2024 / 25

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Module Descriptor

Supply Chain Integration Technologies (Computing and Mathematics)

Supply Chain Integration Technologies (A14381)

Short Title: Supply Chain Integration Tech
Department: Computing and Mathematics
Credits: 10 **Level:** Postgraduate

Description of Module / Aims

This module addresses the role of information and information systems in support of supply chain management. The module explores the concepts of supply chains and networks, and its foundation disciplines. The module examines frameworks that support supply chain strategy, supply chain integration, and supply chain processes. The role of information in supporting the operation and management of supply chains is examined. The use of information systems to support supply chain operations and management through planning, control, and execution is investigated. The use of modern analytics and business intelligence approaches and tools within supply chains is explored. Approaches for the design of supply chain information systems architectures are also studied.

Programmes

		stage/semester/status
TECH-0012	MSc in Computing (Information Systems Processes) (WD_KISYP_R)	1 / 0 / E

Indicative Content

- Supply chains and networks
- Supply chain strategy
- Supply chain integration
- Supply chain processes
- Information sharing in supply chains
- Supply chain information system architectures
- Supply chain planning and control systems
- Supply chain execution systems
- Supply chain analytics and business intelligence

Learning Outcomes

On successful completion of this module, a student will be able to:

1. Evaluate the role of supply chains in meeting market demands.
2. Determine how the concepts of strategy, integration, and processes relate to the supply chain concept.
3. Justify the importance of information sharing to support supply chain integration at operational, tactical, and strategic levels.
4. Evaluate how information systems can assist in supply chain planning and execution.
5. Propose an analytics and business intelligence approach to support supply chain operations and management.
6. Design an information systems architecture to support a supply chain.

Learning and Teaching Methods

- This module will be presented by a combination of lectures and computer based practicals.
- The lectures will be used to introduce new topics and their related concepts. Lectures will be supplemented by participative case studies and independent reading on the issues covered in the lecture material.
- The practical element is intended to provide the student with the skills needed to use and understand technologies available to assist in supply chain planning, control, and execution, and in supply chain analytics.

Learning Modes

Learning Type	F/T Hours	P/T Hours
Lecture	36	36
Practical	12	12
Independent Learning	222	222

Assessment Methods

	Weighting	Outcomes Assessed
Final Written Examination	50%	1,2,3,4
Continuous Assessment	50%	
Assignment	50%	2,5,6

Assessment Criteria

<40%: Unable to interpret and describe key concepts of supply chain integration technologies.

40%–59%: Be able to describe and discuss key concepts of supply chain integration technologies and ability to discover and integrate related knowledge in other knowledge domains.

60%–69%: Be able to solve problems within the supply chain integration technologies domains by experimenting with the appropriate skills and tools.

70%–100%: All the above to an excellent level. Be able to analyse and design solutions to a high standard for a range of both complex and unforeseen problems through the use and modification of appropriate skills and tools.

Essential Material(s)

- Bozarth, C.B. and R.B. Handfield. *Introduction to Operations and Supply Chain Management.* 4th ed. London, UK: Pearson, 2015.
- Mangan, J., C. Lalwani, T. Butcher and R. Javadpour. *Global Logistics & Supply Chain Management.* Chichester, UK.: Wiley, 2012.

Supplementary Material(s)

- Chopra, S. and P. Meindl. *Supply Chain Management*. 6th ed Global ed. London, UK: Pearson, 2015.
- Hult, T., D. Closs and D. Freyer. *Global Supply Chain Management: Leveraging Processes, Measurement and Tools for Strategic Corporate Advantage*. London, UK: McGraw-Hill, 2014.
- Ivanov, D. and B. Sokolov. *Adaptive Supply Chain Management*. London, UK: Springer, 2010.
- Myerson, P. *Lean Supply Chain and Logistics Management*. London, UK: McGraw-Hill, 2012.
- Ross, D.F. *Introduction to Supply Chain Management Technologies*. 2nd ed. Boca Raton, FL, USA: CRC Press, 2011.
- Sanders, N.R. *) Big Data Driven Supply Chain Management: A Framework for Implementing Analytics and Turning Information into Intelligence*. London, UK: Pearson, 2014.
- Slack, N., A. Brandon-Jones and R. Johnston. *Operations Management*. 7th Ed. London, UK.: Pearson, 2013.

Requested Resources

- Room Type: Computer Lab