INFORMATION AND FINANCIAL MANAGEMENT

Professional 1
June 2003

MARKING SCHEME

Question 1

This question is designed to test students' ability to make use of inventory modelling techniques, and to interpret the results of their analysis as part of an evaluation of EOQ. It also involves the consideration of a stockless approach to inventory management. This is all set within a requirement to produce a financial report.

Syllabus: Treasury Management
OLM: Study Session 18 (18.1 – 18.5)

Answers to this question should be in report format. Reports should be headed correctly and addressed to Management Team. There should be a brief introduction followed by clearly structured sections dealing with each of the issues outlined in the question. Calculations may be appendicised.

For a good report format 1mark (taken from part (d) allocation)

(a) Calculation of the implications of using EOQ for the ordering of dishwasher powder and rinse aid.

EOQ dishwasher powder

$\sqrt{2CD/H} = \sqrt{2 \times 50 \times 400 / 4} =$ 100 (10 litre drums) *1*

Calculation is the same for rinse aid

Number of orders required is 400/100 = 4 per annum. As this is the same for dishwasher powder and rinse aid the orders may be carried out concurrently. Therefore the total orders that need to be made is **4**.

Costs

		£	
Ordering costs	4x50	200	*1*
Holding costs			
Dishwasher	100/2x4	200	
Rinse aid	100/2x4	200	
			1
Supplies costs			
Dishwasher	400x5.5	2,200	
Rinse aid	400x6.5	2,600	
			1
Total cost using EOQ		5,400	
			(4)

(b) Comparison of use of EOQ with the discounted arrangements being employed by the Catering Manager. (Assume minimum order).

Number of orders required is 4000/2000 = 2. As above, the orders may be made concurrently giving a total number of orders of 2.

Costs

	£	
Ordering costs 2 x (50 - 45 x20%)	82	*1*
Holding costs		
Dishwasher 20/2x55	550	
Rinse aid 20/2x55	550	*1*
Supplies costs		
Dishwasher 40x5.5x10x98%	2,156	
Rinse aid 40x6.5x10x98%	2,548	*1*
Total cost	5,886	*(3)*

N.B. Where alternative approaches have been made marks should be awarded where the outcomes are correct.

(c) Conclusions based upon the results of the calculations and arguments for and against the use of EOQ in this instance and for rolling out its use throughout the organisation

The calculations show that the EOQ model should be used as it would appear to offer savings over the use of the discounting arrangements.

The main arguments for adopting EOQ in this situation are

- Appears to offer savings
- Demand for supplies is known and predictable
- Quantity ordered does not vary over time
- Order cost can be estimated and is constant
- Holding costs have been estimated and appear reasonable

Arguments against are

- Inventory replenishment is not instantaneous (4 day delay) which may lead to stock out
- There may be other variables that have not been considered and some of the assumptions implied above may not hold for the long term
- There is no consideration of the effects of a stock out and of the need for a level of safety stock

Answers should be balanced and make points for and against. Award ½ mark for each point made (1 mark for point relating to delay in stock replenishment) up to a maximum of 4)

The wider implications of rolling out the use of the model throughout the organisation should be considered. Comments on this should relate to the assumptions outlined above and the impracticality of using the model if these assumptions are not valid.

2 marks for comments which clearly recognise the potential value and the potential drawbacks of using the EOQ model
(6)

(d) Brief explanation of how a stockless system would be employed and a checklist that could be applied to stock items throughout the organisation in order to judge whether such a system could be beneficially employed

This part of the question requires students to look at the implications of a stockless system.

A stockless system would
- Order in supplies as they were consumed
- Need an ability to forecast usage based upon projected activity levels
- Rely upon quick response and delivery from suppliers
- Probably be dependent upon on-line or equivalent ordering systems

3 marks for brief description of characteristics of a stockless system. Additional points to those mentioned above may be relevant.

A checklist would take into account the main characteristics of a stockless system and identify criteria for considering application to specific current areas of stock holding.

Points that could be made
- Can savings be made on current costs of holding stock?
- Can suppliers be relied upon to respond quickly and deliver supplies as required?
- Are supplies guaranteed to be defect free and of the right quality?
- What back up arrangements could be made in the event of being let down by regular suppliers?
- Do we have systems in place for monitoring the usage of supplies and could these systems be used as a basis for on line ordering?
- Is the pattern of usage predictable?
- Are there any advantages of bulk buying?
- What are the costs of delivery?
- What are the organisational implications of a stock out? Are there issues related to health and safety of staff or public liability? Would there be a knock on effect on insurable risks?

There may be other relevant points which could be rewarded. Each point should be awarded 1 mark up to a maximum of 8 marks.
(12)

N.B.1 mark from this section has already been allocated for presentation

(25)

Question 2

This question requires students to demonstrate an understanding of network analysis techniques within the context of project management. Unusually it is primarily concerned with the construction of a GANTT Chart from an already constructed network diagram.

