15.571 Generating Business Value from Information Technology
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Generating Business Value
From Information Technology

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UPS – Company overview

Headquarters: Atlanta, GA

Chairman and CEO: Davis, Scott

Company: The company is the world's largest package delivery company and a leading global provider of specialized transportation and logistics services.

Financials (TTM)

Revenue:	$ 51.49 **(Billion)**
Gross Profit:	$ 39.66 **(Billion)**
Income after tax:	$ 3.00 **(Billion)**
Stock price:	$ 44.84
52Wk High:	$ 75.08
52Wk Low:	$ 41.40
Market Cap:	$ 44.62 **(Billion)**

Revenue vs. % Net income - Last 5 years

	2007	2006	2005	2004	2003
Operating Revenue ($M)	49,692	47,547	42,581	36,582	33,485
% Net Income	1%	9%	9%	9%	9%

- Named in the Top 10 "Customer Service Champs" (*Business Week, 2007*)
- **UPS Delivery Intercept:** Recognized as one of the top 100 IT projects undertaken by tech leaders committed to pushing their companies forward
- **Package Flow Technology:** Saved an estimated 30M miles through efficient package and vehicle routing
- **Paperless Customs:** Ships 30k packages a month through 100 global customs offices without forms

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Source: Yahoo Finance

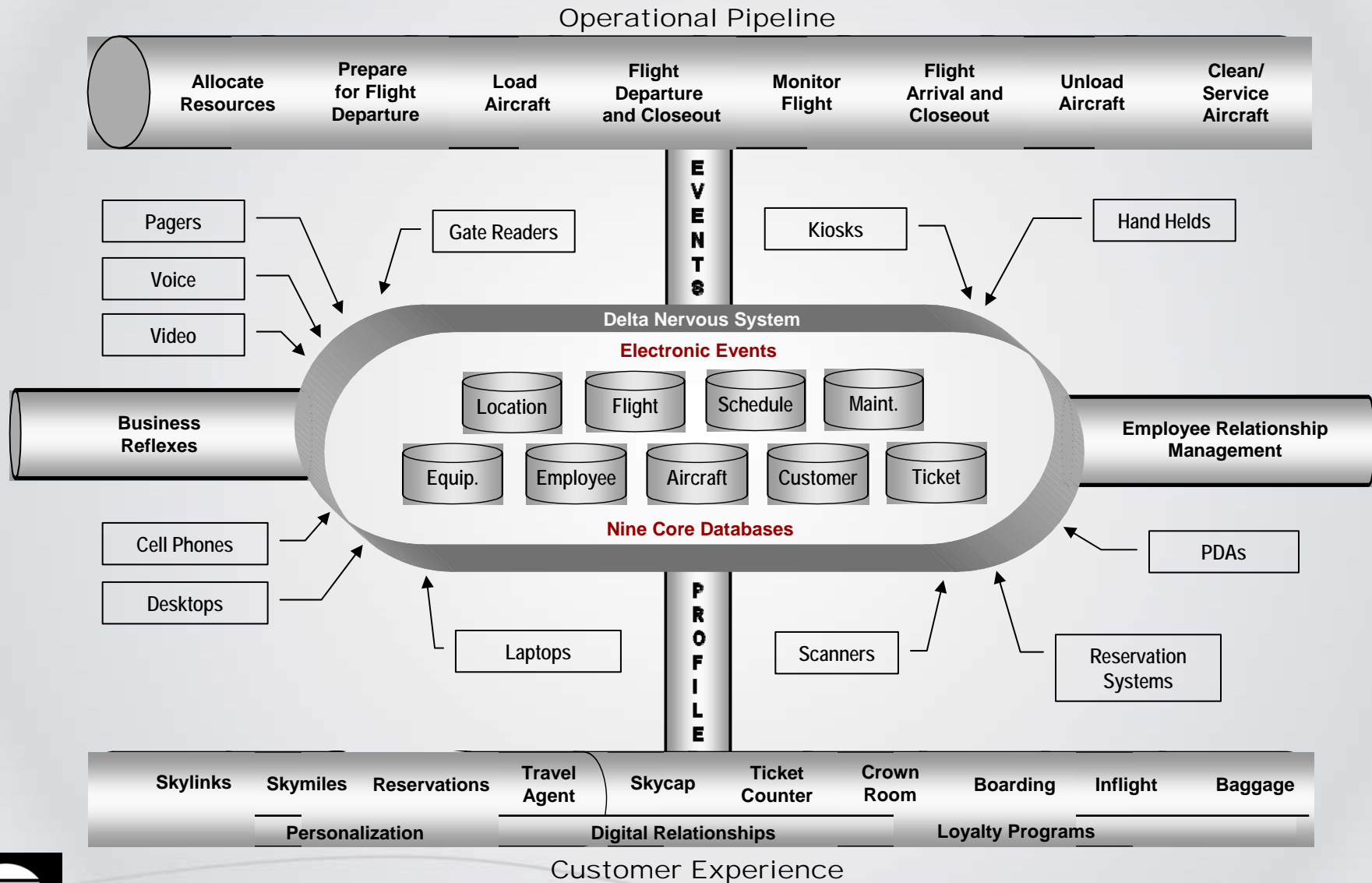**Center for Information Systems Research**

