***Introduction to Business Information Systems***

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**INSTRUCTOR’S MANUAL
and SOLUTIONS MANUAL**

**CHAPTER 1: IT for Business and Business Professionals**

# INSTRUCTOR’S MANUAL

# Introduction to Chapter 1

The key learning themes of Chapter 1 are as follows:

* The importance of information systems
* How information systems relate to individuals, organizations and, society as a whole.

The materials below, in addition to those in the textbook and on the website, are provided as a way of reinforcing these themes with students. Below you will find suggested answers to the “What Do You Think?” boxes for each chapter, a suggested in-class exercise, and some other suggestions to generate in-class discussions that encourage learning and participation.

# What Do You Think?

The “What Do You Think?” boxes are an opportunity to generate discussion with your class. Some can be discussed without prior preparation on the part of your students, but others will require students to do some research first.

**What Do You Think? Page 14**

1. *What are the benefits to the user of an online information system versus a manual alternative?*

Online transactions are instantly recorded. Users do not have to wait to know if their enrolment or course selection was accepted or not; they know instantly and can make the appropriate adjustments. Users may not want to use an online system if it is overly complex or slower than a manual system. In these cases, they might prefer human interaction to help them navigate the complexity of enrolment, course selection, and payment. Of course, if students are in an exceptional situation that cannot be accommodated by an automated system, they will have no choice but to use a manual system for their transactions.

1. *What are the benefits to the institution of an online system? Are these benefits critical for the institution to achieve in its current environment?*

The benefits to institutions of an online system are that they require fewer staff to process routine transactions and do data entry, it takes less time to process the information, and the online system provides vital information so that the institution can make adjustments based on enrolment numbers. Providing users with the ability to self-serve allows staff to focus on exceptional cases and provide a higher level of customer service. In the current educational environment, cost for institutions is a critical issue. The use of an online system provides cost savings and helps the institution to improve its budgeting.

1. *Errors occur. In the past, you may have experienced an error in your online enrolment, course selection, or payments. Do you think you would have been better off using a manual system to start with? Did you feel you spent more time trying to fix the error than you would have if you had used a manual system?*

Student answers may vary, but they should recognize that errors are rare and that they tend to be rectified faster than if they had been using a manual system to begin with. They should also recognize that the use of an online system has many advantages over a manual one.

**What Do You Think? Page 16**

1. *What are some of the way you use the Internet for entertainment?*

Student’s answers may include the following: downloading MP3s, watching videos on YouTube, socializing with friends on Facebook, staying up-to-date on celebrity gossip, joining communities for chat, using programs like MSN messenger or Skype, etc.

1. *Consider the site you prefer most for music or video downloading. What makes it so useful and interesting?*

Student’s answers may include the following: selection, features, speed, fun, price, etc.

1. *Do you spend too much time using the Web for entertainment? Is it the world’s number one procrastination tool, or is this time spent valuable?*

In answering this question students must realize how distracting having entertainment 24/7 at their finger-tips is and the potential for spending too much time on it. They should also recognize how useful it is to have access to so many forms of entertainment at all times.

# In-Class Exercise

The following is a simple exercise to illustrate to students the meaning of *input*, *process*, and *output*.

QUESTION: Identify input, process, and output in an ATM transaction.

ANSWER: Input = bank card, PIN, deposit money

 Process = account access granted, funds verified, transaction entered, calculations on balance completed, data stored, etc.

 Output = money received, receipt, account updated

QUESTION: Identify input, process, and output in creating a school transcript.

ANSWER: Input = student grades from each professor for each class

 Process = compilation of information, application to student record, calculation of GPA

 Output = transcript, GPA

QUESTION: Identify input, process, and output in doing a research project.

ANSWER: Input = articles, books, internet searches, journals

 Process = compilation, reading, review, reflection

 Output = white paper, journal article, book

# In-Class Discussion Topics

The following questions can be used to generate in-class discussion.

1. In today’s world, are there any occupations or professions that are *not* supported by IT?
2. As a student, what are some of the ways you increase your personal productivity and enter the “productivity zone”?

**SOLUTIONS MANUAL**

The following sections provide the solutions to the review questions at the end of the chapter and suggested solutions for the end of chapter case studies.

