UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS

**Cambridge International Diploma in Management
Higher Professional Level**

Scheme of Work

4260
Information Systems Management
Core Module

UNIVERSITY *of* **CAMBRIDGE**
International Examinations

MODULE NUMBER (CORE) 4260: INFORMATION SYSTEMS MANAGEMENT

INTRODUCTION

Scope of the module

This core module addresses some of what has become of key importance to all organisations – the *collection, collation, storing, retrieval and manipulation of data/information to support decision making throughout the organisation*. This is usually referred to as *'Information Systems Management'*. This area of management is one that impacts on all other management functions and as such is sometimes referred to as 'the glue' that holds together all other management functions.

It is important for all managers to accept that whilst the design of *information systems architecture* may be a role for those with specialist skills, *information systems are the concern of all*. It is also a truism that the use and misuse of computers in information systems management is of considerable importance, however, management of information is more than the use of computers.

Whilst is it true that most organisations rely on information technology (IT) to support many of their information processes, there is also a large amount of information and knowledge that is not captured by or represented in these computer-based information systems. In particular, managers must make decisions and choices about future actions. Invariably, the decisions made are based on imperfect information. In such situations managers must use their accumulated knowledge and expertise to evaluate and interpret imperfect information in choosing the best course of action in the light of objectives. In most of the organisations these decisions will be supported by information of varying degrees of accuracy and usefulness (gleaned with varying degrees of difficulty) from the organisation's IT system. However, all such systems have fundamental limitations. It is arguable, therefore, that the majority of information that managers draw upon is not embedded in computer systems - rather it is principally in the heads of the staff. This is particularly true of high level information; that is knowledge about information that resides within the organisation. Examples may include knowing where to find the required internal data; where to source external information in order to prepare a report; knowing who in the organisation last tackled a similar problem to the one currently being asked to solve. Information that is not captured in computer based systems is especially relied upon in decision-making processes.

It is important that candidates addressing the requirements of this CIE Core module are aware that information systems management is much more than computer stored and retrieved data/information. There may be a focus on computer based systems but this is not the whole story.

The reasonably recent concept of *'knowledge management'* is also increasingly important. This may take numerous forms but cannot be excluded from information management systems. Simple concepts such as protecting data from the disgruntled employee who is about to be dismissed from the organisation, to the capturing of retained 'knowledge' from a senior manager about to retire from employment are all important aspects of an information management system.

It is equally important that access to companies' information systems and the protection of data and information held in such systems is given a high priority. Practices such a *'hacking' and 'virus protection'* of computer based systems, may be the role of specialist IT managers. Nevertheless, it is necessary for the general manager to be aware of such practices as well as how the organisation may be protected from the dangers that these may bring to the organisation.

Information has a cost to it. If costs are incurred in gaining and storing data and information it makes little sense for it not to be used. However, experience tells us that many organisations collect, collate and store information that they rarely if ever use. This is not only costly but also totally uneconomic and is a *characteristic of poor information management systems*. It

also leads to an ever-increasing problem of information overload – *the idea of just in case* it is needed is an inherent danger from computerised information systems. Part of this module concerns exploring how such dangers may be avoided.

An important point that candidates need to understand from the start of their studies relating to this module is that it is *not an area of technical study* – it concerns all general managers. Effective, efficient and economic management of information is the responsibility of each and every manager and it is for this reason that this is a core requirement for the *Cambridge International Diploma (CID) in Management at Higher Professional Level* studies. It is suggested that understanding this point should be addressed at the start for this scheme of work.

It is impossible to perceive of any organisational decision being made without the aid of reliable, robust, up to date and easily understood information. This is as much the case at strategic and operational level as it is for daily functional levels of organisational operations. However, the task of *studying information systems management* at the *CID in Management at Higher Professional Level*, is appropriate for the general, rather than specialist, manager. In all aspects of study associated with this module, *information systems management* is related to the *managerial decision making processes* that are part of effective organisation life.

Whilst the above points may be variously addressed by study of the various units that are contained in this core module they should be covered at the start of candidates' studies. This will help candidates become aware of their importance from the start and enable them to pitch their studies at the appropriate level in order to help them successfully complete this module.

