

Chapter 3 Part 2 (C)

Organizational Information Systems and Their Impact

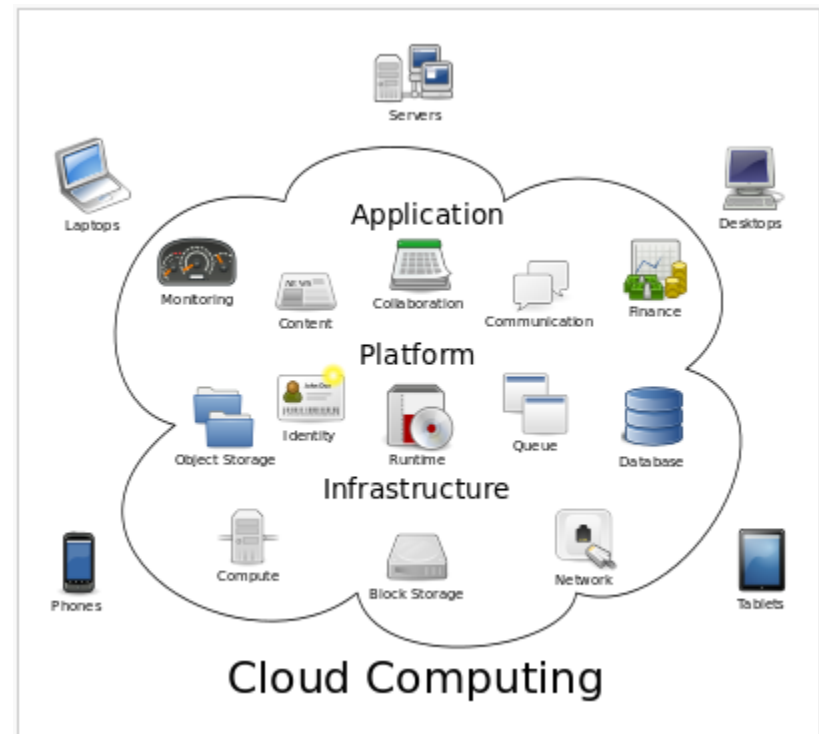
MIS 02500 Issues in MIS

Learning Objectives

1. Explain the key concepts related to how data is organized in organizations.
2. Understand business intelligence (BI) and explain the components of BI infrastructure.
3. Understand customer relationship management (CRM) and articulate both its benefits and limitations.
4. Evaluate the big data trend, its supporting technology and management challenges.
5. Understand cloud computing and articulate both its benefits and limitations.

Cloud Computing: Definition

- The use of the Internet (the “cloud”) as the environment for pooling IT resources
- A computing delivery approach that divorces use of resources from the actual management of those resources
 - IT resources utilization and payment is dynamic and agile
 - Scalable
 - Utility billing model



Cloud Computing: Delivery Modes

1. Software as a service (SaaS)

- A provider/vendor hosts and manages a standard application (e.g., email)
- Clients/customers access the application over a network (e.g., the Internet)
- Examples:
 - G Suite by Google Cloud
 - <http://www.salesforce.com/>
 - SAP Business ByDesign
 - CIO Magazine article: ERP Comes to the Cloud and (Finally) Smaller Businesses

Cloud Computing: Delivery Modes

2. Platform as a service (PaaS)

- A provider hosts infrastructure and programming tools
- Customers use infrastructure and programming tools over the Internet to develop their own applications
 - E.g., [Salesforce App Cloud](#)



Cloud Computing: Delivery Modes

3. Cloud infrastructure as a service (IaaS)

- Customers use processing, storage, networking and other computing resources from the provider

- E.g., [Amazon Drive](#)

- E.g., [Amazon Simple Storage Service \(Amazon S3\)](#)

- Customers include companies like Netflix, Reddit, Airbnb

- Demo: Introduction to Amazon S3 (3:16)