|  |  |  |  |
| --- | --- | --- | --- |
| **Question Number** | **Answer** | **Section Reference for Answer** | **Difficulty** |
| 1 | C: I and II | What’s in IT for an Organization? | M |
| 2 | D: All of the above | The Importance of Information Systems | E |
| 3 | E: Data, information, knowledge | The Importance of Information Systems | M |
| 4 | D: Workflow software, supply chaining, insourcing | What’s in IT for Society? | M |
| 5 | Data | The Importance of Information Systems | E |
| 6 | Information | The Importance of Information Systems | E |
| 7 | Knowledge | The Importance of Information Systems | E |
| 8 | True | The Importance of Information Systems | E |
| 9 | False | What’s in IT for Me? | M |
| 10 | False | What’s in IT for an Organization? | M |
| 11 | B | The Importance of Information Systems | E |
| 12 | A | The Importance of Information Systems | D |
| 13 | C | The Importance of Information Systems | M |
| 14 | B | The Importance of Information Systems | M |
| 15 | A | The Importance of Information Systems | E |
| 16 | C | The Importance of Information Systems | E |
| 17 | IS for a telecom billing operation:**Input:** Name of customer, mailing address, number of calls made, minutes of calls made, types of calls made (international/local), number of text messages, data fees (if applicable)**Process:** A billing system that can take into account business requirements (like free local calls from 9.00 p.m. to 7.00 a.m. and weekends) and customer usage to produce a bill**Output:** Customized bills for all customers based on their usage that can be e-mailed, posted to a website, and mailed to the customer. | The Importance of Information Systems | M |
| 18 | The productivity zone is the intersection of people, process, and technology. When these elements intersect they create more productivity than each of the individual pieces. In business a successful IS that integrates all three will create business value. An example of the productivity zone is a fast moving grocery or cafeteria line. The person working is using the check-out process and tools as intended and the line is moving very quickly. | The Importance of Information Systems | M |
| 19 | **IS:** an organized collection of people, information, business processes, and information technology designed to transform inputs into outputs, in order to achieve a goal.**IT:** Information technology deals with the uses of hardware, software, and networks to convert, store, protect, process, transmit, and retrieve information. IT is only one component of an IS.In the example of a transaction processing system such as one found at a restaurant or bar, it is easy to see that the wait staff and cook are part of the system ensuring that they use the correct information to deliver the right order to the right customer. The process of taking an order and getting into the kitchen or bar is equally important. The IT part of this system is, perhaps, an automated ordering system that the wait staff use to order food from the kitchen (rather than the traditional pencil and paper) and which produces a bill at the end of the transaction. The system could manage without the IT component, but would not be as efficient and accurate.  | The Importance of Information Systems | M |
| 20 | In the example of a payroll system:**Input:** Names of all employees, name of bank, bank account number, salaries of employees**Process:** Software **Output:** An automated system to transfer salary from the company's account to the employee's account. This automated system will reduce human errors and redundancy of work, thus reducing company costs and therefore creating business value. | The Importance of Information Systems | M |

### Chapter 1 Case Study: A Day in the Life of a University Student

### How many of the innovations in Ashley’s home or school life are available to you? How many are you actually using?

Students’ answers could include any or all of the below. They would obviously be using online quizzes/assignments, voicemail, and email. They would probably be using payment software, too. The rest varies with each person, as the technologies have some more distance to go toward significant penetration. Some possible technologies include:

* Payment software
* Download manager
* Content aggregator software/ RSS feeds
* Webcasts
* Mobile payments
* Mobile stock alerts
* Mobile quizzes/assignments
* In class polling/response technology
* Web-based conference
* Podcasts
* Online document editing
* Video editing software
* Blogging

### There are many acronyms and technical terms mentioned in this case. Research and write a short paragraph about each of the following terms:

1. **Blog:** A blog (short for Web log) is a website where users can write journal entries about a topic of personal interest. Entries are usually listed in reverse chronological order (last entered displayed first). Blogs are primarily text but may contain other forms of information such as photos, video, and audio. Blogs also typically provide links to other online content of interest. Many individuals have blogs to chronicle their daily lives (e.g., online diary) while others use blogs specifically to promote products and influence the public.
2. **Wireless Access:** The ability to connect to computer networks without the need of physical cables. Sometimes known as WiFi.
3. **LCD display panel:** Liquid crystal display technology is used for many modern, flat-screen monitors. It is the most popular form of monitor technology having replaced CRT (cathode ray tube) some time ago. An alternative to an LCD screen is a plasma screen, but these are not often used for smaller monitors
4. **Podcast:** Distributing information in a lightweight, audio format. The audio file is distributed over the Internet using special feeds and can then be played on various devices such as laptops and MP3 players.

### Do you believe that any of the information systems involved in Ashley’s daily life create only limited value for her?

Answers may vary. Some possibilities include:

* Mobile quizzes/assignments are probably of limited use to her as she may prefer to see them on a larger screen.
* Blogging has not yet proven to be very useful for most people from a professional perspective unless they are a professional blogger, but from a personal perspective she may find it useful and it may be more useful than a paper diary.
* RSS feeds may or may not be useful to her. It may not be much effort going to the sites that offer content that she is interested in. On the other hand, automated downloads can cause information overload and clutter. It’s a trade-off between saving time and having the ability to pick and choose content every time.

**Chapter 1 Case Study: Building a Website**

### Before the club’s next meeting with the vendor, you decide to create a short PowerPoint (or similar) presentation that will outline the basic processes you feel need to be automated. Your presentation should include simple process diagrams showing the inputs/outputs and results of these new automated processes, and a list of the data and information that will be collected, automated, and stored behind the web pages themselves as a result.

Student answers will vary, but should include the following:

|  |  |  |
| --- | --- | --- |
| **Process to Automate** | **Data collected (input)** | **Results (output)** |
| Membership sign-up | Name, phone number, mailing address, email address, company information, information delivery preference, interests, membership type (e.g., general, administrator, premium etc.) | Member records that can be used to communicate to members the information they want to receive in a way in which they want to be communicated to. Requests for member information updates can be sent using this information. Membership type can provide the system with access information to allow members to visit specific areas of system based on their membership type.  |
| Membership account maintenance | Credit card account, credit card expiry date | Membership number assigned, start date of members, renewal period. Using account information, members can be reminded to renew their membership when it is due.  |
| Account status | Payments received and outstanding, itemized by purchases | Online and/or paper statement is created by membership number. |
| Event management | List of events, dates of events, cost of events, RSVP for events, payment history for events | Listing of all events, RSVPs from members, and payment status. |