Information Systems Management in different types of organisations

The scope of this module is equally applicable for commercial/industrial organisations, the not for profit organisations such as charities or governmental funded organisations such as a central or local government department. The principles are the same regardless of the organisation and the sector of operations. Many of the same principles apply to small and medium firms as they do to large companies although in large organisations it may be necessary to explore *MIS security* slightly differently because of the number of employees that may be able to access the systems.

Coverage of all the assessment objectives regardless of current employment

Candidates studying the *CID in Management at Higher Professional Level*, and specifically the module concerned with *Information Systems Management (ISM)* need to be aware that whilst their section/department/division/organisation may not be employing all the *ISM* practices included in this module, they still need to understand them for this qualification. A future employer, for instance, where such management practices are used/employed, will expect a candidate presenting himself or herself for selection for a post, who has a *CID in Management at Higher Professional Level* to have a sound grasp of the key concepts of *ISM.* This is regardless of whether or not they use such practices in their existing role or organisation.

It is important that candidates studying this module are fully aware of this point, as in their assignments submitted for formal assessment they may well have to explain and justify why certain *ISM* functions or activities are or are not currently used. Such explanations allow a candidate to demonstrate their understanding of relevant concepts. Also, by understanding such concepts, candidates will come to understand the objectives for their *Higher Professional Level* studies.

ISM and other management functions/tasks

It is sometimes common in organisations, for general or non-specialist information systems managers, to believe the many facets of ISM, and specifically the technical ones, to be removed from their general day-to-day activities. To some extent this may be true but this is not what this module is about. The study associated with this *ISM module* should help a general manager understand that by studying information systems, they and their colleagues are likely to better understand current performance. This will also extend to having a much better view of their organisation's performance when compared with similar organisations/functions and perhaps *how competitive advantage may be gained and retained.* It will also enable them to participate meaningfully in informed debate/discussion at a senior level within and outside their organisations on issues that concern information management.

Yet again, it is of the utmost importance that candidates studying this module have a firm grasp of the concept that highly effective *ISM* is likely to lead to effective corporate decision making. This might well be an early point to include when planning detailed activities associated with this scheme of work.

Assessment Objectives are:

1. Show how the effective management of information enhances the management of the organisation, department or project.

2. Appraise the information management system to show how Information Technology is changing the way information is obtained, analysed and stored.

3. Critically appraise the information sources at operational and strategic levels of an organisation.

4. Critically appraise the organisation's capability for managing information.

5. Identify the information management systems within a department or for a project.

RECOMMENDED PRIOR KNOWLEDGE

General principles

It will be assumed that a candidate presenting him/herself for the study of this module has some working knowledge of information systems and their application although this may not be extensive.

It is appreciated that some candidates may well have extensive knowledge whilst others have only limited experience. An early starting point in supporting candidates studying this module will be to establish the knowledge and experience base from which individual candidates start and their access to associated documentation relating to existing policies and practice.

The candidate with extensive knowledge of IMS

Candidates with an extensive working knowledge of *IMS* tend to be specialist managers in an organisation, however, their specialist knowledge and experience may often relate to the technical aspects of information systems technology. Taken alone this is not what this module is about although it may be that the specialist manager also has detailed knowledge of ISM that support their technical role.

However, there is a danger that a candidate with such extensive knowledge may feel that they do not need to undertake the detailed study prior to developing their assignment/report that is to be submitted for assessment in relation to this module. Experience dictates that this may not be sound practice. There are times when such a candidate 'pitches' their assignment at an inappropriate level or has seen their report purely in terms of *'the technical issues associated with an IMS'* rather than in terms of holistic management that is part of the decision making processes within the organisation. Sometimes, their report remains at the technical level and they become engrossed in the technical details of information systems hardware rather than being at an analytical one in respect of the assessment objectives described above. Subsequently this leads to a poor report and one that is unlikely to gain them a pass grade.   In addition, such a report often lacks clear and well argued recommendations for improvement in the organisation's *IMS* and where recommendations are made they may often be unrelated to the operational and strategic decision making processes of the organisation.