Syllabus: Project Management
OLM: Study Session 15, (15.7 - 15.8) and Bocij pages 330-331

(a) The first part of the question requires students to construct a GANTT chart from the information provided in the question. An example of a chart for this information is given on the following page. It is important that

- the chart is drawn clearly enough for the project plan to be easily seen. The chart need not necessarily be drawn in exactly the way depicted as long as the information is conveyed effectively.
- Critical activities are clearly marked
- Non critical activities are marked and there is an indication of the period of slack for each of these activities

5 marks for a correct and complete chart which shows the information effectively Marks should be deducted for mistakes (1 mark per mistake) and for not clearly marking critical activities or non critical activities (1 mark in each case). 1 mark for explanation of non-critical activities If the slack periods are not shown 1 mark should also be deducted

(6)

(b) The second part of the question calls for an explanation of how the GANTT chart should be used and suggestions as to the advantages this type of chart might have over a network diagram. Finally, the question asks for a definition of and an example of a milestone.

Use of GANTT chart and suggested advantages over network diagram

- Shows parallel and sequential activities and provides a clear view of activities which can be scheduled to take place at the same time
- Makes a clear distinction between critical and non critical activities
- Provides a good overview of project which can assist in monitoring by the project manager
- Generally regarded as easier to understand and are very widely used
- GANTT chart maybe used for resource smoothing

1 mark for each relevant point subject to a maximum of 3

Definition of milestone

A milestone is a significant event in the project, usually those which are critical to the project's success, and would normally mark the completion of a critical activity. The importance of this is for control purposes.

1 mark for definition of milestone

Example of milestone

The completion of any critical activity would provide an example of a milestone in the context of this project

1

(5)

(c) The final section requires a consideration of the role of network analysis (which includes both network diagrams and GANTT charts) within project management as a whole, and specifically asks for the limitations of network analysis techniques to be identified.

Potential limitations of network analysis techniques

- Ignores other aspects of project management, particularly those concerned with people ie management of stakeholders, management of performance
- May encourage a "closed system" approach which ignores change during the project life time
- Concentrates upon hard rather than soft project success criteria
- Can be inflexible

1 mark for each relevant point subject to a maximum of 4 marks
Other relevant points may be made
4

(15)

Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A																				
B									---	---	---	---	---	---						
C																				
D											---	---								
E																				
F																				
G																				
H																	---	---		
I														---	---	---	---	---		
J																				

Key

	Critical activities
	Non critical activities
---	Slack

Question 3

This question is primarily concerned with information systems and tests two areas which are of great relevance to public sector organisations, the Internet and e-government. The final part of the question links this with performance measurement.

Syllabus: Information Systems and Performance Management
OLM: Study Session 7 (7.1 – 7.6) and Study Session 10
e-government is not specifically dealt with in the materials. It is reasonable to expect students to be aware of e-government issues but it is still possible for them to earn a high mark for this question overall (well over the minimum pass level) if they have little or no knowledge of e-government.

(a) The first section asks for a definition of the Internet and for identification of the main elements of Internet technology.

Definition

The Internet is the physical network that links computers across the world. It consists of an infrastructure of servers and the communication links between them (OLM, 7.2)
Definitions should avoid confusion between the Internet and the world wide web.

1 mark for correct definition

Main elements of Internet technology

These could include

- Network servers (including ISPs)
- Wide area communication links
- Or more specific references to FTP, e-mail, browser software, TCP/IP

This is designed to flesh out the basic definition and to gauge whether the student understands the basis of the Internet.

mark for each relevant point subject to a maximum of 2 marks, but answer must demonstrate an understanding
(3)

(b) This is about understanding how public sector organisations can make use of the internet and the potential dangers in doing so.

Uses of the Internet can include

- Email
- Advertising and promotion of services
- Market research and consultation
- Customer services and support
- Provision of information
- Public relations
- On-line publishing
- Interactive services (on-line forms, assessments etc.)
- Research
- Communications
- Virtual private networks (VPNs)

Other points may be valid but it is important not to allow duplication. ½ mark per point up to a maximum of 3 marks
(3)

(c) Potential dangers

- Information reliability
- Desirability of information
- Accessibility (not all members of community have access to technology)
- Information overload
- Over reliance on internet may be a high risk strategy
- Security
- Viruses
- Unsolicited emails/ marketing
- Time wasting and other organisational effects on communications and culture

½ mark per point up to a maximum of 2 marks
Other points may be valid

How to counteract the dangers

- Validation of information using other sources
- Control of access to internet – use of PINs and other forms of authorisation
- Firewalls
- Personnel policies of use and misuse of internet and email system
- Anti virus software
- Monitoring of use and email

There are likely to be other points and/or points may be made in different ways. ½ mark per point up to a maximum of 2 marks
(4)

(d) This section concerns e-government and requires a definition, a description of key activities, and an outline of the main barriers to its development.

