IB9TK-15 Algorithmic Management

26/27

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

Description

Introductory description

Algorithmic management is transforming the role of managers in contemporary organisations.

Broadly understood as the use of computer-programmed procedures, software, and artificial intelligence (AI) to assign, organize, monitor, and evaluate the work of individuals and groups, algorithmic management transforms decision-making and oversight practices at the core of managers' roles. As these technologies become more embedded in organisational processes, managers must develop new capabilities to interpret, question, and responsibly govern automated systems.

This module examines the design, deployment, and governance of algorithmic and AI-driven decision-making across organisations. Students will analyse the opportunities presented by algorithmic optimisation and automation, alongside considerations relating to employment, ethics, sustainability, and international business strategy.

Through conceptual frameworks, case studies, and applied analysis, students will develop the expertise required to guide or advise organisations on implementing algorithms and Artificial Intelligence responsibly, strategically, and competitively. Students will be equipped to understand how algorithms and AI are reshaping managerial work, and will develop the necessary skills to lead effectively by ensuring strategic alignment and responsible oversight.

Module aims

To develop a critical understanding of algorithmic management and AI-driven decision-making in organisations.
To evaluate the strategic opportunities that algorithmic management and AI create for productivity, innovation, and global competitiveness.
To assess risks relating to governance, employment, ethics, and ESG considerations.
To equip students with the analytical tools required for responsible AI implementation and tech consulting practice.

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.

1. Theories and Concepts of Algorithmic Management: Foundations of algorithmic coordination; control, autonomy, and data-driven governance.
2. Artificial Intelligence and Decision-Making: Annotation and data labelling; data driven decisions; balancing automation and augmentation for managerial judgement; system explainability and accountability; effective human-in-the-loop oversight.
3. Productivity Analytics, Agentic AI and Digital Twins: Managing electronic performance monitoring in the workplace; balancing productivity gains with employee privacy and trust, autonomous agents; simulation environments; strategic forecasting and operational modelling.
4. Algorithmic management and Platform Work: Digital labour platforms; gig economy management models; algorithmic allocation and rating systems.
5. Managing AI Change: AI / AIDM and organisational transformation; worker reskilling; risk mitigation; stakeholder engagement.
6. LLMs, Jobs and Labour Market Impacts: Transformative and disruptive professional work impacts; uneven sectoral impacts.
7. Ethical AI: Fairness, bias, accountability, transparency; governance frameworks and standards.
8. Global AI in International Business: Cross-national regulatory comparisons; geopolitical competition; environmental impacts of AI infrastructure; global ESG considerations.
9. Leadership and AI: Strategic vision, AI literacy, organisational culture, and responsible digital leadership.

Learning outcomes

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

- Demonstrate a clear understanding of algorithmic management and AI-enabled systems and their wider strategic and ESG implications.
- Demonstrate developed data literacy by recognising how data is collected, structured, and used in algorithmic decision-making, recognising potential biases and limits.
- Appraise ethical frameworks in relation to responsible data use, transparency, and data -protection principles.
- Explain how algorithmic decision-making shapes managerial roles, organisational control, and workplace dynamics
- Analyse complex organisational and societal issues to produce clear, evidence-based recommendations.
- Critically evaluate AI outputs to determine when algorithmic management should be accepted, modified, or challenged.
- Synthesise diverse evidence to form well-reasoned and defensible positions on algorithmic management
- Critically evaluate ideas and practices in algorithmic management to build nuanced digital literacy.

Indicative reading list

Reading lists can be found in Talis

Subject specific skills

Critically assess AI implementations and design appropriate governance and risk-mitigation strategies.

Identify algorithmic performance applications, limitations and drift.

Evaluate different sociotechnical interventions that balance automated decision-making with human judgement and accountability.

Transferable skills

Demonstrate strong critical-thinking and academic-writing capabilities.

Study

Study time

Type	Required
Lectures	9 sessions of 1 hour (6%)
Total	150 hours

Type	Required
Other activity	18 hours (12%)
Private study	49 hours (33%)
Assessment	74 hours (49%)
Total	150 hours

Private study description

Private study to include preparation for lectures/ seminars/ workshops [delete as applicable] and own reading’

Other activity description

2 hour F2F workshops x 9

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 A

	Weighting	Study time	Eligible for self-certification
Assessment component			
Individual Assignment Individual Assignment 3000 words	100%	74 hours	Yes (extension)
Reassessment component is the same			

Feedback on assessment

via my.wbs

Availability

Courses

This module is Optional for:

- Year 1 of TIBS-NI01 Business Analytics and Artificial Intelligence
- Year 1 of TIBS-NL00 MSc Accounting and Sustainability
- Year 1 of TIBS-N500 MSc in Marketing and Strategy
- Year 1 of TIBS-N1F5 Postgraduate Taught Business and Finance
- Year 1 of TIBS-N1F2 Postgraduate Taught Business with Consulting
- Year 1 of TIBS-N1F3 Postgraduate Taught Business with Marketing
- Year 1 of TIBS-N1QG Postgraduate Taught Business with Operations Management
- Year 1 of TIBS-N1F4 Postgraduate Taught International Business (MINT)
- TIBS-N2N3 Postgraduate Taught Management
    - Year 1 of N2N3 Management
    - Year 1 of N2N4 Management (Elite Sports Management)
- Year 1 of TIBS-G5N4 Postgraduate Taught Management of Information Systems and Digital Innovation