The importance of this will need to be explained to candidates. It is also sometimes the case that such candidates have a tendency to write beyond the word allocation for a *Higher Professional Level module* report and try to enhance their reports by numerous technical annexes. They should be aware that annexes rarely contribute to the overall grade that is awarded although they may support in detail a well argued case. (However, it is appreciated that in some instances, in order for a candidate's report to be useful to principle managers within their organisation, it may include technical details and costings. This may be perfectly appropriate but it should be made clear in the body of the report)

Business sensitive information

It may be that in developing work associated with this module that it is necessary to access business sensitive information. After all data and how it is used may often confer competitive advantage. It may be of key importance to the commercial organisation. Experience tells us that governments often view their information in the same way. Whilst candidates, their organisations and their centres of study are assured of the utmost confidentiality by CIE and their staff, it is important that this issue is addressed at an early point in the study associated with this module.   Candidates should ensure that they include nothing in their module assignment that they would be unhappy for their principle managers to know of. However, this should not deter them from being constructively critical of their organisation's MIS. This is the role of any manager working at this level of applied study. However, candidates should always obtain permission to include any business sensitive information in their reports.

SUGGESTED TEACHING ORDER/SUMMARY OF SCHEME OF WORK (S of W)

Whilst it will be necessary to take into account the experience of individual candidates in respect of MISs and the details associated with level of study, it is recommended that the sequence in which the units associated with this module appear is the order in which the study is undertaken.

The following approaches are suggested.

1	Cover the *concepts and principles* behind the *Information Systems Management (ISM)* module as outlined in the brief introduction above.
2	It is also important that candidates are aware, from the start of their studies of this module, that it can not be successfully completed without reference to other management functions within their organisation. For instance, strategic and operational management, HR management, marketing, finance and so on are all intimately related to *IMS* in some form or another.
3	Address the importance of study of this area regardless of the nature of the candidate's current responsibilities and practices in respect of MIS and how such knowledge and understanding are important regardless of current employment/role. At the same time it is advisable to stress the importance of the application of these techniques and principles within an employment setting rather than just as a theoretical study. This key point is central to all *CID in Management* studies.
4	Whilst acknowledging that preferred learning styles will vary from candidate to candidate, it is still thought important from the start of their studies that candidates have an overview of the assessment objectives, as this will give poignancy to their investigations and studies.
5	It will be important for most candidates, from the start of their studies relating to this module, to have an understanding of the depth of study required. This aspect sometimes causes difficulties for those both familiar with IMS as well as those studying it in depth for the first time.
6	It will also be important for candidates to realise that whilst the teaching approach adopted for the purpose of study may be a linear or sequential one, there is considerable interconnection between the five assessment objectives, their associated competence criteria and their related skills and knowledge.
7	The order in which the assessment criteria are covered may be influenced by a candidate's prior experience, however, the order in which the assessment objectives are tackled is the order in which they are set out in the *CID in Management* module in *MIS*.

Some key principles and concepts when addressing the *Information Systems Management* module requirements

Tutors supporting candidates undertaking the module in *MIS* are asked to note the *Cambridge International Diploma in Management at Higher Professional Level 'Tutor Support Guide'.* The advice in this publication remains germane and sets out some key general principles as well as offers advice concerning the module. The following points are particularly important: -

1. How managers can obtain, evaluate and best use the information available to them to carry out their role and that of their team/s.

2. The skills required for any manager to apply a filter or sift on this information, to take out that which is relevant to their job, using what remains to enhance the performance of themselves and their team.

3. Associated with these key concepts are:

   - how organisations identify the need for information and manage the information once they have it
   - how data is captured and becomes information, which can then help management decisions
   - the importance of information systems within organisations

4. Candidates will also need to analyse data to create worthwhile information from the data to help them make managerial decisions on future performance for example.

5. Candidates should also understand how to use information to identify and enhance the intellectual capital of the organisation and to take advantage of information technology to improve management practices.

6. Concepts such as the capture of data/information by organisations which can help managers identify current performance levels within all functions and how this can provide a starting point for the next round of operational planning and implementation are also important.

7. The comparison of information and the significance of variance are also important skills for candidates to apply.

8. A further key point of study concerns the inter-relationship between the entire MISs within an organisation so that they may operate in a synergistic way and avoid any duplication, as well as the associated costs that this brings.

9. It is important that candidates should understand how to specify an information system that will help in their own managerial function and then translate this understanding to the larger organisational 'picture'.

10. The associated Costs/Benefits of any MIS must also be the concern of any manager and it is important that the costs associated with a MIS are less than the benefits that the system brings to the organisation. Therefore candidates must be able to evaluate any system in terms of its effectiveness and the significance of the contribution that it makes to the overall information needs of the organisation.

LIST OF RESOURCES

There are an increasing number of book resources that are useful when studying this module.