Definition
It is almost impossible to define e-government in any precise way. There does not seems to be one simple and universally accepted definition. What it is about is replacing transactions based upon physical exchange and physical contact with electronic forms of interaction. As such it is about systems, methods and procedures as much as it is about new technology. The question itself gives a clue in its reference to BVPI 157 and students may build upon this.

2 marks for a good attempt at a definition, one which stresses the lack of a precise definition and which also says that e-government is not just concerned with the introduction and use of new technology.

Key activities
There are a large number of possible answers to this and students may approach this generically or may provide more specific examples. Answers should provide a good range of activities which demonstrate an understanding of the basic concept of e-government. These can include

- Providing information
- Collecting revenues
- Providing benefits and grants
- Consultation
- Regulation, including issuing of licences
- Applications for services
- Booking of venues, resources and other services
- Paying for goods and services
- Providing access to community, business and professional networks
- Procurement
- E-democracy

More detailed points could include

- Providing round the clock access to services
- Enabling internet and email access to all
- Development of information portals
- Use of smart cards
- Call centres becoming multi agency access centres

Or reference could be made to specific areas of provision such as

- Collection of Council tax
- Self assessment forms on line
- etc

1 mark for each key activity subject to a maximum of 5 marks. Full marks should only be awarded where there is both identification and description. For identification only there is ½ mark (with 2½ marks maximum)
(7)

(e) Barriers

These can include

- lack of technology and funding
- resistance from staff
- resistance from the public
- lack of knowledge, technical expertise and skills within the organisation and within society
- legal barriers (eg the need for certain transactions to be paper based)
- organisation and project management
- lack of vision at organisational level

Other answers may be valid. 1 mark for each valid point subject to a maximum of 3 marks *(3)*

(f) The final section relates to performance measures and to the example provided. (This measure is provided in the question as students will not have encountered it in the study materials and different measures may be in use in their sector and/or their geographical area of the UK and Ireland).

How useful is the example indicator?

Students should discuss the measure as it is set out in the question. All the indicator measures is the percentage of interactions which are enabled as a proportion of those that could be enabled. This ignores the take up of e-government by the public, the degree of acceptance and satisfaction and any quality issues surrounding the provision. As such it can be argued that the indicator is too narrow in its scope and also ignores the effectiveness or otherwise of individual initiatives within the e-government agenda.

2 marks for a good discussion of issues. As a guide, 1 mark for each well argued point up to a maximum of 2 marks. Other points may be equally valid and should be rewarded

Alternative or additional measures

Students may present a number of possible measures here. They need to be reasonable and to avoid duplication of the same points to earn marks. Some possible examples include.

- Take up rates for e-government services
- Web usage rates
- Public access to on-line and email
- Quality of services as measured by satisfaction surveys and market research
- Value for money

*Students are asked for **three** measures and should be awarded 1 mark for each* *(5)*

(25)

Question 4

This question is concerned with the characteristics and features of management information, and in particular financial management information, in relation to the generally accepted levels of organisational management. The reference to the Anthony Model should locate this for students and avoid any ambiguity in answering the question.

Syllabus: Financial Information Management
OLM: Study Session 8, (8.2-8.4) and Bocij pages 19-20 – parts (a) and (b)
OLM: Study Session 8, (8.4-8.5)

(a) This requires a description of the main characteristics of information at each of the levels of management activity ie Strategic, tactical and operational (alternative terms may be acceptable. Tactics – planning, operations - control).

It is important that answers to this section identify characteristics of information (and not design features). The textbook (Bocij) identifies six characteristics but there are others which could be relevant. The six characteristics are

- **Time period** – which is wide for strategic purposes becoming narrower for tactics and operations
- **Frequency** – meaning frequency of reporting, which is much greater for operational purposes becoming less so at the strategic level
- **Source** – operational information is likely to come from within the organisation whereas for tactical and strategic purposes a lot on information will come from outside
- **Certainty** – strategic information is far less certain than at the other levels, and operational information must be extremely certain for management needs. This factor can also be expressed in terms of **time frame** (future – past) or **accuracy** (greater or lesser), and marks may be given for these characteristics
- **Scope** – this concerns the width of the information. Operational information is more likely to be very narrow, concentrating upon the areas to be controlled whereas strategy and tactics need a broader base
- **Detail** – operational information will be more specific and much more detailed

Depending upon the approach taken by students marks may be awarded in either of two ways.

