



COIT20253 *Business Intelligence using Big Data*

Term 2 - 2017

Profile information current as at 27/04/2024 02:57 am

All details in this unit profile for COIT20253 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

Big data management is the organisation, administration and governance of large volumes of both structured and unstructured data. In this unit we explore big data within the context of business intelligence. Students learn general big data structure, concepts of business intelligence, alignment of big data to business intelligence and how big data can be used in the organisational business intelligence. Students learn how big data is changing businesses and how organisations can take an advantage of big data in the decision making. In today's world organisations are making decisions on non-traditional, unstructured data. Students learn how organisations are including non-traditional unstructured valuable data with the traditional enterprise data to do the business intelligence analysis. Note: If you have completed unit COIT20236 then you cannot take this unit.

Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisites: COIT20250 e-Business Systems, COIT20245 Introduction to Programming and COIT20247 Database Design and Development

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

Offerings For Term 2 - 2017

- Brisbane
- Distance
- Melbourne
- Rockhampton
- Sydney

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**

Weighting: 35%

2. **Presentation**

Weighting: 25%

3. **Practical and Written Assessment**

Weighting: 40%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Through Moodle site

Feedback

Interesting unit, very practical, excellent, topics are good and materials provided are nice

Recommendation

Continue providing current research study materials

Feedback from Through Moodle site

Feedback

Slides should be more informative

Recommendation

Continue enhancing lecture slides and assessments

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Identify and describe the principles and concepts of big data.
2. Evaluate and explain how large volume of structured and unstructured data are managed in an organization.
3. Examine how big data can be aligned to business intelligence for decision making.
4. Assess how organizations are including non-traditional valuable data with the traditional enterprise data to do the business intelligence analysis.
5. Evaluate and report the role of Knowledge Management Systems to support knowledge creation, gathering and sharing.
6. Effectively communicate business information needs and construct professional reports.

Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA is in use in over 100 countries and provides a widely used and consistent definition of ICT skills. SFIA is increasingly being used when developing job descriptions and role profiles.

ACS members can use the tool MySFIA to build a skills profile at

<https://www.acs.org.au/professionalrecognition/mysfia-b2c.html>

This unit contributes to the following workplace skills as defined by SFIA. The SFIA code is included:

- Information Management (IRMG)
- Information Analysis (INAN)
- Emerging Technology Monitoring (EMRG)
- Database/Repository Design (DBDS)
- Solution Architecture (ARCH)

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level Introductory Level Intermediate Level Graduate Level Professional Level Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Textbooks and Resources

Textbooks

COIT20253

Prescribed

Big Data : Understanding How Data Powers Big Business

Edition: 2013 (2013)

Authors: Schmarzo, Bill

Wiley

Crosspoint Boulevard , Crosspoint Boulevard , Indianapolis

ISBN: 978-1-118-73957-0

Binding: Hardcover

COIT20253

Supplementary

Big Data, Big Analytics : Emerging Business Intelligence and Analytic Trends for Today's Businesses

Edition: 2013 (2013)

Authors: Minelli Michael, Dhiraj Ambiga, Chambers Michele

2013 Wiley CIO Series

New Jersey , New Jersey , USA

Binding: Paperback

Additional Textbook Information

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Hadoop (requires 8 GB RAM)
- MS Excel Solver Add-in (MS office) Power Query is required to be added on EXCEL 2013. It is a patch which needs to be downloaded and appears on Option-->Add-in. It requires IE 9 or later in the Computer labs.
- MS Office
- ODBC driver for sandbox (Students should able to configure it)
- Oracle VM Virtual Box
- Power View feature in Microsoft Excel 2013.
- QlikView <http://www.qlik.com/us/explore/products/free-download>
- SandBox 2.4
- talend Platform for Big Data integration (30 days trial is free) <http://www.talend.com/products/big-data>

Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)
For further information, see the Assessment Tasks.

Teaching Contacts

Meena Jha Unit Coordinator
m.jha@cqu.edu.au

Schedule

Week 1 - 10 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Big Data. What is Big Data and Why Is It Important? How Big Data will change Your Job, Your Company and Your Industry	CRO And Chapter 1 from Big Data, Big Analytics : Emerging Business Intelligence and Analytic Trends for Today's Businesses, Minelli Michael, Dhiraj Ambiga, Chambers Michele, 2013 Wiley & Sons	

Week 2 - 17 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Big Data Technology	Chapter 3 from Big Data, Big Analytics : Emerging Business Intelligence and Analytic Trends for Today's Businesses, Minelli Michael, Dhiraj Ambiga, Chambers Michele, 2013 Wiley & Sons	

Week 3 - 24 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Business and Organisational Impact of Big Data	Chapter 3 and Chapter 4 from Big Data: Understanding How Data Powers Big Business Your Business Degree Schmarzo, Bill 2013 Wiley.	

