Unit 7:   Strategic Information Systems

Unit code	**A/615/1626**
Unit type	**Optional**
Unit level	**4**
Credit value	**15**

Introduction

Information is the most valuable resource that an organisation possesses. The effective gathering, protection, analysis, processing and dissemination of information is vital to the success of any organisation. As globalisation and the 24-hour economy develop and increase, organisations must ensure that their information systems are reliable, efficient and able to cope with rapid change.

This unit introduces students to the importance of information to organisations. It will examine how systems can be used to support core business functions and enable organisations to be more productive and competitive within the global marketplace.

Students will be required to analyse the information needs of an organisation at different levels and within different functional areas. It is important that computing professionals are able to understand how an organisation works and how it uses information in order to be able to design, implement, maintain and manage secure information systems to support its operations.

Among the topics included in this unit are understanding organisations in terms of their information needs and the variances within different functional areas.

Examination of different information systems at the operational, tactical and strategic levels will be required, in addition to evaluating their effectiveness and role in terms of decision making and gaining competitive advantage.

On successful completion of this unit students will have an insight into the types of systems and technologies available for effective information processing. Critical analysis will also be used to examine the integrated role that each of these play in contributing to the efficiency and competitiveness of organisations.

As a result students will develop skills such as communication literacy, critical thinking, analysis, reasoning and interpretation, which are crucial for gaining employment and developing academic competence.

Learning Outcomes

By the end of this unit students will be able to:

LO1   Analyse the information requirements of organisations.

LO2   Discuss the types of information systems that are used within all levels of an organisation.

LO3   Demonstrate the use of an information system to produce management information.

LO4   Evaluate the effectiveness of strategic information systems.

Essential Content

LO1 Analyse the information requirements of organisations

Functional area information requirements:

Finance and accounts for payroll, pensions, supplier payments and invoicing etc., human resources e.g. employee records, personnel data, appraisals, CPD etc., stock control, sales, marketing, research and development, production, distribution, IT, customer service and administration.

Information needs:

How different functional areas use and process data effectively; the integration of data and information within an organisation.

Requirements analysis:

The inputs, outputs and processing activities; information distribution requirements e.g. by location, department, individual/customer.

LO2 Discuss the types of information systems that are used within all levels of an organisation

Information systems types:

Business information systems, decision support systems, management information systems, strategic/executive information systems, office information systems, transaction processing systems, expert systems, global information systems, data warehouse systems, enterprise systems, enterprise resource planning systems, integrated information systems.

Categories of information systems:

Operational, tactical and strategic information systems.

Information and data:

Definition of information and data, sources of information, information requirements and the needs for information at different levels within an organisation; storing information and its importance with regard to security, accuracy and relevance; outputs e.g. payroll, invoicing, ordering, bookings, stock control, personnel records, goods tracking, decision-making, marketing, customer service.

LO3 **Demonstrate the use of an information system to produce management information**

Management information:

Reports e.g. sales report, college enrolment statistics, marketing analysis (brick v click), trends in the market, competition and market share.

Gathering information:

Defining requirements; establishing sources of information; defining other factors to be considered e.g. constraints and access to information.

Selecting information:

Analysis of information in terms of validity, accuracy, currency and relevancy; identifying and rationalising meaningful information from data sets.

Uses:

Proficiency in terms of accessing quality information that can be used for decision-making, problem-solving, predictions, trending and forecasting.

LO4 **Evaluate the effectiveness of strategic information systems**

Models for strategic information systems:

Porters Competitive Advantage and Wiseman's Strategic Planning Process.

Competitive advantage:

How can competitive advantage be measured and attributed to the implementation of a strategic information system?

Gaining competitive advantage:

Delivering a differentiated product or service; delivering a product or service at a lower cost; specific segmentation of the market e.g. targeted marketing to specific target audiences; innovative product or service design and implementation.

Learning Outcomes and Assessment Criteria

Pass	Merit	Distinction
LO1 Analyse the information requirements of organisations		
P1 Discuss the information needs and requirements for the functional departments of an organisation. **P2** Produce an input/output (I/O) diagram to represent the data and information requirements of a functional department.	**M1** Compare and contrast different processing activities that occur within functional departments within an organisation.	**D1** Evaluate the inputs, outputs and processing activities of a selected organisation.
LO2 Discuss the types of information systems that are used within all levels of an organisation		
P3 Describe the function of different information systems. **P4** Discuss the information needs required at differing levels within an organisation.	**M2** Analyse the effectiveness of information systems at the operational, tactical and strategic levels within an organisation.	**D2** Differentiate between the function and purpose of information systems at different levels within an organisation.
LO3 Demonstrate the use of an information system to produce management information		
P5 Demonstrate the use of an information system for management reporting purposes. **P6** Discuss the importance of an organisation having data and information that is current, valid and accurate.	**M3** Analyse the constraints that an organisation can face when gathering data and information.	**D3** Critique, with examples, how a given organisation can use information for effective decision-making and forecasting.

Pass	Merit	Distinction
LO4 Evaluate the effectiveness of strategic information systems		
P7 Identify different models that can be applied to strategic information systems.	**M4** Justify the ways in which an organisation can obtain competitive advantage within a global market.	**D4** Evaluate how strategic information systems can contribute to the competitiveness of organisations.

Recommended Resources

Textbooks

Peppard, J. (2016) *The Strategic Management of Information Systems: Building a Digital Strategy*. 4th Ed. John Wiley & Sons.

Robson, W. (1997) *Strategic Management and Information Systems: An Integrated Approach*. 2nd Ed. Financial Times/ Prentice Hall.

Ward, J. (2002) *Strategic Planning for Information Systems*. 3rd Ed. John Wiley & Sons.

Whitely, D. (2013) *An Introduction to Information Systems*. Palgrave Macmillan.

Journals

The Journal of

Strategic

Information

Systems

Information

Systems Journal

Websites

it.toolbox.com	ToolBox.com "Strategic Information System Toolbox" (Wiki)
www.mbaknol.com	MBA Knowledge Base "Strategic Information Systems" (Article)

Links

This unit links to

the following

related units: *Unit*

4: Database

Design &

Development Unit

38: Database

Management

Systems