*For a description of each of the characteristics in relation to the management levels, 1½ marks for each characteristic subject to a maximum of **9 marks***
OR for a discussion at each of the management levels of the relevant characteristics, 3 marks per level for good coverage of the issues (less marks for not covering all of the issues)
(9)

(b) The second part will depend upon the examples which students choose. For each level they should choose an appropriate example (which must be financially based). There must be some discussion of the characteristics as detailed above. Examples could include: operational level – budgetary control; tactical level – budgets; strategic level – financial investment appraisal.

1 mark per level *for a correct example*
1 mark per level *for application and explanation of characteristics*
(6)

(c) The final section is concerned with the features of good quality financial information. The OLM provides a list based upon a CIPFA report, *Achieving Excellence in Financial Management* ,(1998)

- Relevance
- Suitability
- Affordable
- Timeliness
- Focus on business objectives
- Right level for decision making

Other features could be quoted as being relevant, and there are other lists which could be used. It is important that marks are only awarded for features and there is no confusion or overlap from the first part of the question

½ mark per feature subject to a maximum of 3 marks

Finally students need to consider the design and development of information and how users' needs can be met. Discussion should centre around: knowing who will be using the information and how; consulting with users on the form and content of information; gathering feedback and quality assuring information.

1 mark per point subject to a maximum of 2 marks

(5)

(20)

Question 5

This question is designed to test students' understanding of the nature of quality and quality management. The requirement is to produce a report to a working group within the Audit Consortium.

Syllabus: Performance Management
OLM: Study Session 11 (11.1 – 11.5)

Answers should be presented in an appropriate reporting style (which means as a minimum requirement that they should be addressed and headed correctly and that the content should be presented making use of numbered and/or headed sections and sub sections as appropriate).

*For good presentation **1 mark** (taken from the part (c) mark allocation)*

(a) The first part asks for a definition of quality

Quality

The problem here is that there is no universally accepted definition of quality. The OLM identify five approaches to defining quality

- The transcendent approach which relates to an absolute quality standard of excellence
- The manufacturing based approach which is more technical and relates largely to freedom from errors
- The user based approach which equates to being fit for purpose
- The product based approach which relates to a measurable set of characteristics which describe the product
- The value for money approach which is about getting the right balance between cost and price

The OLM also suggest a composite definition which may be used which is that "quality is consistent conformance with customers' expectations". (IFM OLM 11.2)

For a good definition of quality 2 marks
For a brief or incomplete definition 1 mark
(2)

(b) The second section relates to quality management standards, and specifically to ISO 9000

What is ISO 9000?

ISO 9000 is an International Standards Organisation standard for quality which is a universally accepted method of assessing the accuracy and competence of a business in meeting certain operational specifications.

For a definition of ISO 9000 1 mark

How can ISO 9000 be achieved?

- Management defines key steps in the production of the product or service
- Steps defined, fully documented and controlled to establish fitness for purpose and consistency
- Systems subject to internal audit
- Detailed external assessment leading to certification
- Regular external audits to ensure retention of certification

1 mark for each point up to a maximum of 3 marks

Main advantages and disadvantages

Advantages include

- Supports quality approach and may be essential part of TQM
- Concentrates upon key systems
- Assures consistency and documentation
- Demands review externally and internally
- Sends out positive message to customers
- May be essential for competing in certain markets
- Accepted nationally and internationally

Disadvantages include

- May be regarded as window dressing
- Concentrates upon systems and procedures rather than outcomes
- Approach may be overly bureaucratic
- Could be costly in terms of set up and maintenance

½ a mark for each point subject to a maximum of 3 marks
Answers should be reasonably balanced
No more than 2 marks should be awarded solely for either advantages or disadvantages
Other relevant points may be awarded marks
(7)

(c) The final part provides more scope for considering alternative approaches that might be taken if the Consortium considers ISO 9000 to be inappropriate.

The aim of quality assurance is to achieve quality and also to prove it and demonstrate it. If quality is accepted as consistent conformance with customers' expectations then this means

- Finding out what customers expect from the Consortium
- Fully documenting systems and procedures to ensure consistency of approach
- Setting up feedback systems to find out what customers think about the quality of the service being provided
- Setting up systems to find out how the service can be improved as customer expectations change
- Establishing quality forums involving members of the Consortium and other stakeholders, including customers

Feedback systems may involve not only customers but other stakeholders including staff and management of the Consortium.
Quality assurance should also involve performa nce management through the setting and monitoring of performance targets and the use of performance indicators. Benchmarking may also be introduced as an appropriate way of comparing in house performance with other organisations.

A system of quality assurance reporting should be set up to provide assurance to customers and potential customers.

The ideal answer will be one which identifies and discusses a range of issues such as those outlined above, plus others which may be of relevance. Good answers will relate the issues back to the scenario outlined in the question and to the specific background to this report.

1 mark for each point subject to a maximum of 5 marks *(6)*

(15)