**This is a “study guide” – please use it to help you remember what we have covered in general, but do not expect it to contain any answers for the exam.**

Unit 4.1

[**What is SCM? Video 1**](https://www.fox.temple.edu/vault/video/what-is-scm/)

Objectives:

1. Identify what supply chain management systems are
2. Recognize how SCMs create value for organizations
   * Safety stock

[**Integrated Planning – Optimization for the entire internal supply chain**](https://www.youtube.com/watch?v=fM4xKfLZhFI)

* What is integrated planning?
* Internal supply chain
* Inventory cost control
* Information systems

[**Wikipedia: Supply Chain Management**](https://en.wikipedia.org/wiki/Supply-chain_management)

* Management of the flow of goods and services
* “Design, planning, execution, control and monitoring of supply chain activities”
* Integrated approach

[**Supply Chain Futurists Predict the Impact of Digital Transformation**](http://www.forbes.com/sites/sap/2016/10/26/supply-chain-futurists-predict-the-impact-of-digital-transformation/)

* Customer-centricity
* R&D, manufacturing, and logistics
* Management of demand, people, technology, and risk

[**Just-in-Time Manufacturing**](http://www.computerworld.com/article/2589691/vertical-it/just-in-time-manufacturing.html)

* What in Just-in-Time Manufacturing?
* Build to Order
* Pros and Cons

[**Just in Time Video 2**](https://www.fox.temple.edu/vault/video/just-in-time/)

Objectives:

1. Recognize Just in Time (JIT)
2. Identify how JIT creates value for organizations

[**Vendor-Managed Inventory (VMI): What is it and When Does it Make Sense to Use It**](http://www.inventoryops.com/articles/vendor_managed_inventory.htm)

* What is vendor-managed inventory?
* Variations of VMI
* Why use VMI?
* Benefits of VMI
  + Vendor benefits
  + Customer benefits
* Downsides of VMI
  + Customer downsides
  + Vendor downsides
* Controls on VMI
* Direct Store Delivery (DSD) – is it different than VMI?

[**Vendor Managed Inventory (Video 3)**](https://www.fox.temple.edu/vault/video/vendor-managed-inventory/)

**Objectives:**

1. Identify Vendor Managed Inventory (VMI)
   * Also known as “Supplier owned and managed inventory” (SOMI)
2. Determine how recent case studies are relevant to VMI

* BEHR and Rohm and Haas (in slides)
* Intel (in slides)

[**What is RFID?**](https://www.wireless-technology-advisor.com/what-is-rfid.html)

* What is RFID?
  + Radio Frequency Identification
* What is RFID good for?
* RFID Definition
* How it works

[**Radio Frequency Identification (RFID) Video 4**](https://www.fox.temple.edu/vault/video/radio-frequency-identification-rfid/)

**Objectives:**

1. Identify RFID
   * No need for line of sight
   * May replace bar codes
   * Scanning can be done from a greater distance
     1. Passive tags
     2. Active tags
2. Recognize how RFID creates value for organizations

Unit 4.2

[**What is CRM? Video 1**](https://www.fox.temple.edu/vault/video/what-is-crm/)

**Objectives:**

1. Define what a CRM is
   * “customer relationship management”
2. Recognize what kind of data is collected in a CRM
3. Identify how that data is utilized by a company

**[Why does my business need a CRM system?](http://www.sharepointcrmtemplate.com/blog/why-does-my-business-need-a-crm-system/)**

* Does a company really need CRM software?
* What is CRM?
* What businesses need CRM?

[**Benefits of CRM Video 2**](https://www.fox.temple.edu/vault/video/benefits-of-crm/)

**Objectives:**

1. Review the evolution of the CRM
2. Identify the benefits of utilizing a CRM

[**Choosing CRM Software**](https://www.businessnewsdaily.com/7838-choosing-crm-software.html)

* How much does CRM software cost?
  + Subscription-based pricing
* What features should you look for in CRM software?
* Questions to ask when evaluating CRM software

[**ERP VS CRM Video 3**](https://www.fox.temple.edu/vault/video/erp-vs-crm/)

**Objectives:**

1. Identify difference between an ERP and a CRM
   * ERP
     1. Back office support: accounting, production
   * CRM
     1. Front office: communicate with customers, increase sales
   * Two systems typically integrate
2. Describe why companies use dashboard and data visualization in the decision-making process

[**CRM & ERP: What’s the Difference?**](https://www.crmswitch.com/crm-value/understanding-crm-erp/)