The resources listed in the *CID in Management at Higher Professional Level* syllabus booklet are still both relevant, appropriate and sufficiently up to date to be of value to candidates and their tutors.

In addition, it may well be appropriate to refer to a range of appropriate Internet web sites. Sites such as 'Biz-ed' contain numerous downloadable resources (not just for information management but also other aspects of management). Publications such as *The Harvard Business Review* also provide a wealth of up to date information relating to information systems management

In addition it is likely that comparative data that can be used when developing a critique can be obtained from websites relative to the sector of operations as well as local professional association websites such a *Chambers of Commerce*, and even professional association websites.

In addition to the books listed in the syllabus, the following provide some useful ideas, views and suggested approaches:

Information, Systems and Information, Checkland, P and Holwell, S (1997) Wiley

Strategic Management and Information Systems, Robson W (1997)

Managing Information: Avoiding Overload, Bentley T (1998) Chartered Institute of Management Accountants/ Kogan Page (see CIM website)

Management Information Systems, Lucey T (2004) Thompson Learning, London

Information Systems: A Management Perspective (1992) Martin C and Powell P, McGraw - Hill, New York

Transformation of Work in the Electronic Age, Strassman P.A. The Free Press, New York

The important point in selecting and using resources is that they should be for general managers rather than those for aspiring technical specialists.

UNIT 1: Show how the effective management of information enhances the management of the organisation, department or project.

	COMPETENCE CRITERIA	EXPLANATION OF COMPETENCE CRITERIA	SUGGESTED TEACHING ACTIVITIES

1.1
 	
1.2
	Describe the structure and characteristics of systems
	
	Identify information systems within the organisation
		• define systems for managing information and describe different types
		• formal and informal systems
		• how systems link across or within an organisation
			It is useful to start by exploring the importance of information to managers, particularly in terms of:
			  - *strategic decision making*
			  - *operation decision making*
			  - *day to day activities*
			Then discuss how much information is needed by and presented to organisations on a daily basis. Such a discussion should lead to the need to manage it in a way that it can be readily retrieved as required. Also explore the need to share information and the different ways this can be done. Link all of this to the need for an effective MIS.
			It may be useful to illustrate a simple MIS diagrammatically indicating how different people can share the same information. Some mention could be made at this point that an inefficient system works against the organisation. Perhaps an activity to illustrate this with a series of cause and effect diagrams or 'table of consequences'.
			Differentiate between systems that are IT-based and those that are not.

1.3	Describe how all information systems within an organization contribute to the Management Information System (MIS)	• information as a commodity to be managed • organisational and legislative protocols and practices for recording, storing and retrieving information	Candidates should be asked to identify and consider the following points: • The *costs of obtaining the information* required for the strategic, operation and day to day functions. In doing this they may have to make some estimate in staff hours. (the challenge of this task should not underestimated) • Similarly the *cost* should be investigated *of storage, manipulation and retrieval* in a form that is useful to a manager (the cost of software design, as well as operating costs will need to be explored and costs allocated).

| 1.4 | Identify the purpose and effectiveness of information management in organisations | • organisational requirements for different purposes such as compliance, support, quality, transformation etc
• the use of IT | • The *'costs' of not undertaking the collection, collation manipulation and retrieval in a useful form* should also be investigated. The question needs to be posed what would be the consequences of not undertaking such data/information management.
• Even at this stage candidates should be tasked with identifying *data/information that is collected and is never known to be used* (a range of undergraduate and post graduate students from a large range of commercial and governmental backgrounds report that this is prevalent in all their organisations).

Candidates should now be tasked with investigating *how the work associated with the above is changing* as a result of new 'technologies'. For instance:
• Is data collection, collation, storage, manipulation and retrieval become any easier?
• Are the above becoming less expensive or more expensive?
• Does access to the data that has been so far identified make decision making any easier or is it more challenging?
• Is there too much data available and is it complicating the decision making processes at strategic, operation or tactical levels?
• Is there sufficient information available at each of the three levels to fully inform decision-making?
The answers to the above are likely to be best set down as a table. The table should have an additional column that may be headed *'what are the consequences for the organisation and what recommendations* might be beginning to form at this stage of study.
It might be useful at this stage to consider some of the legal, security and health issues associated with IT-based systems, such as:

- data protection acts
- freedom of information acts
- H & Safety regarding working with VDUs, repetitive strain injury avoidance
- Security of access such as 'need to know' and 'pass word protect'
- Government legislation and regulations as they refer to specific industries, for example financial institutions, tax authority access, money laundering and so on. |

			These will change from time to time and candidates at this level of study will need to be aware of how such regulations impact on their areas of management.
1.5	Act upon management information	• how managers use information to make decisions, recommendations, presentations etc	Already candidates will be aware of the different levels of managerial activity. They might also be aware of the activities of different functional areas across their organisations, but experience dictates that this is not always the case. In fact quite opposite. However, this is an important issue and may well *impact on the organisation's effectiveness* as well as any *competitive advantage.* For instance it is not uncommon in some organisations for each division or functional area to organise and manage their own information requirements. But in an age where all parts of the organisation need to be working together such practice is not only leading to duplication but to increased costs of data/information management. Discuss the use of MIS to monitor performance, evaluate information, prepare and present reports and so on.

UNIT 2: Appraise the information management system and show how Information Technology is changing the way information is obtained, analysed and stored.

COMPETENCE CRITERIA		EXPLANATION OF COMPETENCE CRITERIA	SUGGESTED TEACHING ACTIVITIES
2.1	Identify sources of data and information required within and outside the organisation to plan, monitor and predict own and competitors' performance	• categories of data • data production and retrieval systems • recording data • presenting data	Much of this has already been covered, however it may be useful at this stage to ask the candidates to categorise the data they use in their own work, how this is produced, stored, retrieved and recorded. Bring out issues of protocol here, particularly for the presentation of data. When considering sources of information and data, get the candidates to identify as many sources as possible and consider these in terms of reliability, cost of collection, quantitative or qualitative. It is suggested that candidates' attention is now directed to this interconnectivity and interrelationship between the units of this module. It is worth reminding candidates that information management is about *'The conscious process by which information is gathered and used to assist in decision making at all levels of the organisation'* (Kerslake and Moultrie 1998) It is not about computers. The use of IT does not replace the means of exchanging information; instead it enhances it. This unit, and some of the subsequent ones, may give the wrong impression to the uninformed or unwary candidate. In undertaking the activities that are to follow candidates may find it useful to keep in mind some *different dimensions of information:* ❖ *Formal versus informal* ❖ *Textual versus pictorial* ❖ *Quantitative versus qualitative* ❖ *Verbal versus paper versus electronic* ❖ *Individual versus aggregated*

What this list is designed to suggest is that when considering information management candidates should adopt a broad and flexible approach that will cater for all the different dimensions of information.

The tasks associated with some of aspects of this sub-unit can be huge. This will of course largely depend upon the size and operations of the organisation to be studied. Therefore it is suggested that the task be bounded (at least initially) on the area of management for which the candidate is to focus his/her investigation

It is suggested that candidates be tasked with investigating *the sources of data to address/support* :

- the planning that takes place (day to day, operational and may be strategic)
- the data required to monitor the activities

Against each data set the candidate should be asked to identify from where this data can be obtained at the least expense.

Also the candidate should be asked to *assess the quality of the data.* This can be done by using three criteria. They are 'high', 'medium' or 'low'. The criteria are:
- *Relevance*
- *Reliability*
- *Robustness* (if definitions are required see Bentley 1998)

It is suggested that a computer generated tabular format is appropriate for this. Experience also suggests that it is best set out in landscape format.

The task should develop from the work undertaken in Unit 1. (Although it is appreciated that as candidates' knowledge in relation to information management develops they may wish to augment what they have already identified).

			It is suggested that candidates then be tasked with investigating and assessing the following:
			
			  - *how the data is categorised*
			  - *how and in what form is it stored so that it will support decision making?*
			  - *how it will be presented when being used in the decision making processes as well as the ease of its retrieval*
			
			Yet again the work involved with this activity may have to be iterative and like any such activity should have attached to it a maximum quantum of time for the task to be undertaken.

