Chapter 1 - Setting the Stage: Technology and the Modern Enterprise
John Gallaugher - Information Systems: A Manager's Guide to Harnessing Technology, version 4.0

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Chapter 1
Setting the Stage: Technology and the Modern Enterprise

Section 1.1

True/False Questions

1. Sales in Apple's app store are so large, that they would be ranked as a Fortune 500 firm if the figure were broken out as a firm separate from Apple.
   True; Easy

2. The United States holds the number one ranking in home broadband access.
   False; Moderate

3. The rise of open source software has lowered computing costs for start-up and blue chip companies worldwide.
   True; Easy

4. Data analytics and business intelligence are driving discovery and innovation.
   True; Easy

5. Technology has proliferated in Kenya and Somaliland, with text messages used to replace cash, creating mobile money use that, on a population percentage basis, exceeds any nation in the West.
   True; Moderate

6. Social media and mobile phone use are decreasing expectations for corporate ethics and customer service.
   False; Easy

7. As a testament to tech's global reach, China is home to several publicly traded Internet firms, as well as a firm that was considered the largest IPO of all time.
   True; Easy

Multiple Choice Questions

1. Some of the radical changes brought about by new technologies include:
   a. the stagnation of advertising.
   b. the proliferation of telecommunications into the hands of a few.
   c. an increase in computing costs owing to the growth of licensed software.
   d. a decrease in the standards of corporate ethics.
   e. the creation of an unprecedented set of security and espionage threats.
   e; Moderate

2. Tech impact is reaching even beyond the confines of Earth itself. According to an example in yoru chapter, how was a tool on the International Space Station recently acquired?:
   a. It was purchased via China's Alibaba – showing global sourcing extends to the extraterrestrial.
   b. It was delivered to the launch site when summoned from Space using the FedEx app.
   c. It was an out-of-print product that an Etsy producer was able to craft and deliver for the next resupply flight.
   d. It was printed on-demand using 3D printing technology.
   d; Easy

3. Tech firms are among the best performing firms in the world. According to the chapter, which firm is the most valuable firm in the United States, and has also posted some of the most profitable quarters of any business in any industry.
   a. Amazon
   b. Apple
   c. Google
   d. IBM
   b; Easy

Short Answer Questions

1. How are entrepreneurs in sub-Saharan Africa leveraging technologies to serve local needs? Give examples.
   Ghanaian firm Esoko leverages mobile phones to empower the agrarian poor with farming info and commodity pricing, raising incomes and lowering the chance of exploitation by unscrupulous middlemen. The firm Sproxil uses text message verification to save lives by fighting drug counterfeiting in developing nations around the world. Kenya's M-PESA and Somaliland's Zaad use text messages to replace cash, bringing the safety and speed of electronic payment and funds transfer to the unbanked and leveraging mobile money at rates that far outstrip any nation in the West.
   Moderate

2. Uber and Airbnb are larger than any taxi firm or hotel chain on the planet. In what important way does the infrastructure used by these firms to deliver services differ from more traditional rivals? Uber, the world's largest "taxi service," owns no vehicles for hire. Airbnb, the world's largest accommodations provider, doesn't own a single hotel or rental property. [Don't accept 'mobile' or 'uses smartphones' as answers since traditional rivals also heavily leverage technology, including smartphone apps.]
   Moderate

Fill in the Blanks

1. The phrase _____ is often used to describe the trend of putting "smarts" (meaning computing and telecommunications technology) putting into everyday products such as lamps, watches, thermostats, and door locks; as well as embedding tech into industrial goods.
   Internet of Things (or IoT); Medium

3. _____ and _____ are turning sophisticated, high-powered computing into a utility available to even the smallest businesses and nonprofits.
   Cloud Computing, Software as a Service; Moderate

2. _____ has emerged as a catalyst for global change, with Facebook and Twitter playing key organizing roles in uprisings worldwide.
   Social media; Easy

3. The nation of _____ has more Internet users than any other country.
   China; Easy

3. In two decades, the nation of _____ tech sector has grown from "almost nothing" to a $73 billion industry, expanding even during the recent global recession.
   India's; Easy

Section 1.2

True/False Questions

1. Founders should be wary of crowdfunding sites like Kickstarter, because these efforts require founders to give up large ownership stakes to a large number of contributors before they can raise funds to bring products to market.
   False; Easy

2. The founding technology entrepreneurs behind many leading firms, such as Apple, Microsoft, and Facebook, got their start in their early 30s, leveraging university study and knowledge from their first post-college jobs to create disruptive new firms.
   False; Easy

3. Palmer Luckey, the founder of Oculus, was able to get early funding for his product via Kickstarter, exceeding the fundraising goal set by his campaign without giving up a share of equity from this campaign.
   True; Easy

4. Facebook was founded by Sergey Brin.
   False; Easy

5. Linus Torvals created the Linux operating system.
   True; Easy

Multiple Choice Questions

1. One contributor to the easy with which young entrepreneurs can have success is low-cost distribution to massive markets worldwide. This is enabled by:
   a. legacy systems
   b. big data and business analytics
   c. Esoko and M-Pesa
   d. App stores
   e. Sproxil
   d**; Easy**

2. Another reason fueling the boom in fast-growing technology services is _____, which, when done right, can virally spread awareness of a firm with nary a dime of conventional ad spending a. legacy systems
   e.   App stores
   f.   Big data and business analytics
   g.   Esoko and M-Pesa
   h.   Sproxil
   i.   Legacy systems
   a**; Easy**

3. Yahoo! was started by _____ and _____.
   a. Sergey Brin; Larry Page
   b. Jerry Yang; David Filo
   c. Steve Chen; Chad Hurley
   d. Kevin Rose; Mark Zuckerberg
   e. Catherine Cook; Shawn Fanning
   b; Easy

4. _____ was just a sophomore when he began building computers in his dorm room at the University of Texas. His firm would one day claim the top spot among PC manufacturers worldwide.
   a. Bill Gates
   b. Steve Jobs
   c. Michael Dell
   d. Shawn Fanning
   e. Mark Zuckerberg
   c; Easy

5. Steve Chen and Chad Hurley are credited as the founders of:
   a. Google.
   b. Zappos.
   c. Facebook.
   d. YouTube.
   e. Yahoo!
   d; Easy

4. Tony Hsieh served as CEO of _____, and eventually sold the firm to Amazon for $900 million.
   a. Zappos
   b. LinkExchange
   c. MyYearbook.com
   d. Napster
   e. Yahoo!
   a; Easy

5. Sergey Brin and Larry Page were both twenty-something doctoral students at Stanford University when they founded:
   a. Yahoo!
   b. YouTube.
   c. Google.
   d. Amazon.
   e. Napster.
   c; Easy

6. Amazon was started by:
   a. Jeff Bezos.
   b. Catherine Cook.
   c. Shawn Fanning.
   d. Linus Torvalds.
   e. Kevin Rose.
   a; Easy

Short Answer Questions

1. Name at least three technology firms that were founded by people in their twenties or younger.
   Facebook was founded by Mark Zuckerberg when he was a nineteen-year-old college sophomore. There are many – among them: Sergei Brin and Larry Page of Google, Jerry Yang and David Filo of Yahoo, Steve Chen and Chad Hurley of YouTube were all in their late twenties when they launched their firms. Jeff Bezos hadn't yet reached thirty when he began working on what would eventually become Amazon. The founders of Dropbox, Box, and Spotify were all under thirty when they founded businesses that would go on to be worth billions.
   Easy

2. What factors contribute to the current 'golden age' of young entrepreneurship, allowing innovators to create and deploy services with less expense than prior generations?
   We're in a golden age of tech entrepreneurship where ideas can be vetted and tested online, and funding crowdsourced, Kickstarter-style; "the cloud" means a start-up can rent the computing resources one previously had to buy at great expense; app stores give code jockeys immediate, nearly zero-cost distribution to a potential market of hundreds of millions of people worldwide; and social media done right can virally spread awareness of a firm with nary a dime of conventional ad spending.
   Easy

Fill in the Blanks

1. Funding projects via online efforts such as Kickstarter are referred to by the term _____.
   Crowdsourcing; Hard

2. The technology known as _____ is helping to fuel the current age of fast-growth technology entrepreneurship. This technology means that a start-up can rent the computing resources one previously had to buy at great expense.
   Cloud Computing (or "The Cloud"); Moderate

3. Shawn Fanning's _____ was widely criticized as a piracy playground.
   Napster; Easy

4. Facebook was founded by _____.
   Mark Zuckerberg; Easy

5. _____ was just twenty-one when he founded Apple.
   Steve Jobs; Easy

Section 1.3

True/False Questions

1. SEO and SEM are key tech industry acronyms that have become vital parts of the accounting professional's operating toolkit.
   False; Moderate

2. Many of the careers in marketing are highly tech-centric.
   True; Easy

3. Firms are increasingly shifting spending from the Web to other media such as print, radio, and television as these are often easier to track and analyze.
   False; Easy

4. While process redesign, supply chain management, and factory automation are all tech-centric operations, service operations are not.
   False; Easy

5. Today's job seekers are writing résumés with keywords in mind, aware that the first cut is likely made by a database search program, not a human being.
   True; Moderate

6. The number of U.S. patent applications waiting approval has significantly declined in the past decade.
   False; Easy

7. Technology experts in the area of user-interface design specialize in technology for competitive advantage.
   False; Moderate

Multiple Choice Questions

1. The _____ is a piece of U.S. legislation that raises executive and board responsibility and ties criminal penalties to certain accounting and financial violations.
   a. Civil Rights Act
   b. Fair Labor Standards Act
   c. Sherman Antitrust Act
   d. Norris-LaGuardia Act
   e. Sarbanes-Oxley Act
   e; Easy

5. A company uses radio frequency identification (RFID) tags to keep track of its inventory. This is an example of the impact of technology in the area of _____.
   a. accounting
   b. operations
   c. advertising
   d. human resources
   e. finance
   b; Moderate

6. Crowdsourcing tools and question-and-answer sites like _____ allow firms to reach out for expertise beyond their organizations.
   a. Quora
   b. Oculus VR
   c. Alibaba
   d. Twitter
   e. M-PESA
   a; Moderate

7. Technology experts in the area of user-interface design:
   a. work to make sure systems are intuitive and easy to use.
   b. leverage technology to make legacy systems more efficient.
   c. specialize in technology for competitive advantage.
   d. focus on effective back-up systems for critical business data.
   e. provide direction on technology-related security issues.
   a; Easy

8. Technology experts in the area of process design:
   a. work to make sure systems are easy to use.
   b. leverage technology to make firms more efficient.
   c. specialize in technology for competitive advantage.
   d. focus on systems dealing with critical business data.
   e. provide direction on technology-related security issues.
   b; Easy

9. Technology experts in the area of _____ specialize in technology for competitive advantage.
   a. user-interface design
   b. process design
   c. strategy
   d. database design
   e. hardware
   c; Easy

Short Answer Questions

1. How has technology changed the marketing landscape?
   The skill set of today's marketers is radically different from what was leveraged by the prior generation. Online channels have provided a way to track and monitor consumer activities, and firms are leveraging this insight to understand how to get the right product to the right customer, through the right channel, with the right message, at the right price, at the right time. Savvy firms are using social media to generate sales, improve their reputations, better serve customers, and innovate. Search engine marketing (SEM), search engine optimization (SEO), customer relationship management (CRM), personalization systems, and a sensitivity to managing the delicate balance between gathering and leveraging data and respecting consumer privacy are all central components of the new marketing toolkit.
   Moderate

2. What kind of an impact has technology had in the area of human resources?
   Technology helps firms harness the untapped power of employees. Knowledge management systems are morphing into social media technologies—social networks, wikis, and Twitter-style messaging systems that can accelerate the ability of a firm to quickly organize and leverage teams of experts. Crowdsourcing tools and question-and-answer sites like Quora and StackOverflow allow firms to reach out for expertise beyond their organizations. Human resources directors are using technology for employee training, screening, and evaluation. Sites like LinkedIn can help HR quickly target a wider group of qualified employees. Potential hires are sharing online material with HR, hoping that thoughtful blog posts, a compelling LinkedIn presence, Twitter activity reflecting an enthusiastic and engaged mind, and, for tech professionals, participation in collaborative coding communities like GitHub and Stack Overflow, all work to set apart a candidate from the herd. The hiring and retention practices of the prior generation are also in flux. Recruiting hasn't just moved online; it's now grounded in information systems that scour databases for specific skill sets, allowing recruiters to cast a wider talent net than ever before. Job seekers are writing resumes with key words in mind, aware that the first cut is likely made by a database search program, not a human being.
   Moderate

3. Provide a brief overview of the different careers in the area of information systems.
   Students studying technology can leverage skills in ways that range from the highly technical to those that emphasize a tech-centric use of other skills. Opportunities for programmers abound, but there are also roles for experts in areas such as user-interface design, process design, and strategy. Careers that involve consulting and field engineering are often particularly attractive for those who enjoy working with clients and problems across various industries and in different geographies. Consultants can become partners who work with the most senior executives of client firms, helping identify opportunities for those organizations to become more effective. Technology specialists can rise to be chief information officer or chief technology officer and many firms are developing so-called "C-level" specialties in emerging areas with a technology focus, such as chief information security officer (CISO), and chief privacy officer (CPO).
   Moderate

Fill in the Blanks

1. The _____ department in an organization not only ensures that systems get built and keep running but also take on strategic roles targeted at proposing solutions for how technology can give the firm a competitive edge.
   information systems; Easy

2. Aspiring investment bankers should study the tech industry since tech firms represent a large portion of firms selling shares on public stock markets for the first time. This process is known as _____.
   IPO, Initial Public Offering, or "going public"; Easy

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