



MMBA8160

Business Intelligence and Analytics: Generating Insights

Term 3, Online-scheduled-weekday 2026

Department of Actuarial Studies and Business Analytics

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General Information

Unit convenor and teaching staff
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Credit points
10

Prerequisites
Admission to MBA or PGDipMgt or GradDipMgt or MSocEntre or GradCertSocEntre or GradCertDigFin

Corequisites

Co-badged status

Unit description

In today's rapidly evolving business landscape, data-driven decision-making is paramount for strategic planning, tactical decision-making, and problem-solving. This unit equips modern business managers with quantitative and statistical research tools, advanced data analysis techniques, and machine learning modelling skills essential for harnessing data to drive transformative outcomes. Gain proficiency in quantitative methods and statistical tools to inform strategic decisions and develop innovative business strategies based on data-driven insights. Learn practical data analytics applications for tactical decision-making, including market segmentation, customer profiling, and performance optimisation across business functions. Explore efficient utilisation of resources through data analysis, enabling management effectiveness and cost optimisation strategies.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

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

ULO1: Evaluate disparate data and information using appropriate quantitative tools to evidence and formulate well-informed and robust strategic business decisions.

ULO2: Use appropriate quantitative research tools, evaluate and synthesise quantitative data to help assess the implications of strategic decisions from a whole of entity perspective, and across a wide spectrum of stakeholders.

ULO3: Critically assess and integrate ethical, social and environmental factors into business decision-making and management practices that are also commercially viable from a quantitative point of view.

ULO4: Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

General Assessment Information

Late Assessment Submission Penalty (written assessments)

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical concern.

For any late submissions of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, students need to apply for Special Consideration

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Formal examination: In-class test	20%	No	Week 10	Individual	No	Open
Professional practice: Final project	50%	No	Week 10	Individual and Group	No	Open
Skills development: Applied data analysis	30%	No	05/08/2026	Individual	Yes	Open

Formal examination: In-class test

Assessment Type ¹: Problem-based task

Indicative Time on Task ²: 10 hours

Due: **Week 10**

Weighting: **20%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Open

The purpose of this assessment is for you to demonstrate your understanding and expertise of relevant topics you have gained in this unit.

You will participate in an open-book 1-hour exam, to be held in class.

Deliverable(s): Open-book exam

Individual assessment

On successful completion you will be able to:

- Evaluate disparate data and information using appropriate quantitative tools to evidence and formulate well-informed and robust strategic business decisions.
- Use appropriate quantitative research tools, evaluate and synthesise quantitative data to help assess the implications of strategic decisions from a whole of entity perspective, and across a wide spectrum of stakeholders.
- Critically assess and integrate ethical, social and environmental factors into business decision-making and management practices that are also commercially viable from a quantitative point of view.
- Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

Professional practice: Final project

Assessment Type ¹: Portfolio

Indicative Time on Task ²: 30 hours

Due: **Week 10**

Weighting: **50%**

Groupwork/Individual: Individual and Group

Short extension ³: No

AI Approach: Open

The final week. Comprised of a 30% project report and 10% individual presentation.

The purpose of this assessment is for you to work with peers to demonstrate your knowledge of statistical analysis methods and ability to identify research questions and interpret analysis results.

You will work as a group to conduct descriptive and predictive analyses on case data provided, interpret the findings and present your findings as a report and presentation to the class. You will also be asked to submit an individual project management report to outline each group member's responsibility and how your group managed the group project.

Skills in focus:

- Discipline knowledge
- Critical thinking and problem solving

- Communication skills
- Collaboration skills

Deliverable(s): Written group report (max. 20 pages), group presentation (max 15 minutes – 10% marked individually and 30% marked as a group) and individual written report [max 300 words – 10% marked individually]

Individual and group assessment

On successful completion you will be able to:

- Evaluate disparate data and information using appropriate quantitative tools to evidence and formulate well-informed and robust strategic business decisions.
- Use appropriate quantitative research tools, evaluate and synthesise quantitative data to help assess the implications of strategic decisions from a whole of entity perspective, and across a wide spectrum of stakeholders.
- Critically assess and integrate ethical, social and environmental factors into business decision-making and management practices that are also commercially viable from a quantitative point of view.
- Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

Skills development: Applied data analysis

Assessment Type ¹: Professional task

Indicative Time on Task ²: 10 hours

Due: **05/08/2026**

Weighting: **30%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open

The purpose of this assessment is for you to develop your understanding of statistical methods for analysing survey and transaction data as well as the applications of various types of analytics and analytical tools in business contexts.

You will conduct various types of analysis on the provided data using analytical tools discussed in the unit and answer the questions based on the findings from your analyses.

Skills in focus :

- Discipline knowledge
- Critical thinking and problem solving

Deliverable(s): Written submission

Individual assessment

On successful completion you will be able to:

- Evaluate disparate data and information using appropriate quantitative tools to evidence and formulate well-informed and robust strategic business decisions.
- Use appropriate quantitative research tools, evaluate and synthesise quantitative data to help assess the implications of strategic decisions from a whole of entity perspective, and across a wide spectrum of stakeholders.
- Critically assess and integrate ethical, social and environmental factors into business decision-making and management practices that are also commercially viable from a quantitative point of view.
- Apply a range of research tools and models of business performance and productivity to measure and track sustainable value creation across organisational processes and projects.

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- [Academic Success](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation.

³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Delivery and Resources

The delivery and necessary resources can be found in iLearn. The course will be mainly delivered using software apps such as PowerBI and Minitab. These methods will be discussed in class.

Additionally, resources include the following text book:

Bruce L. Bowerman, Anne M. Drougas, et al. ISE Business Statistics and Analytics in Practice, 9th Edition

Print Book

<https://www.booktopia.com.au/ise-business-statistics-and-analytics-in-practice-bruce-l->

bowerman/book/9781260287844.html

eBook

<https://www.vitalsource.com/en-au/products/ise-business-statistics-in-practice-using-data-bruce-bowerman-v9781260289626?term=9781260287844>

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://policies.s.mq.edu.au) (<https://policies.s.mq.edu.au>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies](https://students.mq.edu.au/support/study/policies) (<https://students.mq.edu.au/support/study/policies>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit connect.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing an](#)

[d maths support](#), [academic skills development](#) and [wellbeing consultations](#).

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Academic Success

[Academic Success](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Ask a Study Coach](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)
- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit <https://students.mq.edu.au/support/technology/service-desk>.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Unit information based on version 2026.04 of the **Handbook**