2.2	Critically appraise the organisation's (department or project) current capacity to satisfy identified needs	• data requirements for strategic planning • data requirements for operational planning • analytical tools to identify shortfall in requirements	It is now suggested that candidates be tasked with a similar activity but at whole organisational level. This requires that managers consider their data/information needs from a range of organisational functions (HR, Finance, marketing and so on). It will also be necessary to *obtain comparative information from outside the organisation* as well as from various marketing plans or planning horizons. In many respects candidates may be used to packaging this into *a PESTLE or SWOT analysis.* This is an appropriate vehicle to use as in both instances the activities rely on *valid and time related information/data.* Therefore, candidates should be investigating from a whole organisational perspective the *information/data requirements for the strategic and operational planning that would normally be contained in a PESTLE or SWOT analysis.* They should also be asked to set out in a tabular format *where such information may be located* within and outside the organisation. They should also make an assessment relating to *costs of obtaining such data/information.* From this they can form *a critique in relation to how the organisation's data/information needs is currently being met.* When undertaking this activity they need to keep in mind the statements made concerning managerial decisions having to be made of partial information. Concepts such as 'good-enough' and cost/benefit must be kept in mind.

| 2.3 | Make recommendations to address identified gaps in information systems, provision and management | • use the information from the appraisal to make improvements | Candidates should now be able to identify how efficient and effective the existing MIS is. Before suggesting changes though, consideration needs to be given to the seriousness of the identified shortfall. If it is not too serious, how can the shortfall be managed? If it is serious and has an impact on the organisation's decision making, then identify how easy or difficult it would be to change or adapt the system. What are the consequences of not changing? What are the associated costs linked to the perceived benefits?

Work with the candidates on how to present a case for change. |

UNIT 3: Critically appraise the information sources at operational and strategic levels of an organisation

COMPETENCE CRITERIA		EXPLANATION OF COMPETENCE CRITERIA	SUGGESTED TEACHING ACTIVITIES
3.1	Identify existing and future information needs to support strategic and operational decision making	- categories of data and how these support operational and strategic decisions - forecasting changes that will impact on the information needs of the organisation	Candidates may well be familiar with the main categorisation of information management. That is *'gathering', 'analysing', 'communicating' and 'storing'.* However, it is suggested that these concepts are reviewed and through discussion some common understanding developed. In this unit the focus is on the analytical aspect of data management. By that it is meant *'to make it more useful for decision making'.* This can be considered as a process of transforming 'raw' data into meaningful information. Analysing information may involve a variety of manipulations of the raw data, which may take place at a number of levels, each resulting in something that is more useful. (This will be relevant to candidate's investigations). The manipulations can range from simple operations that can be done in the head to complex calculation requiring computer software. It is this process of transforming raw data into meaningful information that can be managed for such purposes as *planning, decision making, monitoring and evaluation.* To provide a complete basis for decision making another necessary transformation is probably necessary. This is the *transformation of information into knowledge.* This is the process of integrating new information into the rich framework already possessed by the decision maker/s. It is extremely challenging to process data if those undertaking such tasks or programming a computer to undertake such complex calculations are unaware of the purpose of the information or how it will be used. It is against this background that candidates will need to undertake the activities that are suggested next.

Candidates should be tasked with undertaking analysis, with the view to developing a critique, concerning:

- what information is required and at what organisational levels, when and in what form to aid decision making

- how the data/information will be used to add value to the decision making processed

- how significant changes from historical data will be brought to the attention of those who will use the information (when addressing this point the importance of timeliness must be covered as vital information provided too late may be worthless)

- how such data/information can be presented so that any trends can be extrapolated forward over different time sets

- how the outcomes of the various transformational processes may be used at various organisation levels. For instance by principle manager, divisional/department managers, section leaders and so on. This point should in no way be over looked and may involve the processes of *'disaggregation'* so that it is meaningful at all levels. (In this respect *disaggregation* refers to the process of breaking down collated data/information so that it is useful to lower organisational levels of management - for instance whole organisational financial data into that which may be used at say divisional management level).

 A key aspect that must be addressed when satisfying the requirements of this unit is to consider, in depth, the way that information will be presented. This is likely to vary for each organisational level. For instance the bank clerk or the lathe operator will require information in a quite different format to be of use to them compared to the organisation's CEO who may be planning the next business plan. But yet they may be using the same raw data that has been '*scaled up'* or *'scaled down'.*

In considering all the above points, candidates should be encouraged to look to the future and the changing requirements.

