IB94V-15 Data Analytics and Artificial Intelligence

26/27

Department
Warwick Business School
Level
Taught Postgraduate Level
Module leader
Yi Ding
Credit value
15
Module duration
2 weeks
Assessment
100% coursework
Study location
University of Warwick main campus, Coventry

Description

Introductory description

In the new era of the "data economy", the value of high-quality, granular, and rich data assets is a critical success factor for transformative decision making in many industries and the leveraging of artificial intelligence (AI).

Module web page

Module aims

This module aims to equip students with fundamental knowledge regarding the effective use of enterprise and web data to meet the needs of modern organizations in the digital age and introduce technologies such as AI. The strategic value of data resources, as a means of enabling firms to achieve competitive advantage, is first considered, in order to understand the rationale behind the adoption of data management and business analytics practices. The challenges and opportunities of adopting various business analytics techniques, including using artificial intelligence for many analytical tasks, are investigated in order to obtain critical understanding of the building of organisational capability in these areas.
Students will gain a sound appreciation of salient factors affecting the successful deployment of

data-driven decision making in organizations. They will get hands-on experiences using visual analytics tools and data analytics tools to handle real-world datasets and inform decisions.

Outline syllabus

This is an indicative module outline only to give an indication of the sort of topics that may be covered. Actual sessions held may differ.

Strategic nature of data and relevant organizational practices and business models emerging from these.
Management of data and relevant technologies (big data, AI, business intelligence practices, etc.)
Business Analytics techniques including data analytics (use of software) and use in organisations for decision-making (business performance management, dashboards, etc.)
Introduction of artificial intelligence, techniques, and applications (supervised/unsupervised learning, machine learning, text mining, clustering, etc.)
Issues around the quality of data and bias, risks, and business opportunities.

Learning outcomes

By the end of the module, students should be able to:

- Demonstrate a comprehensive understanding of the core concepts and theories of data analytics and artificial intelligence and their implications for contemporary enterprises
- Demonstrate a comprehensive understanding of methodology for developing data visualizations and analytical models, and the managerial issues associated with the selection and adoption of such data analytics technologies
- Develop a comprehensive understanding of the managerial and organisational issues associated with the use of data and artificial intelligence practices
- Demonstrate critical analytics skills in the information- and data-driven business environment

Indicative reading list

Reading lists can be found in Talis

Interdisciplinary

This module is the intersection between business, statistics and computer science, and the goal of the module is to introduce the business applications of AI in different sectors. However, to ensure students' full understanding of the AI models, some basic knowledge in statistics and computer science will be involved

International

Data analytics and AI is a global trend. In many case studies, the students will need to consider how cultural difference influences the implementation and applications of AI in organisations

Subject specific skills

- Evaluate management practices and recommend measures to enable an organisation to exploit data assets and AI-related information technologies effectively
- Evaluate and exploit real-world datasets and make business recommendations using data analytics tools

Transferable skills

Written communication

Study

Study time

Type	Required
Lectures	10 sessions of 1 hour (7%)
Practical classes	(0%)
Online learning (scheduled sessions)	(0%)
Other activity	18 hours (12%)
Private study	50 hours (33%)
Assessment	72 hours (48%)
Total	150 hours

Private study description

Self study to include pre-reading before lectures and preparation for assessment

Other activity description

9 x 2 hrs workshops

Costs

No further costs have been identified for this module.

Assessment

You do not need to pass all assessment components to pass the module.

Assessment group A9

	Weighting	Study time	Eligible for self-certification
Assessment component			
Individual programming project + 1000 word report	90%	65 hours	Yes (extension)
Reassessment component is the same			
Assessment component			
Peer commentary (review 2 peers' work and write 150 word commentary for each)	10%	7 hours	Yes (extension)
Reassessment component is the same			

Feedback on assessment

Individual feedback provided via the online feedback system.

Availability

Courses

This module is Optional for:

- Year 1 of TIBS-G5N4 Postgraduate Taught Management of Information Systems and Digital Innovation