Supply Chain Management

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Course Description:
Research indicates that improving supply chain performance alone can bring quite considerable saving in both organizations and nations. New days the logistics sector is an important infrastructure supporting international trade and manufacturing activities. With globalization, manufacturing companies are also faced with increasingly complex and cross-border supply chain structures and so business logistics become increasingly important to the success of the economy and the enterprise. By focusing on a practical and integrated approach, this course addresses the needs of both the manufacturing and services sectors.

Student Learning Outcomes:
After completing this course, the student will be able to:
1. critically understand the techniques of logistics and supply chain management
2. reflect the significance of the tools for supply chain modelling and optimisation
3. analyse critically case studies of actual applications of supply chain management and formulate innovative proposals
4. provide explanations, with insight, on the efficient of actual supply chain management modelling and execution systems
5. reflect on the significance of a unified approach in order to facilitate enterprise integration and supply chain management
6. critically evaluate state-of-the-art Information Technology (IT) for implementing logistics and supply chain management strategies.

Course goals or objectives:
- to provide students with a broad introduction and knowledge of logistics and supply chain management for strategic and tactical decisions
- to develop an introductory understanding of the unified and comprehensive logistics management environment
- to develop students’ abilities to reflect on the mechanisms and integration of the internal and external supply chain
- to develop the student’s critical appreciation of Information Technology tools for implementing supply chain management techniques and its integration and synchronization with the enterprise.

Required Materials:
Supplementary Reading


Journals

2. Harvard Business Review
8. International Journal of Retail and Distribution Management
10. Journal of Business Logistics
11. Logistics Today
12. Strategic Management Journal

Assessment Details

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<tr>
<th>Methods of Assessment</th>
<th>Weighting (%)</th>
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<tbody>
<tr>
<td>Examination</td>
<td>100</td>
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<tr>
<td>Areas to be covered</td>
<td>Learning Objectives</td>
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| Introduction to Supply Chain Management [SCM] | - Define “supply chain management” and the activities involved;  
- Identify the flows through a supply chain and explain the bullwhip effect;  
- Describe the rise of supply chain management and its global implications;  
- Describe the characteristics of a competitive supply chain;  
- Identify and explain key trends that drive today’s supply chains. |
| SC Strategy | - Define supply chain strategy and explain how it supports the business strategy;  
- Explain how proper supply chain design can create a competitive advantage;  
- Identify and explain the components of a supply chain strategy;  
- Explain differences in supply chain design based on organizational competitive priorities;  
- Explain how productivity can be used to measure competitiveness. |
| Network and System Design | - Describe the supply chain as a system of processes;  
- Understand how to manage processes across the supply chain;  
- Explain system constraints and variation in managing a supply chain network;  
- Describe the stages of supply chain integration;  
- Describe key factors in designing a supply chain structure;  
- Explain enterprise resource planning (ERP) as a system integration technology. |
| Sourcing | - Define sourcing and explain the differences between purchasing, strategic sourcing, and supply management;  
- Explain the impact of the sourcing function on the organization and the supply chain;  
- Describe the sourcing process;  
- Explain characteristics of different types of sourcing engagements;  
- Explain how to measure sourcing performance. |
| Logistics | - Define logistics and explain its impact on supply chain management;  
- Identify and describe key logistics tasks;  
- Explain reverse logistics and its challenges;  
- Explain differences between modes of transportation;  
- Explain the role of warehousing on logistics and describe cross-docking;  
- Explain the role of third-party-logistics (3PL) providers. |
| Forecasting & Demand Planning | - Explain the impact of forecasting on supply chain management;  
- Describe the forecasting process;  
- Identify key qualitative and quantitative forecasting models; Generate forecasts using quantitative models;  
- Explain how to measure forecast accuracy;  
- Describe methods of collaborative forecasting and demand planning. |
| Inventory Management | - Describe different types of inventory, their uses and costs;  
- Explain inventory systems and ordering policies;  
- Understand how to compute order quantities, reorder points, and safety stock;  
- Differentiate between independent and dependent demand;  
- Understand practical issues of managing supply chain inventories;  
- Explain ABC inventory classification and vendor managed inventory (VMI). |
| JIT/Lean Production | - Describe Lean and Six Sigma, and explain the benefits of “Lean Six Sigma;”  
- Identify elements of the Lean philosophy;  
- Explain Lean production;  
- Explain Total Quality Management (TQM);  
- Explain Statistical Process Control (SPC);  
- Describe the Lean Six Sigma supply chain. |
| Global SCM | - Describe the global supply chain environment and identify key impact factors;  
- Explain market and cultural challenges that impact global supply chains;  
- Describe global infrastructure challenges and role of technology;  
- Identify key cost and non-cost considerations in managing global supply chains;  
- Describe key political factors and non-tariff barriers that impact global SCM. |