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There Are Four Operating Models

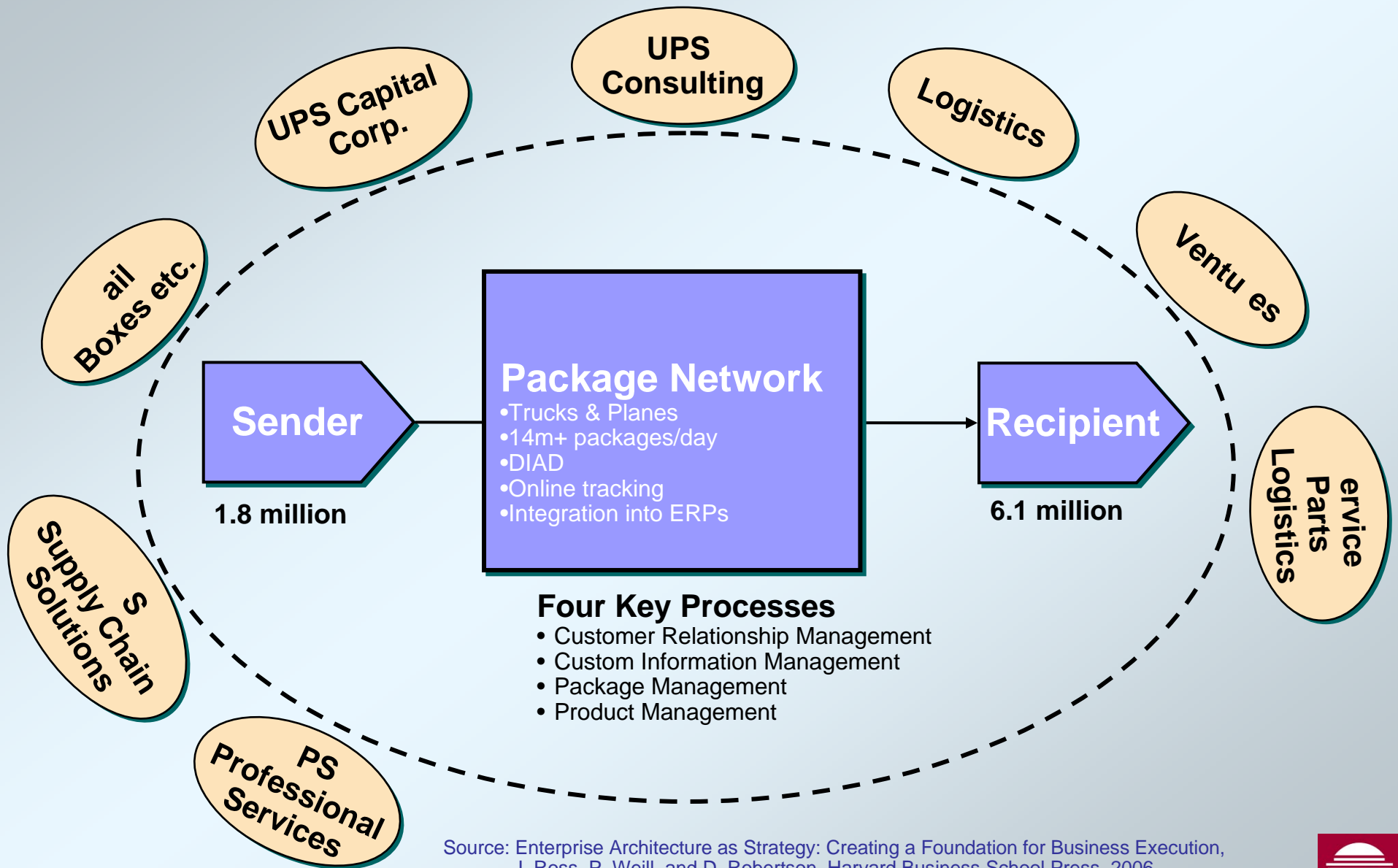|	**Low** — Business Process Standardization — **High**	
High **Business Process Integration** **Low**	**Coordination** ■ Unique business units with a need to know each other's transactions ■ **Examples:** Merrill Lynch GPC, PepsiAmericas, MetLife ■ **Key IT capability:** access to shared data, through standard technology interfaces	**Unification** ■ Single business with global process standards and global data access ■ **Examples:** Delta Air Lines, Dow Chemical, UPS Package Delivery ■ **Key IT capability:** enterprise systems reinforcing standard processes and providing global data access
	Diversification ■ Independent business units with different customers and expertise ■ **Examples:** Johnson & Johnson, GE, ING ■ **Key IT capability:** provide economies of scale without limiting independence	**Replication** ■ Independent but similar business units ■ **Examples:** Marriott, CEMEX, ING DIRECT ■ **Key IT capability:** provide standard infrastructure and application components for global efficiencies

