

Unit code	M/615/1641
Unit type	Core
Unit level	5
Credit value	15

Introduction

Data and information is core to any organisation and business process. The necessity of having meaningful information is the key driver for effective decision-making and problem-solving. Business intelligence has evolved from technologies such as decision support systems (DSS) to include tools and methods associated with data mining, data integration, data quality and data warehousing in conjunction with other information management systems and applications.

This unit introduces students to a range of tools, techniques and technologies for acquiring data and processing this into meaningful information that can be used to support business functions and processes.

Within this unit students will examine the concept of business processing in terms of data capture, conversion and information output. Students will also be required to define the tools and technologies associated with business intelligence functionality. The use of a business intelligence tool/s and techniques is also required to demonstrate an understanding of a given problem. Finally, students will be expected to evaluate the impact of business intelligence for effective decision-making.

On successful completion of this unit students will be able to appreciate the importance of business intelligence in terms of optimising decision-making and performance. By exploring the tools, techniques and systems that support business intelligence students will have an awareness of the role and contribution that these technologies and methodologies have and their importance to 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 Discuss business processes and the mechanisms used to support business decision-making.
- LO2 Compare the tools and technologies associated with business intelligence functionality.
- LO3 Demonstrate the use of business intelligence tools and technologies.
- LO4 Discuss the impact of business intelligence tools and technologies for effective decision-making purposes and the legal/regulatory context in which they are used.

Essential Content

L01 **Discuss business processes and the mechanisms used to support business decision-making**

Business process model:

Data input and capture, data processing/conversion and information output, security considerations; unstructured and semi-structured data.

Tactical and operational decisions, the business process model, business intelligence functionality.

Analyse and compare the systems and technologies associated with business intelligence.

Mechanisms:

Application software, databases, which are used to collect and store intelligence.

Systems that are used to manage, analyse and display business intelligence to support the decision-making process; the importance of reliable data; impacts of reliable data in businesses.

Business processes:

Management e.g. supporting decision-making, problem-solving; operational e.g. sales, purchasing and marketing; support e.g. accounting, technical supporting processes; improving the efficiency of a business process e.g. forecasting, decision-making, predictive reasoning; automating processes e.g. print runs, salary slips etc.

L02 **Compare the tools and technologies associated with business intelligence functionality**

Support for business decisions:

Operational tactical and strategic. Operational examples could include product positioning or pricing. Tactical decisions could include financial outlays to gain competitive advantage. Strategic business decisions could include priorities, goals setting and forecasting for the future, global diversification etc.

Business intelligence functionality:

Analysing data, decision-making, problem-solving, designing more intuitive/innovative systems.

Systems and technologies:

Information systems at an operational, tactical and strategic level. Transaction processing, management information systems, decision support systems, expert systems.

LO3 Demonstrate the use of business intelligence tools and technologies

Tools and techniques:

Descriptive and predictive analysis, predictive modelling e.g. forecasting, use of statistical models to predict and identify trends. Data mining techniques to find anomalies, cluster patterns and/or relationships between data sets.

Converting data into visual information using charts, graphs, histograms and other visual mediums.

Solutions:

Supporting a business process e.g. end user requirements, systems requirement, application to automate procedures. Designing a tool, program or package that can perform a specific task to support problem-solving or decision-making at an advanced level.

Uses:

For example, designing an application to solve a specific user need or system requirement. Create an e-commerce function for a website to support a specific business process, design a program for a specific end user that will support another application or process.

Design considerations:

Addressing a user or system requirement; designing a user-friendly and functional interface; considering user engagement and interaction with the designed solution; customisation of the solution to satisfy the user and system requirements.

LO4 Discuss the impact of business intelligence tools and technologies for effective decision-making purposes and the legal/regulatory context in which they are used

Recognise the legal, social, ethical and professional issues involved in the exploitation of computer technology.

Cybersecurity management:

Understanding the personal, organisational and legal/regulatory context in which these tools could be used, the risks of such use and the constraints (such as time, finance and people) that may affect how cybersecurity is implemented.

Evaluation criteria:

Enhanced or improved operations e.g. more efficient, faster results, more user-friendly, higher productivity, extended target audience, more competitive, more profitable, improved customer service.

Learning Outcomes and Assessment Criteria

Pass	Merit	Distinction
<p>LO1 Discuss business processes and the mechanisms used to support business decision-making</p>		<p>D1 Evaluate the benefits and drawbacks of using application software as a mechanism for business processing.</p>
<p>P1 Examine, using examples, the terms 'Business Process' and 'Supporting Processes'.</p>	<p>M1 Differentiate between unstructured and semi-structured data within an organisation.</p>	
<p>LO2 Compare the tools and technologies associated with business intelligence functionality</p>		<p>D2 Compare and contrast a range of information systems and technologies that can be used to support organisations at operational, tactical and strategic levels.</p>
<p>P2 Compare the types of support available for business decision-making at varying levels within an organisation.</p>	<p>M2 Justify, with specific examples, the key features of business intelligence functionality.</p>	
<p>LO3 Demonstrate the use of business intelligence tools and technologies</p>		<p>D3 Provide a critical review of the design in terms of how it meets a specific user or business requirement and identify what customisation has been integrated into the design.</p>
<p>P3 Determine, with examples, what business intelligence is and the tools and techniques associated with it.</p> <p>P4 Design a business intelligence tool, application or interface that can perform a specific task to support problem-solving or decision-making at an advanced level.</p>	<p>M3 Customise the design to ensure that it is user-friendly and has a functional interface.</p>	

Pass	Merit	Distinction
<p>LO4 Discuss the impact of business intelligence tools and technologies for effective decision-making purposes and the legal/regulatory context in which they are used</p>		<p>D4 Evaluate how organisations could use business intelligence to extend their target audience and make them more competitive within the market, taking security legislation into consideration.</p>
<p>P5 Discuss how business intelligence tools can contribute to effective decision-making.</p> <p>P6 Explore the legal issues involved in the secure exploitation of business intelligence tools.</p>	<p>M4 Conduct research to identify specific examples of organisations that have used business intelligence tools to enhance or improve operations.</p>	

Recommended Resources

Textbooks

- Boyer, J. (2010) *Business Intelligence Strategy*. MC Press (US).
- Jeston, J. and Nelis, J. (2014) *Business Process Management*. 3rd Ed. Routledge.
- Kolb, J. (2013) *Business Intelligence in Plain Language: A practical guide to Data Mining and Business Analytics*. CreateSpace Independent Publishing Platform.
- Marr, B. (2015) *Big Data: Using Smart Big Data, Analytics and Metrics to Make Better Decisions and Improve Performance*. 1st Ed. John Wiley & Sons, Ltd.

Journals

- International Journal of Business Intelligence and Data Mining*
- International Journal of Business Intelligence Research (IJBIR)*

Websites

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| businessintelligence.com | Business Intelligence (General Reference) |
| businessintelligence.ac.uk | Business Intelligence Project for HE (General Reference) |

Links

This unit links to the following related units:

- Unit 6: Managing a Successful Computing Project*
- Unit 12: Data Analytics*
- Unit 22: Applied Analytical Models*

Unit 33:
Analytic
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Method
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