* Both
* What is CRM?
  + System for recording and storing all information related to customer interactions
* What is ERP?
  + Focus on the business
    - Improve efficiency of business processes
* Distinction with a Difference
* CRM? ERP? Both?
* Assigning Importance (in slides)
* Which comes first?
* Maximizing Growth
  + Increase capital through more sales or fewer expenses
  + Use ERP and CRM to pursue both goals

[**6 Examples of How to Use CRM Dashboards**](https://www.crmswitch.com/implementing-crm/six-crm-dashboard-examples/)

* Information with a purpose
* Dashboard examples
* One tool among many

Unit 5.1

[**Platform Business Model | What is it?**](https://www.applicoinc.com/blog/what-is-a-platform-business-model/)

* Platform: business model that creates value by facilitating exchanges between two or more interdependent groups, usually consumers and producers
* What a Platform is not
  + Business model, not a piece of technology
  + Not SaaS
  + Not traditional businesses: Netflix, macy’s, vanguard
* Platform Businesses Dominate the Economy
* Investors Value Platform Businesses More
* The Anatomy of a Platform Business
* enables value creation by facilitating transactions
  + cannot control users’ behavior – four core functions of a platform
    - Audience building
    - Matchmaking
    - Providing core tools and services
    - Setting rules and standards

[**What**](https://www.fox.temple.edu/vault/video/what-is-a-platform/) **Is a Platform? Video 1**

**Objectives:**

1. Defining platforms
   * An environment, with rules, that allows parties to transact
   * Value determined by strength of network
   * Exchange platforms
   * Maker platforms
2. Describe the importance of platforms

* Creates a network
* Increase efficiency
* Winner-take-all markets

1. Identify platform business models
   * Proprietary
   * Shared

[**Business Model Analysis, Part 2: Platforms and Network Effects**](http://platformsandnetworks.blogspot.com/2011/07/business-model-analysis-part-2.html)

* Network Effect: when consumer’s willingness to pay for product depends on the number of other customers with whom they can interact by using the product
* Proprietary Platforms and Pricing Leverage
* Pricing in Two-Sided Networks

[**What Are Network Effects? (Video 2)**](https://www.fox.temple.edu/vault/video/what-are-network-effects/)

**Objectives**

1. Recognize different types of network effects
   * One-sided networks
   * Two-sided market
     1. Cross-side network effect
     2. Same-side network effect
2. Describe the importance of network effects in information systems
   * Metcalfe’s law

[**Platform Types: Explained and Defined / What Makes Uber Different from Android?**](http://www.applicoinc.com/blog/what-makes-uber-different-from-android-how-to-make-sense-of-platform-businesses/)

Exchange vs. Maker Platforms

* Exchange platforms
* Maker platforms

Matching Intention: Exchange vs Maker

* Matching intention
* Exchange Platforms: 1:1 Interactions
* Maker Platforms: 1:Many Interactions

Nine Types of Platform Businesses (based on type of value being exchanged)

* Exchange
* Maker
* Platform Design by Type
  + Category platform falls under fundamentally alters core value delivered and how platform should be designed

[**Airbnb And The Unstoppable Rise Of The Share Economy**](https://www.forbes.com/sites/tomiogeron/2013/01/23/airbnb-and-the-unstoppable-rise-of-the-share-economy/#66ae4c4aae3d)

* gig economy
* share economy
  + Move from organization around ownership to organization around access to assets
  + Regulation fighting to catch up

[**Cloud Computing Introduction (video 3)**](https://www.fox.temple.edu/vault/video/cloud-computing-introdution/)

**Objectives:**

1. Describe Cloud Computing
2. Identify characteristics of cloud computing
   1. On-demand self-service
   2. Ubiquitous network access
   3. Rapid elasticity
   4. Measured service
3. Recognize pros and cons of cloud computing

[**Cloud Computing 101**](http://www.itmanagerdaily.com/cloud-computing-101/)

* What is cloud computing?
  + Delivery of computing services over proprietary network or internet
  + Characteristics of a cloud service
* 3 Types of Cloud Computing
  + Infrastructure-as-a-Service (IaaS)
  + Platform-as-a-Service (PaaS)
  + Software-as-a-Service (SaaS)
    - Other Types of SaaS
      * Merged service providers
      * Service commerce platforms
* Cloud Computing Delivery Models
  + Public
  + Private
  + Hybrid
* Should I invest in the cloud?
* Cloud computing benefits
* Cloud computing pitfalls