Business Process Standardization

Different Standardization Requirements of the Four Operating Models

		Business Process Standardization — Low	Business Process Standardization — High
Business Process Integration	**High**	**Coordination** ■ Customer and product data ■ Shared services ■ Infrastructure, portal, and middleware technology	**Unification** ■ Operational and decision making processes ■ Customer and product data ■ Shared services ■ Infrastructure technology and application systems
	Low	**Diversification** ■ Shared services ■ Infrastructure technology	**Replication** ■ Operational processes ■ Shared services ■ Infrastructure technology and application systems

Business Process Standardization

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Delta's Unification Operating Model

Operational Pipeline

| Allocate Resources | Prepare for Flight Departure | Load Aircraft | Flight Departure and Closeout | Monitor Flight | Flight Arrival and Closeout | Unload Aircraft | Clean/ Service Aircraft |

Pagers
Voice
Video

Gate Readers

EVENTS

Kiosks

Hand Helds

Delta Nervous System

Electronic Events

Location · Flight · Schedule · Maint.

Equip. · Employee · Aircraft · Customer · Ticket

Nine Core Databases

Business Reflexes

Employee Relationship Management

Cell Phones
Desktops

Laptops

PROFILE

Scanners

PDAs

Reservation Systems

| Skylinks | Skymiles | Reservations | Travel Agent | Skycap | Ticket Counter | Crown Room | Boarding | Inflight | Baggage |

| Personalization | Digital Relationships | Loyalty Programs |

Customer Experience

The UPS Business Model

UPS Consulting

UPS Capital Corp.

Logistics

ail Boxes etc.

Ventu es

Sender

1.8 million

Package Network
- Trucks & Planes
- 14m+ packages/day
- DIAD
- Online tracking
- Integration into ERPs

Recipient

6.1 million

S Supply Chain Solutions

ervice Parts Logistics

Four Key Processes
- Customer Relationship Management
- Custom Information Management
- Package Management
- Product Management

PS Professional Services

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An operating model provides long-term IT requirements

- A firm's operating model is: *the desired level of business process integration and business process standardization for delivering goods and services to customers.*

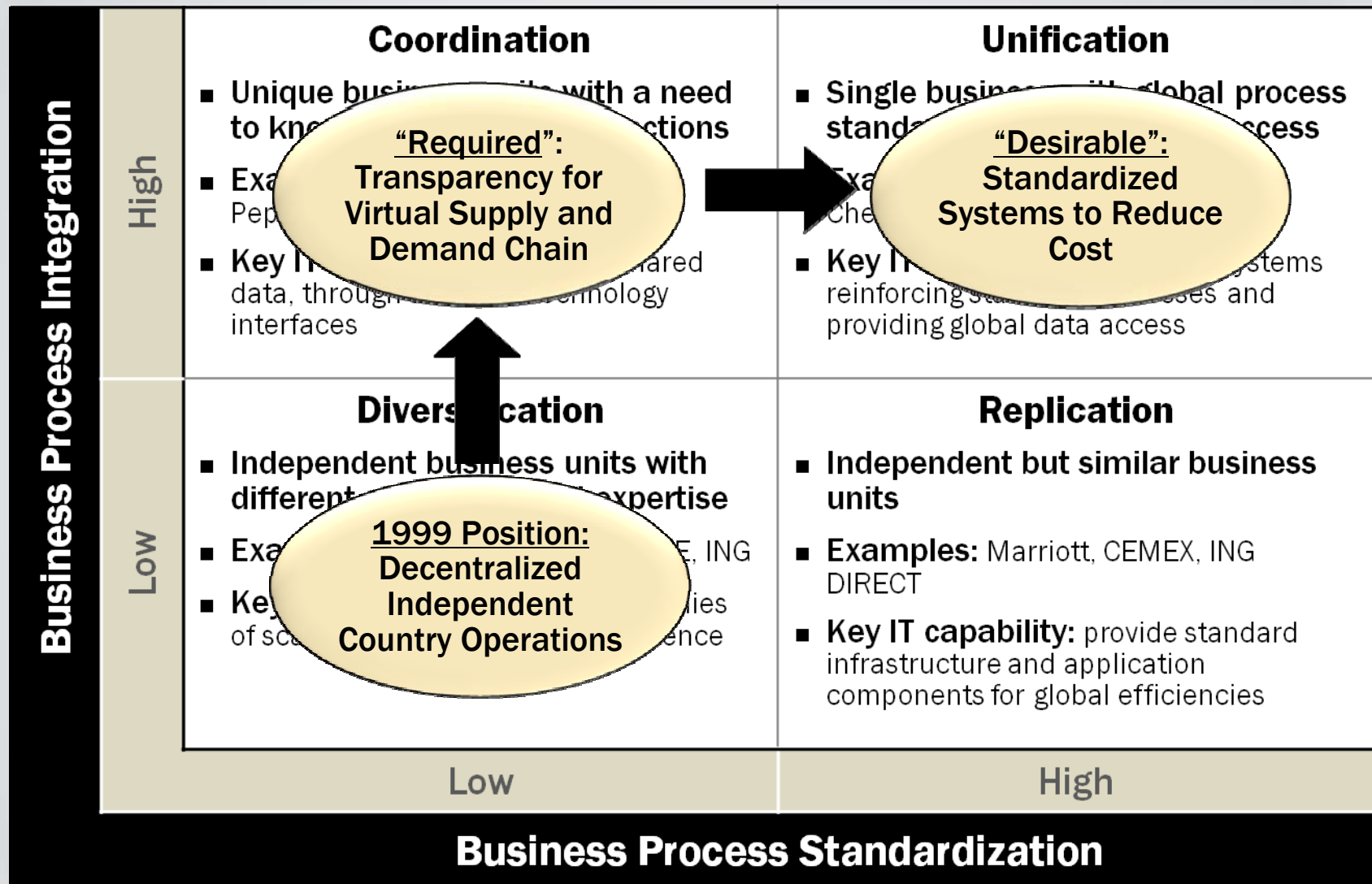- The operating model describes how a firm will profit and grow.

