

Managing Information for Competitive Advantage

Purpose

Effective and efficient conversion of resources into goods and services that meet the present and future demands of their customers is central to the success of all organisations.

In this module, the view is taken that successful management of information will depend on:

- 1 The efficient collection and processing of data through information and communication systems to support managerial decision-making in the area of resource use and conversion.
- 2 The effective design and management of information, communication and knowledge systems.
- 3 The effective use and interpretation of information by managers in the decision-making and problem-solving processes.

Information and Communications Technology (ICT) and its use in organisations is evolving rapidly. World-class organisations have long since moved on from rudimentary applications that mechanise administrative procedures and increasingly realise its strategic potential – that in the twenty-first century, ICT will be about increasing competitive advantage through enhanced problem-solving, decision-making and organisations' internal and external communication.

There are two broad dimensions to this. Internally, it means using ICT to improve learning and the transfer and availability of knowledge and information for employees, all with the ultimate objective of enhancing the quality of decision-making and improving profitability or level of service throughout the organisation.

Externally, it involves using ICT to scan the environment, to network, and to benchmark in pursuit of world-class performance in the provision of goods and services. Networking will also involve developing creative relationships with customers and suppliers – the kind of partnership sourcing that is now being exploited by many organisations to foster innovative product design, and new processes and means of distribution.

Thus, ICT forms the bedrock on which the effective management and conversion of information and resources will be secured.

The rate at which ICT is becoming homogeneous in all organisations means that cutting-edge ICT developments are likely to give competitive advantage for only a relatively short period, since the ICT infrastructure of organisations will swiftly incorporate the new developments.

For this reason, it is considered important to distinguish in this module between performance infrastructure and performance differentiators, the former encompassing the factors which are essential for organisational survival, and the latter leading to organisational excellence.

Outstanding performance will require cognitive skills such as evaluation and critical analysis together with the behavioural skills of adaptation and innovation management. Performance at this level will also require up-to-date knowledge of ICT applications in the human resource and general management fields though research and wider reading.

The overriding purpose of these Standards is to ensure that the 'thinking performer' will, through the effective use of information and organisational knowledge, be able to:

- 1 resolve complex issues in a systematic and creative way, recognising and taking account of all the important variables in a problem scenario
- 2 make convincing and sophisticated decisions in complex and unpredictable situations with greater awareness, understanding and assessment of risk
- 3 avoid simplistic and naïve assumptions and uncritical acceptance of the status quo
- 4 be aware that concept and theory may not deal with the whole of the complexity of a problem and, therefore, be able to evaluate the reliability and validity of any research in order to understand its value to the problem solving process.

Performance indicators

1 Managing information

Performance infrastructure

Operational indicators

Practitioners must be able to:

- 1 Manage information systems efficiently.
- 2 Use information to make decisions.
- 3 Communicate information to others.

Knowledge indicators

Practitioners must be able to understand, explain and critically evaluate:

- 1 Communication processes in organisations.
- 2 Basic data structures.
- 3 Systems attributes.
- 4 The range and nature of organisational information systems, to include supplier management systems.

Indicative content

- 1 Communication models.
- 2 Data analysis – entities, attributes and relationships; systems and data flow diagrams.
- 3 Database models – file management systems, hierarchical, network and relational databases.
- 4 Current software applications for data processing, report generation, modelling and communications.
- 5 Systems attributes; boundary, environment, open, closed, lag, positive and negative feedback, the control model.
- 6 The organisation from an information perspective eg types of organisational information system; informational requirements of different organisational functions and activities, to include partnership sourcing, customer–supplier relationships and networking.

Performance differentiators

Operational indicators

Practitioners must be able to:

- 1 Evaluate the design of information and knowledge systems.
- 2 Analyse and review information and knowledge systems.
- 3 Develop and manage organisational knowledge systems.
- 4 Manage projects effectively.

