15.571
Generating Business Value
From Information Technology

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Jason Chapman, TA
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

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</thead>
<tbody>
<tr>
<td>Operating Revenue ($M)</td>
<td>49,692</td>
<td>47,547</td>
<td>42,581</td>
<td>36,582</td>
<td>33,485</td>
</tr>
<tr>
<td>% Net Income</td>
<td>1%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
<td>9%</td>
</tr>
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</table>

• 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

Source: Yahoo Finance
<table>
<thead>
<tr>
<th>Business Process Standardization</th>
<th>Coordination</th>
<th>Unification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>Unique business units with a need to know each other’s transactions</td>
<td>Single business with global process standards and global data access</td>
</tr>
<tr>
<td><strong>Examples:</strong> Merrill Lynch GPC, PepsiAmericas, MetLife</td>
<td><strong>Examples:</strong> Delta Air Lines, Dow Chemical, UPS Package Delivery</td>
<td></td>
</tr>
<tr>
<td><strong>Key IT capability:</strong> access to shared data, through standard technology interfaces</td>
<td><strong>Key IT capability:</strong> enterprise systems reinforcing standard processes and providing global data access</td>
<td></td>
</tr>
<tr>
<td><strong>Diversification</strong></td>
<td>Independent business units with different customers and expertise</td>
<td>Replication</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Independent but similar business units</td>
<td><strong>Examples:</strong> Marriott, CEMEX, ING DIRECT</td>
</tr>
<tr>
<td><strong>Examples:</strong> Johnson &amp; Johnson, GE, ING</td>
<td><strong>Key IT capability:</strong> provide standard infrastructure and application components for global efficiencies</td>
<td></td>
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<tr>
<td><strong>Key IT capability:</strong> provide economies of scale without limiting independence</td>
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### Different Standardization Requirements of the Four Operating Models

<table>
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<tr>
<th>Business Process Integration</th>
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</table>
| High                        | - Customer and product data  
- Shared services  
- Infrastructure, portal, and middleware technology | - Operational and decision making processes  
- Customer and product data  
- Shared services  
- Infrastructure technology and application systems |
| Low                         | Diversification | Replication |
| Low                         | - Shared services  
- Infrastructure technology | - Operational processes  
- Shared services  
- Infrastructure technology and application systems |

**Source:** Enterprise Architecture as Strategy: Creating a Foundation for Business Execution, J. Ross, P. Weill, D. Robertson, HBS Press, 2006.
The UPS Business Model

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

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

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**
**Toyota's Operating Model Transitions**

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<tr>
<td><strong>High</strong></td>
<td>Unique business units, need to know interactions</td>
<td>Single business unit, global process standard, shared technology interfaces, reinforcing technologies and providing global data access</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Independent business units, different skills and expertise</td>
<td>Standardized systems to reduce cost</td>
</tr>
</tbody>
</table>

**Diversity**
- Independent business units, need to know interactions
- Examples: Marriott, CEMEX, ING DIRECT
- Key IT capability: provide standard infrastructure and application components for global efficiencies

**1999 Position:**
- Decentralized, independent country operations

**Business Process Integration**

- "Required": Transparency for Virtual Supply and Demand Chain
- "Desirable": Standardized Systems to Reduce Cost

## Toyota Europe's Transformation

<table>
<thead>
<tr>
<th>Year</th>
<th>Units Sold</th>
<th>Revenue (¥)</th>
<th>Operating Income (¥)</th>
<th>Business Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>727,000</td>
<td>1,266B</td>
<td>(9.9B)</td>
<td>- 28 autonomous marketing companies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- 9 manufacturing facilities</td>
</tr>
<tr>
<td>2004</td>
<td>898,000</td>
<td>2,164B</td>
<td>72.5B</td>
<td>- European delivery lead time for vehicles reduced 35%</td>
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<td></td>
<td></td>
<td></td>
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<td>- Inventory of spare parts reduced by almost 50%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Operating income: 3.5% of sales</td>
</tr>
<tr>
<td>2008</td>
<td>1,284,000</td>
<td>3,993B</td>
<td>141B</td>
<td>- Reorganized as Toyota Europe</td>
</tr>
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Target Operating Models

<table>
<thead>
<tr>
<th>Business Process Integration</th>
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<tr>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Coordination</td>
<td>Unification</td>
</tr>
<tr>
<td>- 28% of business executives</td>
<td>- 39% of business executives</td>
</tr>
<tr>
<td>- 16% of IT executives</td>
<td>- 57% of IT executives</td>
</tr>
<tr>
<td>Low</td>
<td>Replication</td>
</tr>
<tr>
<td>Diversification</td>
<td>- 12% of business executives</td>
</tr>
<tr>
<td>- 21% of business executives</td>
<td>- 11% of IT executives</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
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</table>

Source, IT Executive Percentages: Survey of 70 IT executives—mostly CIOs and CIO reports from Fortune 500 companies, Spring 2006.

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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