he grew up) was a skilled and courageous explorer.

On 11th June, 1770, Cook's ship *Endeavour* ran aground on a part of the Great Barrier Reef.

On the other side of the World from his home, it must have felt like being marooned on Mars.

How did Cook maintain morale in this crisis?

The event is well documented. Cook started with the respect of his crew. He had the reputation, earned over the earlier part of the voyage as a 'fair man'.

Equally important, Cook listened to his crew's suggestions. It was a junior sailor who suggested a temporary repair known as *fothering*. This enabled the crew to get the ship to land and make a more permanent repair. The *Endeavour* returned safely to England with the priceless botanical specimens of Joseph Banks.





Minor crises are more frequent and handling them well is probably more important to business than worrying about catastrophic threats such as war.

## The Delayed Flight

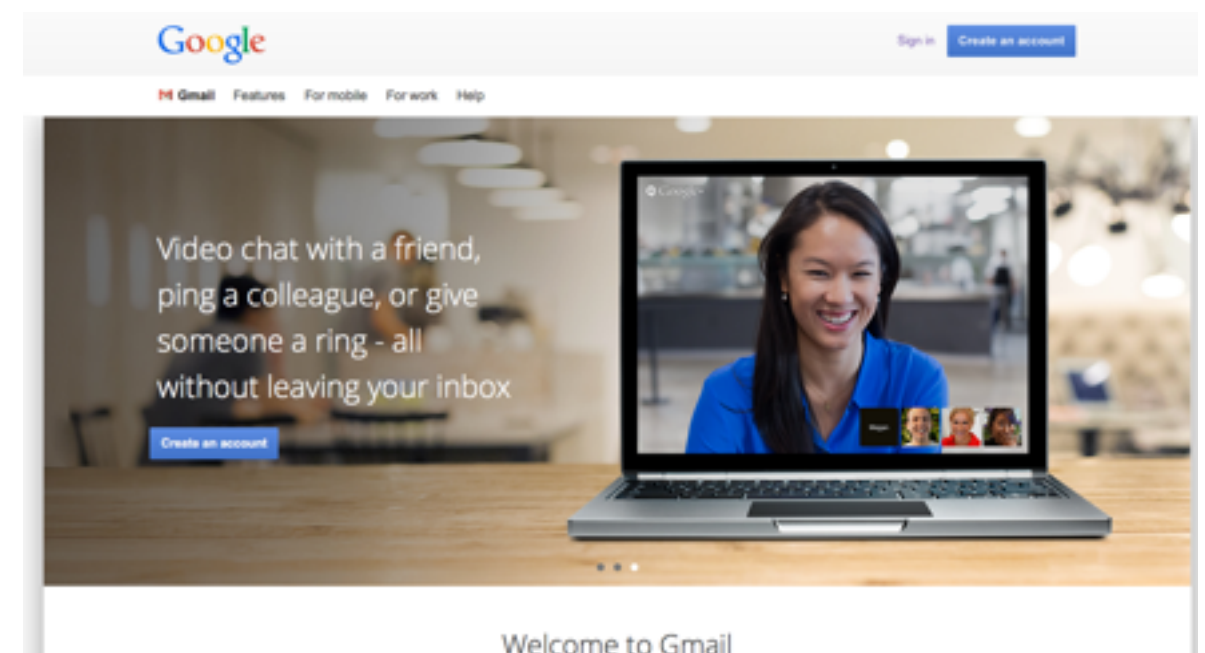
Most airports and airlines have departments devoted to working out the implications of the late arrival of passengers who have connecting flights. Should they delay the departures of the connecting flights possibly causing similar problems in other parts of the World? Is it better to pay for passengers to stay in hotels?



## Communications Breakdown

Modern communications are heavily dependent in the internet. How robust is this? Can it be 'brought down' by common events such as storms, cosmic rays, power failures etc.

Actually 'no'. The internet was designed as a military communication network. Its whole structure is based on the assumption that it will be attacked and damaged. If one 'line' is cut, the system immediately re-routes traffic to another part of the network that is still functioning. The most vulnerable part of an individual internet connection is the bit that connects you to the global system. It is wise to have more than one such connection (one wired connection and one wireless connection).



## Fire

What if there was a fire at IBID's warehouse?

There are two levels of risk here:

1. Financial

2. Customer Service

The first risk refers to the financial loss that would occur if there was a fire here. This is covered by insurance.

The second risk is more subtle.

If we lose our stock, we will disappoint (and hence probably lose) customers.

We have a rapid re-print plan backed by 'digital version' option to cope with this.

It is not ideal, but that is the nature of crises!