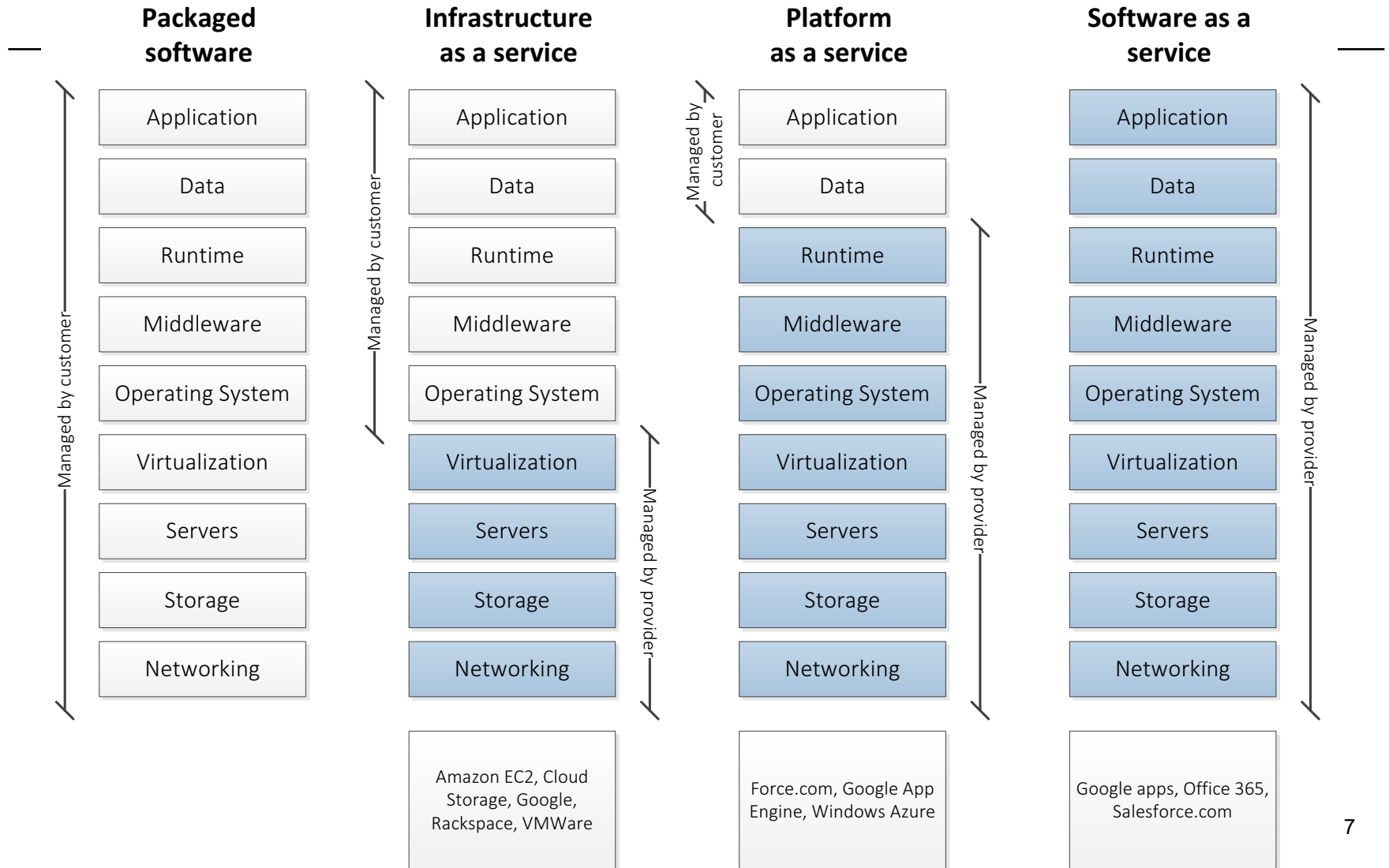
Link for the demo video is provided **in this week's overview (Google Doc)**