3.2	Appraise the ability of the current system, or any planned developments, to satisfy in an efficient, effective and economical way these identified requirements	• costs and benefits of the current system for strategic purposes • costs and benefits of the current system for operation purposes • identifying shortfalls	The candidates should have enough information now to identify costs and benefits associated with information sources and be able to make an analysis in terms of efficiency, effectiveness and economy.
3.3	Critically appraise the organisation's "Knowledge Management" in the light of changing needs	• how does the MIS deal with the capture, sharing and overall management of knowledge?	Explain the importance of capturing and retaining knowledge in a competitive world. Use scenarios or case studies to illustrate how an organisation can become vulnerable if key information and knowledge are held only with a few people and not shared. Explore how the organisation can identify the knowledge and experience that is held within the workforce. Discuss how organisations can use systems to access and use such information and knowledge. **Summary** Yet again it is considered useful to ask candidates to reflect at the end of this activity and consider what they have learnt. This is not so much about information management but about the system of information management within their organisations. In doing this they could address the following all embracing questions: - are we identifying the data needed to aid decision making at all organisational levels? - is the information readily available at all levels in the form that is required? - are we using the same information in various formats for different organisational functions/purposes?

			- are major differences being highlighted sufficiently so that those who need to know about them are alerted in a timely way? - are those tasked with managing the information systems being informed where the organisation needs are not being satisfied? - what threats are being caused to the organisation by less than effective aspects of information management ? - are recommendations beginning to appear from investigations and analysis to date for adjusting/improving the MIS and if so how much might they cost and how feasible are they in terms of organisational culture?

UNIT 4: Critically appraise the organisation's capability for managing information

COMPETENCE CRITERIA		EXPLANATION OF COMPETENCE CRITERIA	SUGGESTED TEACHING ACTIVITIES
4.1	Recognise the difficulties and opportunities in managing information.	• coping with excessive and superfluous information • identifying sources of valid and sufficient information • effective communication of information • ethical, legal and security of managing information	The need for appropriate and cost effective information/data to support the decision-making processes within the organisation is unlikely to change. There are however, three important changes or influences upon an organisation's information needs. They are : - *Globalisation* and the impact this has on the operational environment of all organisations. - The *changes in information technology* that influences how data is collected, collated, to some extent analysed, stored and retrieved as well as the associated security of the organisation's information systems. - The ever *increasing speed* with which this takes place and therefore the impact in terms of costs, change management as well as associated staff development. In very large measure these impact on the strategic, operational and daily management of all aspects of an organisation. How they are addressed will very *largely depend upon the culture and sub-cultures* within and throughout the organisation as well as its existing custom and practice. How *suppliers, purchasers and other stakeholders* react to such changes will also impact in the organisation and its MIS. It would be quite wrong to see this as having a detrimental influence on organisations. Satisfying customers' needs, improved stock control, reduced transactional costs, introduction of JIT systems, analysis of point of sales data, on-line booking, electronic payments and banking are just a few of the many beneficial changes that have been facilitated by advances in information systems management.

But, just as every force has a force equal and opposite to it, such benefits may also have an obverse side to them. For instance the costs of changing the organisation's information systems architecture because ones competitors have introduced new systems that confer them with competitive advantage; the costs of staff development that is associated with the introduction of new and so called enhance IT that services the organisation's information's needs. The speed of action and reaction because of enhanced data analysis may well mean that whereas in a former age, planning was on an annual cycle it may now be on a monthly basis if not a weekly one. These are just some of the background features with which an effective manager has to deal.

So in this unit candidates are asked to assess and analyse the organisation's capacity to cope with such influences on the information needs and the associated information systems adaptation.

It is suggested that a candidate be tasked with undertaking an assessment of the following aspects of SIM against the background that has been described above.

They should:

- assess how well the organisation manages *no longer required data* and information or disposes of data that is no longer appropriate to the organisation's strategic and operation planning

- assess if the information that is held is *sufficient for the organisations evolving needs* and identify from where and how the *additional data may be economically and efficiently sourced*

- analyse how effective the organisation's IMS is in producing *information in a format that is required and at a time that it is required*

- assess if the security of access to the system reflects its growing importance to the organisation and how this is changing as ever sophisticated systems of access are being developed by the organisations potential competitors and 'mischief makers'

| 4.2 | Identify the capability of the organisation to manage information and undertake "Knowledge Management" | • change management strategy within the organisation

