**Management Information Systems**

To enable learners to examine the use of information systems within organisations. The learners will develop knowledge and understanding of the contribution information systems make to the development and management of organisations.

**Indicative Content**

**1. Understand the role of information systems in organisations**

* Purposes of information: Operational Support, Monitoring and controlling activity, Analysis of patterns or trends, Decision making – operational, tactical, strategic, Gaining commercial advantage.
* Sources of information: Internal information, for example; financial, personnel, marketing, purchasing, sales, manufacturing data, administration information, External information, for example; government information, trade data, commercially provided databases, research, Reliability of data sources.
* Reliable information: Valid, Timely, Fit for purpose, Accessible, Cost-effective, Accurate, Relevant, Appropriate level of detail, Understandable.

**2. Understand the relationships between information systems, organisational strategy and e-strategy**

* Types of information system: Management Information Systems (MIS), Marketing (Sales Performance, Competitors, etc.), Financial (Financial Costs, Investment Returns, etc.), Human Resources (Staffing, Continuing Professional Development, etc.).
* Information flows: Internal information flows, Information flows to external bodies, Information flow diagrams.
* Legal requirements, for example: Data Protection Act, Freedom of Information Act, Computer Misuse Act.
* Ethical issues, for example: Codes of practice, Use of email / internet, Whistleblowing, Organisational policies, Information ownership.
* Operational issues, for example: Security of information, Backups, Health and safety.
* Costs, for example: Additional resources required, cost of development, Increasing cost of training personnel.
* More complex software
* Big Data: Four dimensions – volume, variety, velocity and veracity; Different types of data – text, machine generated, audio, twitter, video, internet, sensory techniques; Stages of analysis – checking, cleaning, sorting, modelling, mining, characteristics, analytics; Technological challenges, for example memory storage space, physical location, scope of data.

**3. Understand how information systems and information technology improve organisational performance**

Key information systems features: Data, People, Hardware, Software, Telecommunications.

* Key information systems functions: Input, Storage, Processing, Output, Control, Feedback loops.
* Distinction between data and information: Collection, Storage, Processing, Manipulation, Retrieval, Presentation.
* Management Information Systems: Features, Benefits, Costs.
* Effectiveness criteria and analysis: Accuracy, Sustainability, Confidence, Response times.

**4. Understand how to manage effective, secure information systems**

* Tools: Software, Databases, Artificial intelligence, Predictive modelling, Internet, Data mining systems.
* Information gathering: Requirements, Establishment of sources of information, Constraints, Selection of appropriate information.
* Information analysis: Quality, Validity, Accuracy, Currency, Relevance, Alternatives.
* Management information, for example, sales reports, college enrolment data, marketing analysis reports.