Summary of reading material covered

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List of eight short cases from O’Brien that may be on the exam

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<th>Organization</th>
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<td>1 Royal Carribean</td>
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<td>IT systems unproductive without leadership or business process co-design</td>
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<td>2 Cisco Case</td>
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<td>Virtual manufacturing/SCM exemplar; 70% gross margins</td>
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<td>3 Clariant</td>
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<td>IROR for an IT project can be 30% to 40%</td>
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<td>4 Hershey</td>
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<td>Due to complexity, IT projects can fail if rushed or not planned properly</td>
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<td>5 Wesco</td>
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<td>Example of an e-procurement ERP system that gave a huge ROI</td>
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<td>6 Staples</td>
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<td>“Clicks and bricks” ecommerce model, all coming together at the cash register</td>
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<td>7 GE</td>
<td>87</td>
<td>Famous example of Total Quality Management (TQM)</td>
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Net present value and the rate of return
Know the definitions of NPV, ROR, IROR, and ROI as we used them in class.
Know the mathematical expression for the NPV for a series of cash payments, and be able to calculate it as
a function of i or of d (d is the discount factor).
Know how to solve the inverse problem of computing d given the NPV and the series of payments.

IT History
What distinguished the Data Processing Era?
What distinguished the Micro Era from the Networking Era?
Why did Data Processing Era managers feel threatened in the Micro Era?

O’Brien Chapter 2
Porter’s competitive model. Why is it useful?
Porter’s strategy model. Differentiation and cost leadership are primary strategies; innovation, growth, and
alliances are the three secondary strategies. We classify companies by a primary strategy--secondary
strategy pair. For example, many high tech startup companies may be characterized as following a
differentiation-innovation strategy.
Porter’s value chain model, business functions, and business processes (which may span multiple
functions).
Switching costs and lock-in effects
Barriers to entry
Business process streamlining (or business improvement) vs. Business Process Reengineering (BPR)
(BPR is called business transformation in Messerschmitt 3.3.1)
Knowledge management

Messerschmitt 2
Data, information, knowledge, wisdom
Search, browse, navigate
Push vs. pull
Index, metadata, hyperlink, recommender

Messerschmitt 3.1, 3.2
Departmental applications
Enterprise applications
Commerce applications
Customer Relationship Management (CRM)
Transaction Processing Systems (TPS) – see also lecture slides
Online Transaction Processing (OLTP)
Workflow
Human resource management (see Homework 3)

Messerschmitt 3.3
Operations
Business processes
Business transformation
Enterprise Resource Planning (ERP)
Decision support
Knowledge management (also in O’Brien, Chapter 2)

Messerschmitt 3.4
Electronic commerce
Inter-enterprise commerce (B2B)
Direct procurement
Indirect procurement
Supply chain management (SCM)
Mass customization
Electronic data interchange (EDI)
Consumer commerce (B2C)
Inter-consumer commerce (C2C)

Four typical steps in e-commerce transactions: (1) matching buyers and sellers; (2) negotiating terms and conditions; (3) consummation; (4) customer service

Ways to match buyers and sellers: catalogs, advertising, and intermediary recommendations
Negotiating terms and conditions: auctions, fixed prices, and price discrimination
Consummation steps: order, fulfillment, payment
Intermediaries, escrow agents

Messerschmitt 4.1, 4.2
Data vs. information
Information represented as data
Digital data needs structure and interpretation for its meaning to be recovered
Regeneration, replication

Messerschmitt 4.3
System architecture elements: decomposition, functionality, interaction. Why do we architect systems in this way?
Emergence
Hierarchy

Messerschmitt 4.4, 4.5
Software layering
What is the benefit of architecting software with layers?
Operating System (OS), middleware, file system, Database Management System (DBMS)
Network functions
Messages and packets
Internet, extranet, intranet
Ethernet, LAN

Messerschmitt 5
Client-server architecture
Peer-to-peer architecture
Two-tier and three-tier architectures
Shared data (server), application logic (server), presentation (client)
Fat client vs. thin client
CGI
books4u.com software architecture diagram
flowers4u.com software architecture diagram

Frito-Lay Case
What was the HHC?
What were the main reasons why Frito-Lay deployed the HHC?
What changes in marketing strategy did Frito-Lay believe the HHC data would help enable?
How might the HHC project change Frito-Lay’s competitive position with its direct competitors, new entrants, and its customers?

Cisco ERP
What are some of the actions that Cisco took that contributed to the successful deployment of ERP?
What mistakes did Cisco make?
What are the important lessons that another company that wants to deploy ERP could learn from Cisco’s experience?

**Alibris Case**
How did Alibris plan to change Interloc’s revenue model?
What were the potential benefits and risks of this change?
How did Alibris plan to avoid being disintermediated?
Why did Alibris abandon Thunderstone software, and why did it choose to switch to Oracle?
What made Alibris’ IT challenge particularly difficult compared to what other ecommerce companies faced?

**Sun Case**
How much time did Sun estimate developers could save when writing new applications by reusing Java objects?
Name one or two key differences between the 3-tier architecture and Sun’s 4-tier architecture.
What benefits are provided to Sun’s customers by the 4-tier architecture?
What is meant by a “high-latency servlet?”
Which is more expensive: Sun’s application server, or the ongoing maintenance of heterogeneous software applications on diverse platforms?
What advantage did Microsoft have over Sun in dealing with line of business managers in customer firms?
(See p. 158)
Why does Bill Joy think Java is a superior programming language? (p. 162)
On the other hand, some problems with Java: it can be slow, and its sandbox security model is inflexible.