• inwards investment strategy and practice within the organisation | It is quite amazing how many 'pieces' of software can be identified as purporting to enhance or make easier the management of an organisation's information system and how some claim to directly support the decision making processes. It is assumed that such developments will continue at an ever-increasing pace. Whether the claims for such developments are borne out in the minds of those tasked with taking organisation's decisions will remain to be seen. Experience indicates that they may often add confusion rather than clarify the challenge of arriving at justifiable decisions. Nevertheless, it is likely that such developments cannot be ignored. |
| 4.3 | Identify the readiness with which the organisation embraces and manages change | • appropriate analytical tools for appraising information required for organisational change | Therefore, it is suggested that an individual candidate is best placed to identify the nature and range of *information management tools* that are available in their sector of operations to aid information and decision making processes. It is suggested that against this background candidates are tasked with:

   - assessing how well the organisation reviews such developments and appraises their potential value or hindrance

   - analysing how well the organisation realised the importance of *IMS* and is prepared to invest in the capital outlay as well as the associated cost of operations and related CPD for its staff

   - identify how well the organisation copes with managing analytical tools/software that purport to assist the decision making processes at various levels in the organisation and if such software/changes are introduced how it copes with the changes that this brings |

| | | | **Summary**

Again, it is suggested that a period of consolidation is introduced at the end of the study of this unit. Candidates might well be asked:

- what have they discovered from their investigation that contributes to their growing understanding of the organisation's strength and weakness in relation to their MISs?

- how do these strengths and weaknesses compare with other organisations in their sector of operations and in particularly compared with the organisation's competitors?

- is the organisation a learning one or is it basking in past glories as far as MISs is concerned?

- what realistic recommendations are beginning to form that may be a part of the candidate's assignment?

It is suggested that it is useful for a candidate to 'talk this through' with a colleague, as such practice often leads to them clarifying their views as well as consolidating their learning.

Candidate might also be asked to reflect on any change there has been to their views/opinions in relation to an organisation's MISs. |

UNIT 5: Identify the information management systems within a department or for a project

	COMPETENCE CRITERIA	EXPLANATION OF COMPETENCE CRITERIA	SUGGESTED TEACHING ACTIVITIES
5.1	Identify the information needs required to support decision making within a major department of an organisation or for a major project	• information needs of department or project	Candidates will by now realise that just like other aspects of organisational management, the management of information is never static. In fact quite the reverse and it may well be that the speed of change means that the organisation is *always playing 'catch-up'*. So far, the candidate has looked at organisational needs at strategic, operational and day to day levels. There is no new learning for this unit, but candidates should now focus on a specific department or project and it is advised that this is to be the focus of their assignment. They should apply the learning to identify the information needs in this department/project and show how this fits into the overall organisational purpose. The following tasks could be applied:
5.2	Assess how the identified gaps in data/information can best be met	• identifying courses of action to improve MIS	- define *the ideal systems* for managing information in the project or department - identify the various component that make up this and note *what aspects are excluded* that could be in the IS

5.3	Within current budgetary constraints assess the efficiency and effectiveness of existing and proposed information systems	• appraise the current system for efficiency and effectiveness and consider alternatives	- explore how well it serves the current and evolving needs of the department or project at all its levels
			
			- how well are the following aspect of the MIS *integrated so* that together *they provide a synergy* that facilitates robust decision making
			
			    ❖ Formal *versus* informal
			    ❖ Textual *versus* pictorial
			    ❖ Quantitative *versus* qualitative
			    ❖ Verbal *versus* paper *versus* electronic
			    ❖ Individual *versus* aggregated
			- how well the system *'manipulates'* data to best serve the various needs across the organisation
			
			- what the a*ssociated strengths and weaknesses* of these approaches are

5.4	Identify information systems developments required to address identified gaps in current provision	• identify improvements that can be made and make proposals for change	Again building on what has so far been discovered candidate should be asked to :
			- analyse and assess how well the various MISs are integrated so that there is synergy between the department or project and the rest of the organisation (and the *avoidance of duplication)*
			- how well the *various MISs communicate* with each other in order to provide synergy and *value added information*
			- how well do the various systems automatically alert managers to variances in a timely and effective manner as they relate to operation and also strategic issues
			- *what competitive advantage is the MIS providing* or could provide if differently configured
			Use the experiences of the candidates and up to date literature to identify different systems, their advantages and limitations. Stress that most MISs are updated rather than thrown away and replaced and that with the rapid changes that are taking place, it is unlikely that any one system will satisfy all the needs of the department or project at all times now and into the future.
			For this reason, recommendations should be based on a balance of what is possible and cost-effective.