Week 4 - 31 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Big Data Architecture and Patterns	CRO Provided 1. Oracle Information Architecture: An Architect's Guide to Big Data 2. Big Data Architecture and Patterns, Part 1 Introduction to Big Data Classification and Architecture.	

Week 5 - 07 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Understanding Decision Theory and Business Analytics	Chapter 5 from Big Data: Understanding How Data Powers Big Business Your business degree Schmarzo, Bill 2013 Wiley. Chapter 5 from Big Data, Big Analytics : Emerging Business Intelligence and Analytic Trends for Today's Businesses, Minelli Michael, Dhiraj Ambiga, Chambers Michele, 2013 Wiley & Sons	

Vacation Week - 14 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Break Week	Revise all Chapters and the unit contents covered so far	

Week 6 - 21 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Information and Data Management	Chapter 4 from Big Data, Big Analytics : Emerging Business Intelligence and Analytic Trends for Today's Businesses, Minelli Michael, Dhiraj Ambiga, Chambers Michele, 2013 Wiley & Sons	Assignment 1 Due: Week 6 Friday (25 Aug 2017) 5:00 pm AEST

Week 7 - 28 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic

Creating the Big Data Strategy
 Chapter 6 from Big Data: Understanding How Data Powers Big Business Your Business Degree Schmarzo, Bill 2013 Wiley.

Week 8 - 04 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Understanding your Value Creation Process	Chapter 7 from Big Data: Understanding How Data Powers Big Business Your Business Degree Schmarzo, Bill 2013 Wiley.	

Week 9 - 11 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Big Data User Experience Ramifications	Chapter 8 from Big Data: Understanding How Data Powers Big Business Your Business Degree Schmarzo, Bill 2013 Wiley.	<p>The presentation will take up one hour of tutorial time from Week 9-Week 12. Students will be informed in week 5 about their presentation schedule. It is very important for all students to meet the due date of their respective presentation.</p> <p>Assignment 2: Presentation Due: Week 9 Monday (11 Sept 2017) 5:00 pm AEST</p>

Week 10 - 18 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Operational Intelligence Real Time Business Analytics from Big Data Use Cases for Operational Intelligence Identifying Big Data Use Cases	CRO and Chapter 9 from Big Data: Understanding How Data Powers Big Business Your Business Degree Schmarzo, Bill 2013 Wiley.	

Week 11 - 25 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Solution Engineering	Chapter 10 from Big Data: Understanding How Data Powers Big Business Your Business Degree Schmarzo, Bill 2013 Wiley.	

Week 12 - 02 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic
Business Intelligence And Analytics: From Big Data To Big Impact: Self reading and discussion in the class	CRO.MIS Quarterly Business Intelligence and Analytics: From Big Data to Big Impact, Hsinchun Chen, Roger H.L.Chiang, and Veda C. Storey Vol. 36 No. 4 pp1165-1188 December 2012 Self-reading and discussion in the class.	Assignment 3: Practical and Written Assessment: Creating a Big Data Strategy Due: Week 12 Friday (6 Oct 2017) 5:00 pm AEST

Review/Exam Week - 09 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic
Review Week	Review Week	

Exam Week - 16 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic
No Exam	No Exam	

Term Specific Information

Contact information for Dr Meena Jha: Email: m.jha@cqu.edu.au Telephone: (02) 9324 5776 Office: Level 6, 400 Kent Street, Sydney Campus. Please submit questions about the course through the 'Q&A' discussion forum in Moodle - that way, everyone can benefit from the questions and answers. If you have any individual queries, please email me and I'll try to get back to you within a day or so. For an individual discussion, please ring during working hours (leave a message if I'm not in and I'll return your call as soon as I can).