- Public cloud vs. private cloud

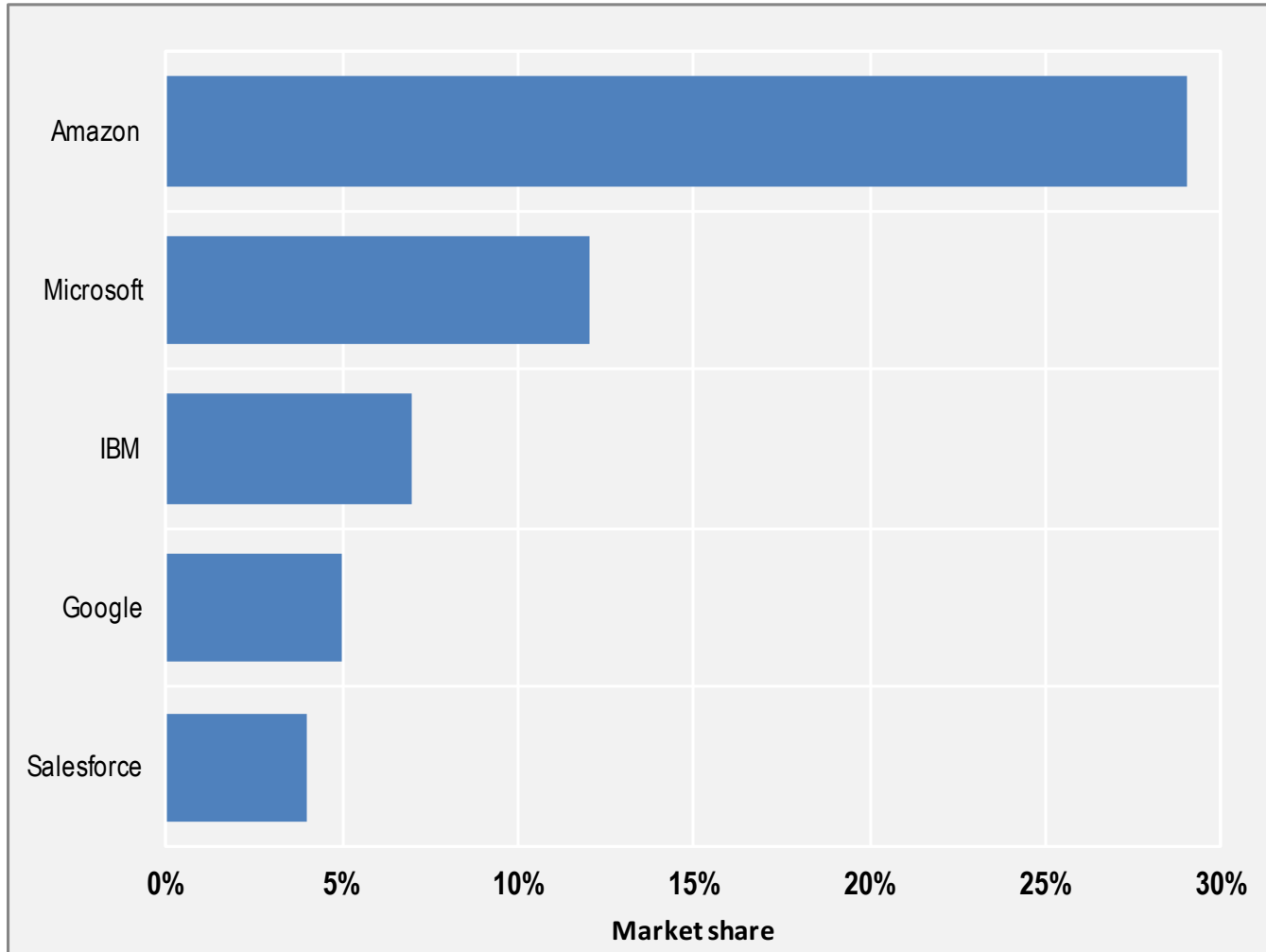
- E.g., Cloud services provided by Google vs. RowanCloud

- RowanCloud (<http://www.rowan.edu/cloud/>)

Cloud Computing: Delivery Modes



Major Cloud Providers by Market shares



Cloud Computing: Benefits

Benefit	Description
Lower entry barriers	<ul style="list-style-type: none">• Firms with limited investment capacity have access to dynamic priced enterprise class IT resources, shifting IT costs from capital investments (Cap-ex) to operational expenses (Op-ex)• Startups can realize their IT project with initial investments an order of magnitude lower than in the past.
Faster innovation	<ul style="list-style-type: none">• The immediate access to IT resources reduces time to market• Without upfront investment firms can deploy solutions faster, thereby facilitating innovation
Higher scalability	<ul style="list-style-type: none">• Solutions can easily scale and new IT resources can be allocated or reduced depending on the actual need.

Cloud Computing: Limitations

- Reliability
 - Internet reliability, service provider reliability
 - Security
 - Delivery of sensitive data over the Internet
 - Integration
 - Integration with the existing IT infrastructure
- An increasing number of firms adopt a hybrid approach – on-premises & cloud solutions

The Modern ERP integration

	Traditional ERP	Modern ERP			
	ERP Vendor 1	Core ERP Vendor 1	SaaS Vendor 2	Public Cloud Vendor 3	Outsourced Vendor 4
Integration	Tight integration within the ERP solution	Tight integration remains only within the ERP solution	Integration within business application, <i>loosely to other apps</i>	Integration within business application, <i>loosely to other apps</i>	Integration within outsourced processes, <i>loosely to other apps</i>
Integration Tools	ERP vendor	Possibly ERP vendor	Vendor's integration platform (cloud)	Vendor's integration platform (cloud)	Provider's integration platform (cloud) Client's (integration platform (cloud))
Data Integrity and Consistency	Inherent within suite, <i>client responsibility to ancillary apps</i>	Within suite, <i>client responsibility to ancillary apps</i>	Within business app, <i>client responsibility to ancillary apps</i>	Within business app, <i>client responsibility to ancillary apps</i>	Maintained within outsourced process, <i>client responsibility elsewhere</i>
Process Integrity	Inherent within suite	Within suite, <i>client responsibility to ancillary apps</i>	Within business app, <i>client responsibility to ancillary apps</i>	Within business app, <i>client responsibility to ancillary apps</i>	Outsourced to vendor, <i>but ancillary processes responsibility of client</i>
Upgrades (Test and Patch Workload)	Major upgrade every 12-18 months	Major upgrade every 12-18 months	Multiple: 3-4 per year	Multiple: 2-3 per year	None: 3-4 per year

The italicized text indicates where more responsibility and complexity on the end-user organization is being generated.