Chapter 1
Setting the Stage:
Technology and the Modern Enterprise

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Learning Objectives

• Appreciate how in recent years, technology has helped bring about radical changes across industries and throughout societies
• Name firms across hardware, software, and Internet businesses that were founded by people in their twenties (or younger)
Learning Objectives

• Appreciate the degree to which technology has permeated every management discipline
• See that tech careers are varied, richly rewarding, and poised for continued growth
• Understand the structure of this text, the issues and examples that will be introduced, and why they are important
Tech’s Tectonic Shift: Radically Changing Business Landscapes

- Billions of people have access to computing and telecommunications
- Google and Facebook have changed the way firms advertise and people communicate
- Open source software has lowered computing costs
Tech’s Tectonic Shift: Radically Changing Business Landscapes

- Sophisticated, high-powered computing is turning into a utility via:
  - Cloud computing
  - Software as a service

- New technologies have also:
  - Fueled globalization
  - Redefined concepts of software and computing
  - Crushed costs
  - Fueled data-driven decision making
  - Raised privacy and security concerns
Many of the world’s most successful technology firms were created by young people

- Bill Gates was an undergraduate when he left college to found Microsoft
- Michael Dell was a sophomore when he began building computers at the University of Texas
- Mark Zuckerberg founded Facebook as a nineteen-year-old college sophomore
It’s Your Revolution

- Tony Hsieh of LinkExchange and Zappos
- Jerry Yang and David Filo of Yahoo!
- Steve Chen and Chad Hurley of YouTube
- Steve Jobs of Apple
- Jeff Bezos of Amazon
- Catherine Cook of MyYearbook
- Shawn Fanning of Napster
- Linus Torvalds - Linux operating system
- Sergey Brin and Larry Page of Google
There isn’t a single modern managerial discipline that isn’t being deeply and profoundly impacted by tech

Tech skills are becoming more important for jobs everywhere
Finance

• The tech industry continually sprouts new businesses
  – Suited to IPO markets
• Tech firms are actively involved in mergers and acquisitions (M&A)
• Finance careers also involve:
  – Lending to tech firms
  – Evaluating the role of technology in firms in an investment portfolio
• Technology-based trading platforms
Table 1.2 - 2011 Tech Deals by Sector

<table>
<thead>
<tr>
<th>Sector</th>
<th>Deals</th>
<th>Value (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Software</td>
<td>93</td>
<td>$40,770</td>
</tr>
<tr>
<td>IT Services</td>
<td>51</td>
<td>$19,286</td>
</tr>
<tr>
<td>Internet</td>
<td>71</td>
<td>$22,896</td>
</tr>
<tr>
<td>Hardware</td>
<td>53</td>
<td>$17,101</td>
</tr>
<tr>
<td>Semiconductor</td>
<td>40</td>
<td>$25,059</td>
</tr>
</tbody>
</table>

Accounting

• The reliability of any audit is inherently tied to the reliability of the underlying technology
• Increased regulation has strengthened the link between accounting and tech
  – Sarbanes-Oxley Act
• Major accounting firms have spawned tech-focused consulting practices
Marketing

- Firms are shifting spending from traditional media to the Web because of its ability to:
  - Track customers
  - Analyze campaign results
  - Modify tactics
Firms are using social media to:

- Generate sales
- Improve their reputations
- Better serve customers
- Innovate
Marketing

• Central components of the new marketing toolkit include:
  – Search engine marketing (SEM)
  – Search engine optimization (SEO)
  – Customer relationship management (CRM)
  – Personalization systems
  – Managing the balance between gathering data and respecting consumer privacy
Operations

• Tech-centric operations include:
  – Quality programs
  – Process redesign
  – Supply chain management
  – Factory automation
  – Service operations
Human Resources

• Knowledge management systems are morphing into social media technologies
• Technology is used for employee training, screening, and evaluation
• Recruiting has moved online
  – Grounded in information systems that scour databases for specific skill sets
  – Job seekers are writing resumes with key words in mind
• Professional social networks have put added pressure on employee satisfaction and retention
The Law

- Activity has increased in the areas of intellectual property, patents, piracy, and privacy
- Firms need legal teams with the skills to:
  - Determine whether a firm can legally do what it plans
  - Uncover licensing fees if patents stand in the way
  - Help them protect proprietary methods and content
  - Help enforce claims in the home country and abroad
Information Systems Careers

- Programmers
- Experts in user-interface design, process design, and strategy
- Consulting and field engineering
- Chief information officer
- Chief technology officer
- “C-level” specialties in emerging areas
  - Chief information security officer (CISO)
  - Chief privacy officer (CPO)
Your Future

• Study business and technology to develop critical-thinking skills
  – To help in the evaluation of new, emerging technologies
• Those not trained to evaluate and make decisions risk irrelevance, marginalization, and failure