Assessment Tasks

1 Assignment 1

Assessment Type

Written Assessment

Task Description

The assignment will be marked out of a total of 100 marks and forms 35% of the total assessment for the course. ALL assignments will be checked for plagiarism by Turnitin. You have been requested to prepare a report. Your target audience is executive business people, who have extensive business experience but limited ICT knowledge. They would like to be informed as to how new Big Data technologies may be beneficial to their business. Please note that standard report structure, including an executive summary, must be adhered to.

The main body of the report should include the following topics.

1. Data Collection and Storage

- Data collection system (what kind of data should be collected and how)
- Storage system (what are the requirements to the storage and how to achieve them)

2. Data in Action

- Consumer-centric product design (what is it and how to do it)
- Recommendation system (what is it and how to do it)

3. Business continuity

- How online business can survive in case of power outage or other disasters?

The length of the assignment is 3000 words. You are required to do extensive reading of more than 10 appropriate and relevant chosen topics in Big Data application Please do in-text referencing of all chosen readings. Newspaper and magazine reports should be limited to a maximum of 2. A comprehensive report covering all key aspects of the topic selected is required. Report should be extremely well supported with relevant case studies. Any assumptions made are clearly noted. DO NOT use Wikipedia as a reference. The use of unqualified references will result in the deduction of marks.

The report structure should be clear, easy to read and logical, directly addressing the question. Suitable headers should be used throughout the report. Good use of graphics and charts should be made.

No spelling, punctuation or grammatical errors.

Assessment Due Date

Week 6 Friday (25 Aug 2017) 5:00 pm AEST
Assignment 1 is due on Friday at 17:00 AEST

Return Date to Students

Week 9 Friday (15 Sept 2017)
This will be made available to students.

Weighting

35%

Assessment Criteria

Assessment Marking Criteria: Weighted out of 35%

Report formatting (font, header and footer, table of content, numbering, referencing) 5 Marks

Professional communication (correct spelling, grammar, formal business language used) 5 Marks

Executive summary 10 Marks

Report introduction 10 Marks

Data Collection and Storage 20 Marks
Data in Action 30 Marks
Business continuity 10 Marks
Conclusion and Recommendations 10 Marks
Total = 100.00

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

This is an individual assignment. Please upload your file on Moodle platform.

Learning Outcomes Assessed

- Identify and describe the principles and concepts of big data.
- Evaluate and explain how large volume of structured and unstructured data are managed in an organization.
- Examine how big data can be aligned to business intelligence for decision making.
- Assess how organizations are including non-traditional valuable data with the traditional enterprise data to do the business intelligence analysis.
- Evaluate and report the role of Knowledge Management Systems to support knowledge creation, gathering and sharing.
- Effectively communicate business information needs and construct professional reports.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

2 Assignment 2: Presentation

Assessment Type

Presentation

Task Description

The assignment will be marked out of a total of 25 marks and forms 25% of the total assessment for the course. This presentation is based on your Assignment 3. You will propose a research study that will involve investigating and determining how a particular large organisation use Big Data for developing Big Data Strategy and driving productivity, in a no more than 5-minute presentation in class for feedback and approval by the lecturer/ Tutor in week 7. **The presentation of your findings in this project would be of about 15-minute duration which will start from week 9.**

Choose any one of the following topic for presentation.

1. Big data and new decision-making techniques/models/approaches;
2. Organisational and cultural issues of the 'Data-driven' organisation;
3. Leveraging big Data for enhancing decision making and creating new business models
4. Social networks for exploiting knowledge or creating intelligence;

You are required to give a presentation on how to create a Big Data Strategy and turning the strategy document into action. It is very important for all students to meet the due date of their respective presentation. Presentation will be assessed during the presentation time. You should focus on how to create a Big Data Strategy and turning the strategy document into action and the required Big Data technology.

Assessment Due Date

Week 9 Monday (11 Sept 2017) 5:00 pm AEST

Return Date to Students

Certification Date

Weighting

25%

Assessment Criteria

Marking criteria for evaluating the content of the Presentation: weighted 25%

1. Subject Knowledge (5 marks)
2. Explanations from evidence (5 marks)
3. Graphics, figures, tables included (5 marks)
4. Conclusions (5 marks)
5. Questions (5 marks)

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

Submit your presentation in MS word please. No ppt slides for Moodle submission.

