

MIS49D Special Topics in Information, Technology and Innovation Management

Instructor	Mehmet N. Aydın, PhD (sec01)
Course Hours	TueWed 13:00-15:50 IB201 IB312
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Office Hours	Thu 12:00-13:00 Appointment required besides the office hours.

Course Description:

In today's AI-driven digital economy, organizations need leaders who can connect technology, innovation, and business strategy. This course explores how next generation Information Systems including AI enable innovation, digital transformation and sustainability within organizations. Students will learn how to strategically manage technology and innovation using contemporary tools such as Design Thinking, Six Thinking Hats, and the Idea Development Canvas. Through real-world case studies, industry expert contributions, and practical applications, participants will gain valuable insights into AI-enabled solutions and next-generation digital transformation initiatives. By the end of the course, students will have developed the strategic mindset and practical skills needed to lead innovation and technology-driven change in modern organizations.

Course Objectives:

This course explores the issues and approaches in managing the information systems function in organizations and how the IS function integrates / supports / enables various types of organizational capabilities including innovation, AI and sustainability. A special emphasis is to be on strategic management of technology innovation and corporate innovation systems with techniques including six hats thinking, idea development canvas, brainwriting and design thinking. It takes a senior management perspective in exploring the acquisition, development and implementation of plans and policies to achieve efficient and effective next generation information systems (AI, ML). The course addresses issues relating to relevant managerial challenges with digital transformation, sustainability and innovation to the systems that support the operational, administrative and strategic needs of the organization.

Reference Materials:

No single source of information is found to be sufficient to cover the essentials of the course. But, the following textbooks are used as reference reading materials and case materials will be provided so that students are able to utilize all ideas in a practical setting.

- IT Strategy: Issues and Practices, James D. Mackeen, Heather A. Smith, 2nd Ed., Pearson, Prentice Hall, 12th Ed. ISBN-13: 9780132843010
- Navigating Digital Transformation in Management, Richard Busulwa, Routledge, ISBN 9781032184043
- Strategic Management of Technological Innovation, Melissa A. Schiling, 3rd ed., McGraw Hill Int. Ed.
- Industry Case Materials

Grading Scheme:

The final mark and grade will be awarded on the following bases;

Midterm/CaseStudy	40 %
Final	60 %
Total	100 %

Course Outline:

The instructor reserves the right to modify this preliminary schedule at his/her discretion.

Week	Topics to be covered
1	Exploring, Identifying, Developing (Innovation-Information-Technology) Value Proposition Techniques: SWOT, PESTEL and the state-of-the art models to be introduced
2	Developing Organizational Transformation Strategy based on AI and Emerging Technologies AI and Innovation Aspect: Dynamics, Types and Issues
3-4	Strategy-Technology-Competencies Alignment and Organizational Transformation Readiness Assessment Method: Technology Roadmap, AI Competencies Assessment and Development Industry Expert as Guest Speaker
4-5	Midterm AI Governance Aspect, Innovation Idea Generation Methods Technique: SixHats, AI-based Portfolio Management and other Creative Thinking techniques Technique: Ideation Canvas, Novel Framework by Industry Expert
6	AI, Innovation System and Sustainability Management
7	Real-World Use case for Technology (AI), Innovation, Industry Expert as Guest Speaker