Knowledge indicators

Practitioners must be able to understand, explain and critically evaluate:

- 1 The strategic role of Information Systems (IS) and ICT.
- 2 The role of e-commerce within the business systems domain.
- 3 Organisational decision-making processes.
- 4 Systems concepts.
- 5 Information systems design methodology.
- 6 Knowledge management processes and systems.
- 7 Systematic and intuitive approaches to problem-solving.
- 8 Up-to-date software applications in the human resource and general management fields.

Indicative content

- 1 The contribution of IS/ICT to the attainment of competitive advantage/competitive effectiveness for organisations.
- 2 Decision-making processes in organisations – eg rational, limited rationality, disorder, conflict, symbolic, emergent – and the role of information; risk and sensitivity analysis.
- 3 Knowledge management processes and systems.
- 4 Systems concepts; definition of a system, structure and process, holism, emergent properties, complexity, systems diagrams.
- 5 The organisation from an information perspective, eg types of organisational information system; informational requirements of different organisational functions and activities, to include procurement management systems.
- 6 Methodologies for systems analysis and design, eg Structured Systems Analysis and Design Method (SSADM).
- 7 Problem-solving frameworks, methodologies and techniques.
- 8 Developments in human resource management and general management IT applications.

2 Managing Finance**Performance infrastructure****Operational indicators**

Practitioners must be able to:

- 1 Manage financial resources to achieve goals and objectives through the budgetary planning and control process.
- 2 Interpret information from key financial statements.

Knowledge indicators

Practitioners must be able to understand, explain and critically evaluate:

- 1 Financial statements and their meaning.
- 2 The budgetary process.
- 3 Flow of money in a business.

Indicative content

- 1 Structure, content and interpretation of simple balance sheets, profit and loss accounts and trading statements.
- 2 Ratio analysis – definition and interpretation.
- 3 Basic costing concepts and techniques; analysis of costs, marginal costing, standard costing.
- 4 Cash flow and cash budgets.
- 5 Budgetary planning and control.

3 Analysis of data and presentation of information

Performance differentiators

Operational indicators

Practitioners must be able to:

- 1 Evaluate business plans for functional organisational projects.
- 2 Critically appraise proposals for capital projects.
- 3 Analyse financial and other information used in making outsourcing decisions.
- 4 Evaluate the financial implications of sustainable development.

Knowledge indicators

Practitioners must be able to understand, explain and critically evaluate:

- 1 The business planning process.
- 2 Capital budgets and project appraisal.
- 3 Outsourcing – the 'make or buy' decision.
- 4 Concepts of sustainable development.

Indicative content

- 1 Structure and content of business plans.
- 2 Project appraisal; discounted cash flow (net present value), accounting rate of return, pay-back, cost-benefit analysis.
- 3 Marginal costing.
- 4 Financial aspects of sustainability in relation to resource management.

Performance infrastructure

Operational indicators

Practitioners must be able to:

- 1 Search for and collect data from primary and secondary sources.
- 2 Use appropriate software to process and interpret data.
- 3 Generate reports for informing managerial decision-making.

Knowledge indicators

Practitioners must be able to understand, explain and critically evaluate:

- 1 Basic statistical concepts.
- 2 Application of statistical concepts.

Indicative content

- 1 Sources of data; government, public authority, proprietary databases.
- 2 Statistical concepts; probability and probability distributions, sampling, estimation and inference, hypothesis testing, regression and correlation, time series analysis, index numbers, decision theory, control charts.
- 3 Use of current software applications for computation and presentation of statistics.

Performance differentiators**Operational indicators**

Practitioners must be able to:

- 1 Analyse and process complex data and interpret the information produced.
- 2 Select appropriate presentation formats for communicating complex information.
- 3 Use appropriate software to model complex problems.

Knowledge indicators

Practitioners must be able to understand, explain and critically evaluate:

- 1 Statistical modelling techniques.

Indicative content

- 1 Statistical concepts; probability and probability distributions, sampling, estimation and inference, hypothesis testing, regression and correlation, time series analysis, index numbers, decision theory, control charts.
- 2 Use of software applications for computation and presentation of statistics.