Learning Outcomes Assessed

- Identify and describe the principles and concepts of big data.
- Evaluate and explain how large volume of structured and unstructured data are managed in an organization.
- Examine how big data can be aligned to business intelligence for decision making.
- Assess how organizations are including non-traditional valuable data with the traditional enterprise data to do the business intelligence analysis.
- Evaluate and report the role of Knowledge Management Systems to support knowledge creation, gathering and sharing.
- Effectively communicate business information needs and construct professional reports.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

3 Assignment 3: Practical and Written Assessment: Creating a Big Data Strategy

Assessment Type

Practical and Written Assessment

Task Description

The assignment will be marked out of a total of 100 marks and forms 40% of the total assessment for the course. In recent years, the ability of Business Intelligence (BI) technologies to provide historical, current, and predictive views of business operations based on the collection, extraction, and analysis of business data to improve decision has been the basis of several studies. More recently, "Big Data" and "Big Data Analytics" have further stirred the interest of researchers and practitioners alike. You are required to conduct market research and write a report on how Big Data can be used in Decision Support and Business Intelligence (DS&BI).

In this assignment you are required to write a research report focusing on one of the following topics (which you have already chosen for presentation and have discussed with your tutor)

1. Big data and new decision-making techniques/models/approaches;
2. Organisational and cultural issues of the 'Data-driven' organisation;
3. Leveraging big Data for enhancing decision making and creating new business models
4. Social networks for exploiting knowledge or creating intelligence;

The report should be well researched. Business strategy should be mapped clearly to business initiatives, objectives and tasks. You should be able to define required technology stack and required data and analytics architecture for Big data for DS&BI including the Master Data Management (MDM). You should be able to address advanced analytics requirements necessary to support the business strategy they have selected. And the role social media plays in organisations decision making process. You are required to discuss Big Data Value creation process. The report should address the followings:

1. Identify, create and discuss Business Strategy for a Big Data use case
2. Identify and align business initiatives, objectives and tasks with the developed Business Strategy.
3. Identify and discuss the required Technology Stack
4. Discussion on Data Analytics and MDM to support DS&BI
5. Discuss support of NoSQL for Big Data Analytics.
6. Discussion on different NoSQL Databases and its use in Big Data use case you have chosen.

7. Role of Social media in organisation's decision making process

8. Discussion on Big Data Value creation process.

The length of the assignment is 3000 words. You are required to do extensive reading of more than 10 appropriate and relevant chosen topics in Big Data use case. Please do in-text referencing of all chosen readings. Newspaper and magazine reports should be limited to a maximum of 2. A comprehensive report covering all key aspects of the topic selected is required. Report should be extremely well supported with relevant case studies. Any assumptions made are clearly noted. The report structure should be clear, easy to read and logical, directly addressing the question. Suitable headers should be used throughout the report. Good use of graphics and charts should be made. No spelling, punctuation or grammatical errors.

Assessment Due Date

Week 12 Friday (6 Oct 2017) 5:00 pm AEST

Assignment 2 is due on Friday Week 11 at 17:00 AEST.

Return Date to Students

Exam Week Friday (20 Oct 2017)

This will be made available to students after the declaration of the term result. Certificate date (required for non exam courses)

Weighting

40%

Assessment Criteria

Marking Criteria: Weighted out of 40%

1. Introduction (5 marks)
2. Identify, create and discuss Business strategy for a Big Data use case. (10 marks)
3. Identify and align business initiatives, objectives and Tasks with the developed Business Strategy. (10 marks)
4. Identify and discuss the required Technology Stack. (10 marks)
5. Discussion on Data Analytics and MDM to support DS&BI. (10 marks)
6. Discuss support of NoSQL for Big Data Analytics. (10 marks)
7. Discussion on different NoSQL Databases and its use in Big Data use case you have chosen.(10 marks)
8. Role of Social media and human elements in organisations decision making process.(10 marks)
9. Discussion on Big Data Value creation process.(5 marks)
10. Conclusion (5 marks)
11. Quality of Information (5 marks)
12. Grammar Usage (5 marks)
3. References used (5 marks)

Referencing Style

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

This is an individual assessment. Please submit your report on Moodle.

Learning Outcomes Assessed

- Identify and describe the principles and concepts of big data.
- Evaluate and explain how large volume of structured and unstructured data are managed in an organization.
- Examine how big data can be aligned to business intelligence for decision making.
- Assess how organizations are including non-traditional valuable data with the traditional enterprise data to do the business intelligence analysis.
- Evaluate and report the role of Knowledge Management Systems to support knowledge creation, gathering and sharing.
- Effectively communicate business information needs and construct professional reports.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem