AllRoad Parts, Part 1 and Chapter 1

GOALS

Use AllRoad Parts to:

- Engage students' interest and emotions.

- Practice assessing, evaluating, and applying emerging technology to business.

- Impart that Reich's four skills are not an academic theory; they are skills needed by business professionals today.

- Convey that people without Reich's four skills are at a disadvantage.

- Establish that this course is an excellent way to learn Reich's four skills.

- Set up the AllRoad Parts case for use with Chapters 2–6.

BACKGROUND AND PRESENTTION STRATEGIES

1. All of the chapter openings in the text are designed not to show how some business is currently using technology (see the end-of-chapter cases for that), but rather to put forth a credible possible use for future technology. All Road Parts (used in Chapters 1–6) can be used to investigate systems and process requirements that concern 3D printing.

2. As students will learn, manufacturing parts is a completely different business from selling parts, and in Chapter 3, we will see that such manufacturing doesn't make sense for them. However, they can sell *data* about parts, just as they sell parts. All of this is revealed as the chapters progress.

3. Selling designs (the data) as a product underlines for us that data, in and of itself, has value. And the data need not be designs; it could be the results of social media systems or of BI, to take two examples.

4. The purpose of Jennifer's firing is to gain students' attention. Jennifer was unable to perform any of Reich's four key skills. She worked hard but ineffectively.

5. You can use this example if you are confronted with any students this term who tell you they should have earned a higher grade because they "worked really hard." Jennifer worked really hard, too; she also worked ineffectively.

HOW TO GET STUDENTS INVOLVED

1. 3D printing is amazing. Ask students to find example 3D videos on the Internet and show them in class. Will this technology affect the world economy? It's a perfect example for assessing, evaluating, and applying emerging information systems technology. And, even if it seems that this subject should be part of a production class, the processes and systems that surround this system are very definitely within the scope of MIS.

2. In the chapter-opening scenario, why is Jennifer fired? Does this seem fair? Why or why not? And, even if unfair, does that matter?

3. Ask the class to compare the reasons she was fired to Reich's four key skills:

   - Abstract reasoning
   - Systems thinking
   - Experimentation
   - Collaboration

4. What should Jennifer have done differently?

5. Ask students to what extent those four skills have been required in their education so far. How do students feel about working with ambiguity?

VIDEO

We decided not to do videos for AllRoad Parts for this edition. However, the video for FlexTime (from a previous edition of this book and available in this edition's MyMISLab) is close to this same scenario, and you can use it if you want to further gain students' attention. If you do use it, consider the following:

In this video, we see Kelly fire Jennifer. The particular goal here is to cause students to look back at Reich's four key skills and ask themselves, seriously, how well they themselves might do.

Another key goal is to cause students to view this course as a chance to improve their abilities on those four skills.

Also, use this video to drive home the point that, difficult as it might be to get that first job, it is just the start. Serious students should use their school years to learn skills that will enable them to keep and excel at those jobs.

BOTTOM LINE

- Every business needs IS.

- Every businessperson needs a working knowledge of MIS.

- Reich's four key skills are not just theory…people get fired for not having them.

- Use this class to learn skills to excel as a professional.

- You need these skills not only to obtain a professional job, but also to be able to succeed and thrive in that job.

- Use this example to practice assessing, evaluating, and applying emerging technology.

Using the Ethics Guide: Ethics and Professional Responsibility
(pages 20–21)

GOALS

- Introduce Kant's categorical imperative, the first of two ethical models to be used in this course.

- Explore ethical issues concerning data displays that deceive.

- Practice applying the difference between data and information.

BACKGROUND AND PRESENTATION STRATEGIES

The Ethics Guides in prior editions of this text relied on students having a personal ethical standard to apply. For whatever reason, that no longer seems to be the case. Too many students find just about anything plausibly justifiable as ethical. However, if we try to insert our own ethical standards into the discussion, then we become "preachers," and the discussion devolves into telling them what they should believe from our ethical standards. That doesn't work for very long.

This text is for use in an MIS course, and it is inappropriate to try to address the same issues that the business ethics course involves. We wanted to introduce a brief form of solid ethical theory for use as a standard.

Accordingly, we asked a colleague, Charles Yoos, who has taught business ethics for several decades (and who is one of the key thinkers concerning the use and evolution of honor codes at the U.S. military academies) for help. I asked him if he had only 30 minutes to describe two useful ethical theories, ones that could be used in business practice, what would they be. Dr. Yoos's response was (1) Kant's categorical imperative and (2) Bentham and Mills's utilitarianism.

Armed with that guidance, Kroenke decided to rewrite all the guides from prior editions to use these theories in the prior edition of this text. Our goal here is to be able to lay out the principles of the theories and then ask students to use those theories as criteria for making ethical assessments. We hope that in doing so, students will begin to question how they view the ethics of situations and be forced to view them more broadly and possibly from a more mature perspective. This chapter introduces Kant's categorical imperative (CI). Chapter 2 introduces utilitarianism.

By the way, we can use Kant's imperfect duties as a way of also teaching social responsibility. This is done in later chapters, once students have had a chance to use CI's perfect duties and utilitarianism.

SUGGESTED RESPONSES FOR DISCUSSION QUESTIONS

1. Answers that are consistent with formulating a general rule, for all to follow, are correct. Cheating on exams is not consistent with the CI because, if everyone does it, exam scores become worthless (except as an indication of who is the best cheater).

2. The Golden Rule injects subjectivism into ethics. If I happen to not be bothered by some behavior (even though most would consider it highly unethical), then the Golden Rule is too loose. On the other hand, if I'm a guilt-induced fanatic, finding people who, say, jaywalk unethical, then it may be too restrictive to be a general rule. See the answer to question 3c, for a good example.

3. **a.** The differences in this graph are all in the shape of the curve, which, when drawn to scale are minuscule. Leaving the labels off the *y*-axis makes it difficult for me to even challenge this immediate reaction.
   b. Clearly, the trend is flat. The new campaign has had no impact.
   c. Figure 3, of course. By the way, this is a good example for distinguishing between the Golden Rule and the CI. If I think I'm quite smart, I might say, "Look, if I'm so stupid as to not look for labels on *y*-axis, then it's my fault. I don't mind if someone tries this…I'll see through it." If I take that posture, then Figure 1 is not unethical according to the Golden Rule. Such deception, however, cannot be considered a good candidate for universal

law. At least not for people who don't see themselves as so smart as to always notice this sort of deception.

4. **a.** If I did it with no intent to deceive, it's possibly ethical. At least, it doesn't seem to contravene any perfect duty. Certainly, however, I have an imperfect duty to know better.
    b. It's hard to imagine a world in which a vendor is expected to anticipate all the improper uses of its products and warn the users not to do so. That said, a product that leads people to create data displays that are deceptive could be unethical. Especially if, say, Microsoft constructed its wizard to be very easy to use and knew that by making it so easy, people could deceive others (and themselves). Microsoft might have an imperfect duty to improve its products to prevent deception. Seems like a stretch, though, to me.

5. How about: The junior marketing person is an idiot and not to be trusted out in public without adult supervision.

6. A violation of the imperfect duty for business professionals to know what they're doing when reporting to others, especially in an important meeting like this one. It's not a violation of a perfect duty and is ethical, though hardly career-building.

7. I think you have to present the last one…and better to justify the new campaign…or at least explain what you and the organization have learned from what seems to be such a failure.

8. **a.** Yes. Such social politeness is readily conceived as appropriate as a universal law. Maybe it's a little less clear if you made the comment to increase the chair's perception of you. But, even then, who could argue with this.
    b. No. This sort of moral equivocation is silly. When one finds oneself engaging in such thought, it's usually an indication that deeper thinking is required.
    c. In some cases, lying is OK. Ah, but the guide states that lying is unethical. So, which is it? Are there degrees of lying, some of which are OK? Can the rule that lying to protect someone else's feelings is OK be made into a universal law? If so, is lying only unethical when it is meant to deceive? I'd favor an answer like that.

WRAP UP

Some questions to summarize the discussion:

■ To review, in your own words, what is Kant's categorical imperative?

■ Describe two or three tests for determining if you really think something can be a universal law (like publishing what you've done on your Facebook page).

■ Do your thoughts about ethics change as a result of this discussion? If so, how?

Using the Security Guide: Passwords and Password Etiquette (pages 24–25)

GOALS

- Teach students an easy way to create and remember strong passwords.

- Teach students proper password etiquette.

- Underline the importance of passwords and password protection.

BACKGROUND AND PRESENTATION STRATEGIES

This guide concerns passwords because students need to start practicing good password techniques now. Universities are, unfortunately, common targets of security attacks. Thus, early in the course we need to teach very important self-protection strategies. We will discuss passwords again in more detail in Chapter 10. However, the sooner students learn how to create and use strong passwords, the better.

Using the initial letters of a line of poetry or a phrase is a very easy way to remember strong passwords. In order to create and remember different passwords for different accounts (one for the university, one for *Amazon.com*, one for the student's ISP, etc.), it's useful to employ a phrase that's relevant to the account. "Last year, 2012, I spent more than 700 dollars on books" yields Ly2012Is>700dob, which is an easily remembered strong password. See discussion question 3.

The only reason any of us should ever type a password is for authentication. *There is no other valid reason to type it.* I tell my students if they find themselves typing their password for any other reason, stop! Whatever they're doing is wrong. Don't type it in an email, don't type it on a piece of paper to remember it, and don't type it in response to some phisher's query. (Phishing is described in detail in Chapter 10.)

I think we need to teach that among IS professionals it is rude not to look away when someone is typing a password. Recently, I was giving a demo to a very senior database manager at Microsoft, and I needed to enter my password. Even though he and I have known each other for years and have become personal friends, as soon as he saw what I was doing, he quite pointedly looked out the window.

- Brush your teeth twice a day, don't talk with your mouth full, and look out the window when someone is typing his or her password.

The same comment applies to never asking for a person's password. It is rude. Ask the person to come to your computer and enter his or her password.

- If people ask for your password, don't tell them they're rude. Just smile, get up, go to their keyboard, and enter it yourself. Then be sure to stay around until they log off.

All of these behaviors simply indicate that the person takes security seriously and is a thoughtful and professional businessperson.

Students may not know this, but for many networks, when they log in using their password, they gain access not only to the network to which they're connecting but also to other networks. One network (the business school) may authenticate a student to a second network (the library), which will authenticate him or her to a third (the state library system), and so on. Thus, loss of a password may cause much more damage than just to the local network. One password may authenticate the student to many networks, networks the student may not even know about. Protect those passwords!

You might want to review Question 2025? in Chapter 10 before discussing this guide. It has some thoughts on why smaller targets, like individuals, are becoming more desirable to hackers.

SUGGESTED RESPONSES FOR DISCUSSION QUESTIONS

These questions require straightforward application of the material in the guide and of the points just made. I use them not to create a discussion but to be certain that students understand the techniques.

1. This phrase is the first line of "The Love Song of J. Alfred Prufrock" by T. S. Eliot. Without the commas, it is LugtyaIwteisoats. That's a little long. Maybe put in the comma and use "Let us go then, you and I, before 6 PM," which results in the password Lugt,yaI<6PM.

2. A practice exercise to make sure students understand the principle. Answers depend on students.

3. Relate the phrase to the purpose or nature of the account. Examples:

Account	Phrase	Password
Work	"Back in the saddle at 8:00 AM."	Bitsa8:00AM
School	"I take IS300 before Sarah."	ItIS300<S
eBay	"I want to sell more than 1,000 dollars of goods."	Iwts>1000dog or Iwts>$1000og
Bank	"Is University Savings before 3rd Street?"	IUS<3rdS?

4. Tell the other person what you are doing and why you need his or her password. Ask the person to log on to your computer. Get out of your chair and let that person sit at your keyboard and enter the password. Look away.

Use the account to do what you need to do and log off (or offer to let the other person log off). Thank him or her, and tell him or her that you have logged off.

- These are professional manners in a cyber world!

5. Get up, go over to his or her computer, and ask to log in. Stay in the neighborhood while he or she is using your account. Sign out or be certain that he or she signs out. It's not bad manners, by the way, to inquire, politely, why he or she needs your password.

WRAP UP

Some statements I make in summary:

■ Passwords are important. As a professional, you have a responsibility to take your passwords seriously and to protect them.

■ Passwords are the foundation of most organizational security systems. You have a responsibility to yourself and your fellow employees to create strong passwords, to protect them, and to change them frequently.

Using the Guide: Five-Component Careers (pages 26–27)

GOALS

■ Motivate students for study in this course and in others by reminding them of the need to be preparing for jobs now. Employment will not necessarily be easy.

■ Broaden students' perspectives about MIS careers. Many exciting jobs other than programmer or hardware specialist exist.

■ Make students aware that a lot of interesting jobs that require MIS skills are not necessarily "computer" jobs. Professional sales are one, for example.

■ Reinforce the five-component model and show students another way they can use it to guide their thinking.

BACKGROUND AND PRESENTATION STRATEGIES

You might ask students to read the letter I wrote to them just inside the cover. I think it is important to first recognize the fact that they've made excellent decisions to get where they are, namely, in college and studying business. As the letter says, now they need to double down on those good decisions. I've found starting that way helps them not be depressed as they confront the reality of employment today.

As Q1-1 says, students need to be able to assess and evaluate emerging technology. If they can do so, they will be valuable to organizations that *must* adapt to new technology.

Figure 1–3 understates the demand for business-savvy IS professionals and IS-savvy business professionals. It shows the demand for tradable jobs (not nonroutine problem solvers). And it shows demand for jobs that are classified as computer-related; many of the jobs discussed in this guide are not considered in this study.

■ Starbucks has recently created the position of Chief Digital Officer (CDO), a combination marketing and IS job: *http://venturebeat.com/2012/06/12/starbucks-digital-strategy/*. The title of the article is "How Starbucks Is Turning Itself

into a Tech Company." Such a position is recent. What new business/IS jobs will be created by the time students seek work?

■ Sometimes I think students have difficulty connecting themselves to the experience of successful people. You might discuss some of the bright stars who have graduated and gone on to do well with their knowledge of IS. Drew Rudebush was a student in my MIS class in 2007. He was not a technical major or person, but he was hired as the number 10 employee at zulily. He is certain that his knowledge of IS helped him (1) get the job and (2) thrive at the job once he got it. (He specializes in creating new processes for the company.) With its IPO and stock price ramp-up, he's now quite wealthy. This is not a rare story by any means, and you probably know similar people as well.

■ I think one good class exercise is to go around the room and see if students personally know someone in each of the cells of the figure in this guide. If so, ask them to describe that person's background.

■ Ask students if they can think of jobs for the cells in the guide's figure other than those that are shown!

By the way, finding a highly desirable job that appeals to students is their first and arguably most important nonroutine problem to solve. They should think about applying Reich's four skills to solving that problem.

SUGGESTED RESPONSES FOR DISCUSSION QUESTIONS

1. The statement means that the job growth is in addition to any jobs that were lost to overseas outsourcing. These are *tradable jobs,* meaning that they can be done overseas. So, there was dramatic job growth even for jobs that are subject to competition for overseas outsourcing. This should disprove the myth that all the good jobs have gone overseas. It also means that job growth for nontradable jobs will be even stronger.

2. Answers depend on students' responses. The point of this question is to have students learn the meaning of IS-related job titles as well as to relate those jobs to themselves. If you ask students to report verbally, ask them why they are interested in that particular row. Sometimes their answers indicate that they don't actually understand the job categories.

3. Answers depend on students' responses. The point that I attempt to draw out here, however, is that the combination of business knowledge and IS knowledge is highly valued and essential for nearly every business professional today.
   - Of course, people can succeed in business without IS knowledge, but they make it very hard on themselves to attempt to do so. That doesn't mean you need to be a programmer, but it does mean that if you don't master the principles of this class, you've, in essence, tied one hand behind your back as you progress professionally.

4. Sources of ideas include:
   - Internships.
   - Informal, informational interviews with business professionals.
   - Conducting or managing a project that evidences Reich's four skills and knowledge of IS; for example, writing a social media policy (Chapter 8) for a student club.

- Reading interesting IS-business-related blogs and making comments on those sites.
- Reading interesting articles on the Web and contacting the author with some interesting idea, hence engaging that author.
- Volunteering to pick up/deliver guest speakers on campus. Use the time to ask questions and network.
- Extra credit projects (if you allow them) in the MIS class.

WRAP UP

- IS-related jobs are one of the brightest lights on the employment horizon.

- Many jobs exist that are not deeply technical. Look for them.

- Start thinking about your employment now! Use this class to increase your skills and knowledge in ways that businesses value.

- Think innovatively about job prospects.

- The first and most important nonroutine problem that you have to solve is obtaining the job that you really want! Use your newfound skills to do it!