Business Transformation at Toyota Europe

Toyota Motor Marketing Europe 2002

- **Sales growing dramatically:**
  - 384,000 units in 1995
  - 727,000 units in 2002

- **Toyota Europe structured as 28 independently managed country operations:**
  - Cars and parts ordered from 9 European manufacturing plants
  - All product and spare parts inventories managed within countries
  - Little transparency of supply and demand
  - Different systems and processes in each country

- **Operating loss FY 2002 ¥9.9B**

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Toyota's Operating Model Transitions

Business Process Integration

High

Coordination
- Unique business units with a need to know each others transactions
- Examples: Pep...
- Key IT... shared data, through... technology interfaces

"Required":
Transparency for Virtual Supply and Demand Chain

Unification
- Single business units global process standards... access
- Exa... Che...
- Key IT... systems reinforcing standard processes and providing global data access

"Desirable":
Standardized Systems to Reduce Cost

Low

Diversification
- Independent business units with different... expertise
- Exa... E, ING
- Key... ies of sc... nce

1999 Position:
Decentralized Independent Country Operations

Replication
- Independent but similar business units
- **Examples:** Marriott, CEMEX, ING DIRECT
- **Key IT capability:** provide standard infrastructure and application components for global efficiencies

Low — **High**

Business Process Standardization

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Toyota Europe's Transformation

	Performance			Business Changes
	Units Sold	**Revenue (¥)**	**Operating Income (¥)**	
2002	727,000	1,266B	(9.9B)	▪ 28 autonomous marketing companies ▪ 9 manufacturing facilities
2004	898,000	2,164B	72.5B	▪ European delivery lead time for vehicles reduced 35% ▪ Inventory of spare parts reduced by almost 50% ▪ Operating income: 3.5% of sales
2008	1,284,000	3,993B	141B	▪ Reorganized as Toyota Europe

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Target Operating Models

		Low	**High**
Business Process Integration	**High**	**Coordination** ■ 28% of business executives ■ 16% of IT executives	**Unification** ■ 39% of business executives ■ 57% of IT executives
	Low	**Diversification** ■ 21% of business executives ■ 16 % of IT executives	**Replication** ■ 12% of business executives ■ 11% of IT executives

Business Process Standardization

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Capabilities provided by Unification Model

- Scale: supports efficient, reliable global operations
- End-to-end visibility of business processes
- Availability of data to provide customer service information and analyze pricing, scheduling, etc.
- Rapid expansion of existing processes to new markets or for related products and services
- Supports integration of acquisitions of competitors

Risks and Limitations of Unification Model

- Highly IT dependent, needs sophisticated back-up and recovery
- Locks in existing business processes and data definitions; not flexible for related products and services demanding different types of business processes
- IT can become monolithic and slow
- Demands enormous organizational discipline and thus is difficult to implement