**[Cloud Computing Models](https://www.fox.temple.edu/vault/video/cloud-computing-models/) (Video 4)**

**Objectives:**

1. Identify what is Cloud Computing
   1. Cloud computing: services and utilities made available by the cloud
2. Describe various Cloud Computing Models (tiered)
   1. Software-as-a-Service (SaaS)
   2. Platform-as-a-Service (PaaS)
   3. Infrastructure-as-a-Service (IaaS)

[**How to Choose your Cloud Service Provider**](https://www.cio.com/article/2398924/it-organization/how-to-choose-your-cloud-service-provider.html)

* Need to think about security in the cloud
* When choosing a provider, look for…
  + Trust
  + Technical expertise and understanding
  + 3rd party compliance audit
* Cloud can fail; check terms and conditions, then mitigate remaining risk

[**How the cloud helped food-sharing digital business Olio thrive**](https://realbusiness.co.uk/how-cloud-computing-helped-digital-food-sharing-business-olio-thrive/)

* Olio created using AWS Cloud and digital business tools
* Used AWS for servers, hosting, and infrastructure
  + Why?

Unit 6.1

[**The AI Revolution: The Road to Superintelligence**](https://waitbutwhy.com/2015/01/artificial-intelligence-revolution-1.html#2)

* Law of Accelerating Returns: more advanced societies progress at a faster rate
* Why are people skeptical of how fast the world will progress?
* What is AI?
  + Robot: container for AI, not AI itself
  + Singularity: when normal rules no longer apply
  + Kinds of AI
    - Artificial Narrow Intelligence
    - Artificial General Intelligence
    - Artificial Superintelligence
* Where We Are Currently – A World Running on ANI
* Road From ANI to AGI
  + Why It’s so Hard
  + First Key to Creating AGI: Increasing Computational Power
    - Moore’s Law
  + Second Key to Creating AFI: Making it Smart
    - Plagiarize the brain
    - Try to make evolution do what it did before but for us this time
    - Make this whole thing the computer’s problem, not ours
    - All of this could happen soon
  + Road from AGI to ASI
    - An Intelligence Explosion
      * Recursive self improvement

[**Three Types of AI**](https://www.fox.temple.edu/vault/video/three-types-of-ai/) **(Video 1)**

**Objectives:**

1. Define Artificial Intelligence (AI)
   1. AI: computer program or machine capable of learning
      1. Interacts with environment for inputs
      2. Capable of processing many calculations
      3. Able to become more intelligent over time
2. Distinguish between the three different calibers of AI
   1. Artificial Narrow Intelligence (ANI)
   2. Artificial General Intelligence (AGI)
   3. Artificial Superintelligence (ASI)
3. Provide examples of ANI and timeline for arrival of AGI and ASI

[**Benefits & Risks of Artificial Intelligence**](https://futureoflife.org/background/benefits-risks-of-artificial-intelligence/?cn-reloaded=1)

* What is AI?
* Why research AI safety?
* How can AI be dangerous?
* Why the recent interest in safety
* Top Myths about advanced AI
* Timeline myths
* Controversy Myths
* Myths about the risks of superhuman AI
* Interesting controversies

[**Bill Gates Says You Should Worry About Artificial Intelligence**](https://www.forbes.com/sites/ericmack/2015/01/28/bill-gates-also-worries-artificial-intelligence-is-a-threat/#2830a14b651f)

* Agrees that people should be worried about artificial superintelligence

**[What is AGI?](https://intelligence.org/2013/08/11/what-is-agi/)**

* Idea of AGI
  + “cross domain optimization”
* Operational definitions of AGI
  + Turing test
  + Coffee test
  + Robot college student test
  + Employment test
* Future is foggy

[**AGI Tests**](https://www.fox.temple.edu/vault/video/agi-tests/)

**Objectives:**

1. To understand how a human might test whether an AI has achieved general (human equivalent) intelligence (AGI)
2. To understand what the Turing Test is and why it is an important measure of AI
   1. Moore’s law

[**Artificial Intelligence May Help Stop Mass Shootings Before They Start**](https://www.nbcdfw.com/news/local/Artificial-Intelligence-May-Help-Stop-Mass-Shootings-Before-They-Start-479003753.html)

* iNotify instantly analyzes security camera video to identify weapons and threats
  + recognizes weapons and determines meaning of what’s going on

[**What is Watson?**](https://bbsm.github.io/)

* “technology platform that uses natural language processing and machine learning to reveal insights from large amounts of unstructured data”
* Analyzes unstructured data

**[IBM Watson (Video)](https://www.fox.temple.edu/vault/video/ibm-watson/)**

**Objectives:**

1. Identify IBM Watson
2. Describe what makes Watson unique in field of AI